



**UTAH BIG GAME
RANGE TREND STUDIES
1982-1992**

**PUBLICATION NUMBER 16-21
REPORT FOR FEDERAL AID PROJECT W-82-R-60**

**STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES**

**Utah Big Game
Range Trend Studies
1982-1992**

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PROGRAM NARRATIVE

State: UTAH

Project Number: W-82-R-60

Grant Title: Wildlife Habitat Research and Monitoring

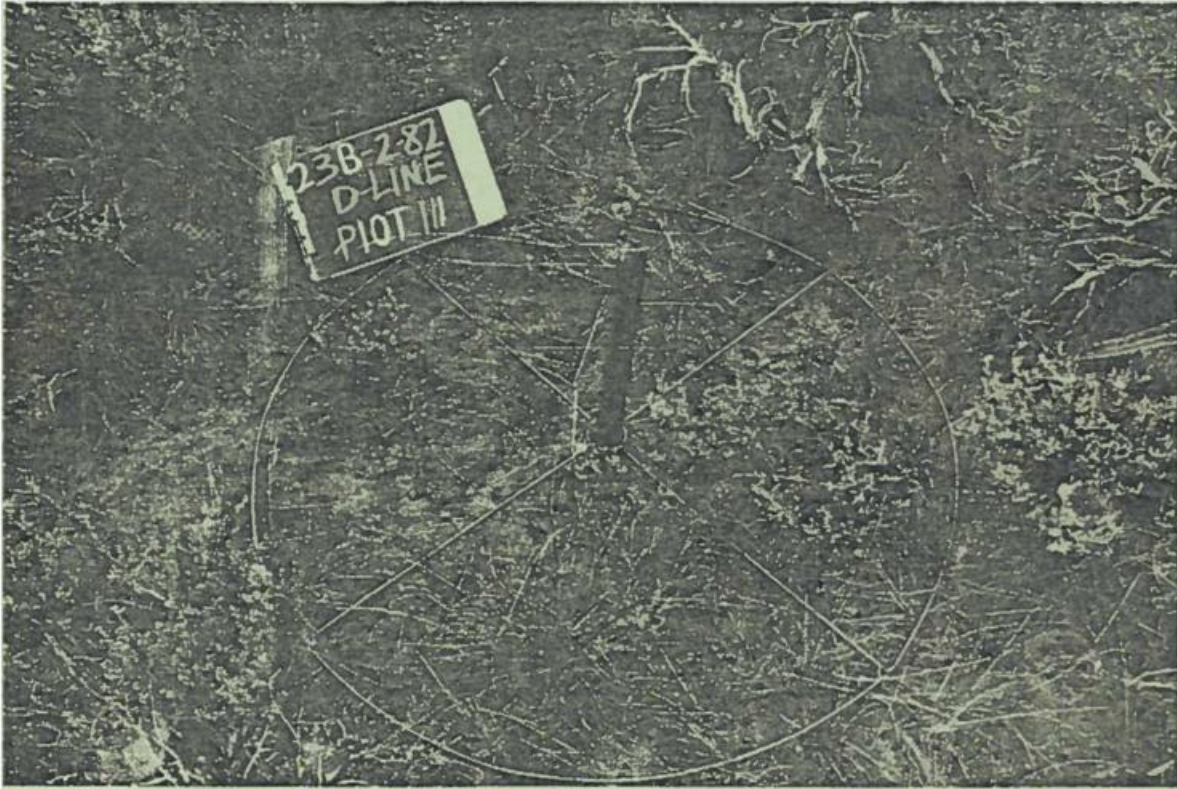
Project Title: Wildlife Habitat Monitoring/Range Trend Studies

Need: The ability to detect changes in vegetation composition (range trend) on big game winter ranges is an important part of the Utah Division of Wildlife Resources (DWR) big game management program. The health and vigor of big game populations are closely correlated to the quality and quantity of forage in key areas. The majority of the permanent range trend studies are located on deer and elk winter ranges. On certain management units, however, studies are located on spring and/or summer ranges if vegetation composition on these ranges is the limiting factor for big game populations. Range trend data is used by wildlife biologists for habitat improvement planning purposes, reviewing Bureau of Land Management (BLM) and United States Forest Service (USFS) allotment management plans, and as one of several sources of information for revising deer and elk herd unit management plans.

Objective: Monitor, evaluate, and report range trend at designated key areas throughout the state and inform DWR biologists, public land managers, and private landowners of significant changes in plant community composition in these areas.

Expected Results or Benefits: Range trend studies in each region will be reread every five years, and vegetation condition and trend assessments will be made for key areas. DWR biologists, land management personnel from the USFS and BLM, and private landowners will use the range trend database to evaluate the impact of land management programs on big game habitat. Annual reports are readily available on the Division's website, on CDs, and in hard copies located in DWR regional offices, BLM and USFS offices, and public libraries. Special studies (habitat project monitoring and big game/livestock forage utilization studies) will give DWR biologists and public land managers additional information to address local resource management problems.

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES



Prepared By
Utah State Interagency Committee

COVER LETTER-STATE INTERAGENCY COMMITTEE

October 29, 1982

TO: Local Interagency Personnel of the:
USFS
DWR
BLM

SUBJECT: Big Game Range Trend Study Guidelines

The accompanying Interagency Committee Big Game Range Trend Study Guidelines have been developed during the course of the past year after considerable time and team effort. You will recall that these guidelines were developed by representatives of the USFS's Region 4 Range Staff, the State BLM. Range Staff and DWR Bruce Giunta, in charge of DWR's Range Inventory, headed this coordination effort. We specifically express our appreciation to Bruce, Harold Edwards and George Martinez USFS, Merrill Despain and Steven Leonard - BLM and Ben Norton - USU. We are keenly appreciative of this team's effort to function as an ad hoc committee to the State Big Game Interagency Committee in this important matter. We also appreciate suggestions from several of you as the review team developed the methodology.

As you read the text of the enclosed guidelines you probably will be impressed with the substantiality of the methods. They are well formulated and should adequately serve our purposes as we seek to monitor vegetative changes on deer winter ranges over a long time period.

The option to establish these permanent trend plots is largely yours, at the local interagency level. Some of you earlier expressed the desire to set these plots up yourself as a local interagency effort. You did so primarily on the basis of wanting to establish the plots in a more timely manner. Others have asked Bruce Giunta and his summer range crew to handle the establishment of these plots in their area. An additional way could be utilized. We see no reason why there could not be a cooperative pooling of DWR and agency range people from on-going or new programs. This could be affected as you establish priorities and build new budgets..

You may ask why three vegetative monitoring methods have been suggested instead of a single uniform procedure. The BLM method features the plant density method; the Forest Service utilizes a plant frequency method. In most instances, DWR range inventory personnel will be using a combination of the two methods. Each of the two basic methods have their strong points. More importantly, the respective methodology interfaces directly with the respective agency's data analysis, storage and retrieval capabilities currently in place. A single overall Interagency method would not fill the entire needs of all agencies.

Local Interagency Personnel

October 29, 1982

Page two

We hope the accompanying Range Trend Study Guidelines will aid you in better understanding the vegetative trend monitoring methods recommended and help you as a local interagency to implement trend monitoring as you might elect to do.

STATE INTERAGENCY COMMITTEE

Paul Shields
Jerry Farringer
Norman Hancock

cc: Board of Big Game Control
DWR Regional Supervisors
USFS Forest Supervisors
BLM District Managers
Dr. Ben Norton, USU Range Science Dept.

All Interagency Personnel (would the respective Forest Supervisors, BLM District managers and DWR Regional Supervisors please see that your respective local interagency personnel receive a copy of this material.)

INTRODUCTION

Within the last several years, it has become apparent that there is a dire need for accurate and reliable range trend data on big game ranges in Utah. Until about 1977, the Division of Wildlife Resources paid scant heed to this aspect of habitat management. It was known, of course, that a number of "Parker 3-Step" and "Cottam-Davis" photo transects were in place around the state, but these data were never seriously utilized for big game management purposes. Aside from some technological deficiencies, most were not strategically located on big game ranges. For almost 30 years, the Division has conducted an annual "Big Game Range Inventory" on the various deer herd units. After the entire state had been inventoried once, it was felt that perhaps redoing inventories again years later might provide an assessment of trend. Beginning in the mid-1970's, this was done, but it became immediately apparent that no accurate trend assessment was possible. There were several reasons for this. Perhaps most important was that, prior to 1977, no permanently located transects were involved. Thus, any comparisons made or conclusions drawn from two inventories conducted years apart were on shaky ground from the outset. A second factor was that the sampling procedure used was not designed primarily as a trend monitoring technique. Rather, it was an inventory procedure that could be modified to provide trend data. Beginning in 1977, the Division's range inventory project began establishing permanent line-intercept transects on selected herd units.

However, it has since become apparent that trend studies are not entirely compatible with the need to simultaneously conduct a forage inventory. This has to do primarily with transect locations. Inventories require extensive and representative sampling efforts. Trend studies, on the other hand, require more careful and purposeful selection of study sites. Something better was needed! Beginning in 1980, after the Board of Big Game Control charged the Interagency Committee to develop individual deer herd unit management plans, a consensus developed among Interagency people that range trend evaluations would be an important part of these plans. A full-blown Interagency trend procedure was needed. Accordingly, a meeting of the State Interagency Committee, agency and university personnel was held in July 1981 in Salt Lake City to discuss range trend study procedures and the possibility of developing a uniform method that would be acceptable to all concerned. The upshot of this meeting was that a subcommittee was appointed and charged with this responsibility. Subcommittee members included Harold Edwards and George Martinez from the U. S. Forest Service, Merrill Despain from the BLM, Bruce Giunta from the DWR, and Dr. Ben Norton from the USU Range Science Department.

After a number of meetings and consultations and the preparation of a preliminary set of draft guidelines, the full Interagency Committee met on April 26, 1982, and tentatively agreed upon the following points:

1. Selection and workup of proposed range trend study sites are of critical importance and should be performed by the local Interagency Committee. It is essential that this be a cooperative Interagency effort. This implies a sharing of existing data and also joint reconnaissance of prospective sites. Sites should be selected on the basis of need and feasibility of establishment and rereading. In addition, prospective study sites should be representative of critical range areas under consideration. Duplication of existing trend studies, if located on acceptable sites, should be strictly avoided. All of these factors will influence the number of studies that may be established within a given DWR Region, National Forest, or BLM district. Once prospective study sites have been selected, prioritized and hopefully scheduled for study establishment, the more difficult task of characterizing sites remains. Much of this work will involve gathering and evaluating already existing information on soils, precipitation, animal use, vegetative potential and past management history. What all of this should lead to is development of written and jointly agreed upon estimates of site potential. Once this is done, a management objective specific to each study site can be formulated. This is a critical part of the whole process because the management objective will be the standard against which trend will be assessed in the future. Formulating a management objective will require designating key species, desired plant composition, ground cover and a

variety of other factors. More detailed guidelines and suggestions on site selection and characterization can be found in the manual section of that title.

2. Each region of the DWR and the local Interagency personnel concerned should prepare a detailed and prioritized list of proposed study sites. This should also include any “comparison areas” intended for use in helping to formulate site potential and initial management objectives.
3. Three options relating to trend study methodology will be available to local Interagency personnel. Although there are no hard and fast rules with respect to the option chosen, the following guidelines were agreed upon :
 - a. When local Interagency personnel choose to conduct studies and particularly when Forest Service or ELM biologists, etc., actively participate, the category of landownership shall be of great importance. If, for example, a study is to be established on ELM administered land, the method employed will be the plan density/characterization procedure currently being used by the ELM in Utah. If the study is on National Forest land, the Forest Service nested frequency sampling procedure should be used. Both of these methods will be used without significant modification pertinent excerpts from the respective manuals are included as a part of this manual. When either of these methods is used, the appropriate federal agency will provide the necessary data forms, manuals and equipment necessary to do the study. Copies of all completed data forms, write-ups photographs, etc. relating to the study will be provided to the DWR for inclusion in deer herd unit management plans, an annual report of big game trend studies in Utah, or to be included in the Big Game Handbook for that year. Both Federal agency methods are intended to be minimum requirements on big game range study sites. If it is thought that additional data are needed, a third option may be employed. This option is a combination of Forest Service and ELM methodologies. Be aware, however, that the combination or compromise method is not simply a duplication of its two constituent parts. There are some changes and modifications, but they are not so great as to render the data collected incomparable with that collected with either Forest Service or BLM methodologies when used alone. On state and private lands, the choice of method is left to the discretion of local interagency personnel.
 - b. On study sites where the D's Range Trend Study crew is the primary investigator, the project leader will choose between any of the three options, however, he or she should attempt to coordinate closely with the local Interagency Committee and accommodate their desires. As a matter of practice, it is envisioned that the DWR range crew will be employed as a roving range trend study crew that can be used on a need or priority basis to establish new trend studies or reread already existing studies.
4. Range Trend Studies established by Interagency personnel are intended primarily as a big game management tool. Such studies, because location is so important, should be in addition to existing studies already in place on grazing allotments, etc. However, in many cases, it may be possible to use existing trend studies for big game management purposes. This should be done whenever possible.

If local Interagency personnel elect to establish permanent trend transects it will be essential that they become reasonably proficient in plant species identification. Several solutions exist:

- A. Plant identification training can be provided.
- B. Have an "expert" along when the study is established or reread.

- C. Conscientiously utilize a procedure for collecting specimens for later identification by an “expert.”

SITE SELECTION AND CHARACTERIZATION

Local Interagency personnel (i.e., game managers, conservation officers, range conservationists, district rangers, etc.) must cooperate closely in selecting sites on big game range where trend monitoring studies are to be conducted. The importance of careful site selection cannot be over-emphasized. In general, several steps and criteria should be followed.

They are:

1. Identify and prioritize the critical big game ranges in the area of responsibility.
2. Identify and list the various range types that occur there.
3. Make decisions as to which range types should be monitored. This may depend on a variety of factors, such as livestock and big game use, perceived forage condition for livestock and/or big game, an expectation of vegetational change or even a planned change in management. Another factor would be the presence or absence of usable trend studies already in place.
4. Select actual monitoring locations. These must fall within a single, relatively homogenous type, large enough to ensure that no part of the monitoring layout falls outside type boundaries. Generally speaking, selected locations should be representative or indicative of a larger range area. Thus, it is best to avoid extremely depleted areas or sites that are obviously in better condition than the range type as a whole. Be certain also that selected sites contain at least some individuals of the key plant species. In most cases, on big game range, this will be a shrub(s) but occasionally may be a grass or forb. Another item to consider is ease of documentation. Remember that the location must be described so that a perfect stranger can find and reread the study in the future. Select sites that are away from undue disturbance (i.e., roads, buildings, etc.) but that, at the same time, can be precisely described and documented.
5. Characterize the selected site so that eventually a site potential and management objective specific for that site can be written. Some basic information needs include:
 - a. What class of animals are currently using it, those which may in the future, and a target for carrying capacity.
 - b. Past use or abuse.
 - c. Soils information--may be available from SCS files, BLM, SVIM data or Forest Service sources.
 - d. Site-specific climatic and topographic information that would influence vegetative potential.
 - e. The probable ecologic "climax" community.

Not all listed information may be immediately available, but every effort should be made to collect it prior to the second reading of a trend study.

6. Make an estimate of site potential.

- a. This may be stated in either ecological or empirical terms. In the latter instance, use the data parameters measured in the range trend study procedure (i.e., plant density, frequency, etc.).
 - b. The information from 5 above will form the basis for determining a site potential.
 - c. Remember that "site potential" will likely be an unreachable state under current or proposed management. Its primary function is to allow the formulation of reasonable management objectives against which trend can be assessed in the future. The proposed management objective must be achievable.
7. Formulate a site-specific management objective based on estimated potential, the needs of the number and species of animals being managed for and further tempered by the principles of sustained yield and non-degradation of other resource values associated with the site. Management objectives should be defined and written down in the following terms:
- a. Desired plant community or range type when objective is reached. Most often there will be no change but, in some cases, a type conversion through management may be a realistic goal. The desired makeup of the community in terms of the mix of shrubs, forbs and grasses should be stated in both frequency and/or density terms. If information regarding species desirability and allowable occurrences or preferred density limits has been developed in the objective, these goals should also be a part of the objective.
 - b. Desired frequency, density, age structure and form class structure of the major or "key" plant species.
 - c. Allowable limits of ground cover.

Determining a management objective and quantifying it will not be an easy task; however, it will become increasingly necessary in the years ahead. It is not intended that the objective be static. On the contrary, as more and better information about a particular site is collected, it will be necessary to periodically refine the management objective. One suggestion that may provide a logical starting point is the use of a "comparison area." Presumably, this would be a site with a similar potential as the one intended for study. The comparison area would also have to be in near optimum vegetative condition. In effect, it would be an on-the-ground example of what the study site would be like if it were at or near the management objective or even the site potential. The comparison area could then be sampled using the range trend study procedure to obtain comparison data that could be used as a standard to develop a management objective against which trend could be measured.

Suitable comparison areas may not always be available in near proximity to the primary study site, but if there are, it would be good to utilize them. Obviously, there is a degree of subjectivity involved in selecting such areas, but it is likely that no one can do a better job of it than local interagency personnel.

GUIDELINES

FOR DETERMINING INTENSITY OF ANIMAL USE ON THE FORAGE RESOURCE

I. DEFINITIONS AND SELECTION

A. KEY AREAS

A key area is one where deer or other big game have demonstrated a definite pattern of use during normal climatic conditions over a long period. Because of its location, value, and use, the key area serves as an indicator of general range conditions and population levels and is sensitive to changes in management.

Interagency personnel are responsible for large range areas, which, of necessity, preclude gathering intensive data on more than representative portions of the total. Therefore, monitoring must be conducted on those limited areas that, when properly used, assure maintenance of satisfactory conditions on the range as a whole.

Selected key areas, on which measurements will be made, should be delineated on a range map and identified as a permanent record. Such records would be maintained in permanent files for reference, particularly for the benefit of new interagency personnel.

Guides to be followed in selecting key areas are:

- (1) They must be located on range obviously used by game animals and representative of a season-long unit.
- (2) Key areas will first reflect results of management. For example, on winter browse ranges, ridgetops and south-facing slopes frequently will receive heavy use before other areas. These sites would often, but not always, be the key to management. One cannot separate area and species used in management, but must rely upon an accumulating series of data on total forage resource use at a local site for delineating key areas. There is no substitute for continual on-the-ground observation of use patterns throughout the season for this purpose.
- (3) Key area assessments should not be conducted on small acreages of unavoidably excessive use, such as natural salt licks, small cover patches, or small slopes where game tend to concentrate in exceptional densities.
- (4) Widespread adoption of rest-rotation or other grazing systems may require designing key area monitoring to fit the livestock use pattern. A comparison of game use on rested and livestock-grazed units may yield useful data elucidating the degree of current-year competition between domestic and wild ungulates. Grazed units currently receiving heavy livestock use may shift game to rested areas. Establishment of rest-rotation pastures perpendicular to big game winter ranges rather than along elevational zones could mean the difference between moderate and severe impacts on game, respectively.
- (5) Key areas may need to account for differing climatic conditions. Mild open winters shift use patterns considerably and a dual system of key areas delineating open winter vs. normal or severe winter zones is desirable.

B. KEY PLANT SPECIES

Key species should serve as indicators of change that may occur in the vegetative complex causing adverse watershed conditions and reduced game carrying capacity if they are over-used. Conversely, and equally

important, the key species should indicate that game populations are below carrying capacity if their utilization is at less than acceptable sustainable levels. There is a tendency to view lightly or moderately used browse plants as "good conditions" after use is completed. Such a view is not fully warranted as a general rule, at least not on a long-term basis.

There are seven general criteria that a selected species should reasonably satisfy. Gross departures from these criteria have led to poor choices of key species in the past. Increased care in the selection procedure, more than any other factor, can determine effectiveness of the browse utilization transect in providing the necessarily sensitive index to balance or imbalance of game numbers to carrying capacity.

The seven criteria in the selection of a key species are:

- (1) high relative palatability but not an "ice-cream" plant,
- (2) reasonably resistant to grazing pressure,
- (3) resistant to competition from other species,
- (4) sufficiently abundant to be an important component of the community,
- (5) nutritious,
- (6) produces a considerable volume of available forage,
- (7) and pattern of use is gradual and continuous throughout the grazing period. Selection of the browse species on which to key management is an important first step in game herd management. It is a continuing process of modification as more information is gathered. Data on more than one species are frequently required to adequately reflect use of the total resource. The Utah Big Game Range Inventories (DWR) are useful guides for selecting key species since they provide quantitative data at the local level. Forest Service and Bureau of Land Management range inventories likewise should be helpful. Species that satisfy the criteria in one area may not be suitable in another depending upon their relative importance in community composition, forage production, season of use, elevation, and climatic conditions. A basic assumption of the concept is that when the key species is (are) properly used, other less important, usually less palatable, species will not be over-used.

STUDY DOCUMENTATION

Since trend monitoring will be an intensive type study and will involve the use of permanently marked transects and plots, there will be a need for accurate documentation of each study site. This means that a permanent file should be prepared and maintained for each site. The first and perhaps most basic information to go into such a file will be instructions, etc., on how to locate the site and each plot or transect. For this purpose, a study location form (attached) and an appropriately marked map or aerial photo should suffice.

NESTED TREND STUDY LOCATION FORM

NESTED TREND STUDY LOCATION

Deer Herd Unit _____ Study Site Name _____ Trend Study # _____
Range Type _____ Date _____ Name(s) _____

Narrative (see back of form):

Compass bearings: baseline _____, density plots _____ # belts _____ # density
plots _____ distance between density plots _____ belt length _____ baseline
footmarks for belts _____ Footmark for 1st frame _____
interval between frames _____ # frames/belt _____ plot sizes:
grasses & forbs _____, shrubs & trees _____ Type of plot markers _____
_____ Aerial photo or map designation _____

Diagram (see back of form):

Narrative Suggestions

1. Record mileage(s) from permanent landmarks, town, intersections etc. to a point in the immediate vicinity of the study where an identifiable land- mark or "witness marker" is located. From this point the observer(s) will need instructions for foot travel.
2. Record the azimuth or bearing from the witness marker to the start point of the nested frequency baseline or to various recognizable intermediate points. True or Grid bearings are recommended.
3. Measure and record the distance, either taped or paced, to the aforementioned point (s).
4. Include instructions on how to locate the density plot centers from the frequency plot baseline.
5. Include any other descriptive information that will help locate and document the study. Remember that there can scarcely be too much detail.

Diagram Suggestions

1. Show all roads, trails, streams, landmarks etc. in their proper relation to each other. An approximate scale drawing as to bearing and distance should be made. This is especially important for the area close to the study. Most of the diagram space should be used for this area. The road mileage etc. from town's etc. to the witness mark is less critical.
2. Indicate cardinal directions.
3. Show all distances and bearings used on the route to study.
4. Indicate the spatial relationship or arrangement of the nested frequency and density portions of the study.

REREADING TREND STUDIES

At least initially, trend studies should be scheduled for rereading on a 5- to 7-year rotation. This of course, is not a rule; it is merely an estimate. As trend studies are implemented on various sites around the state, we will probably find that the time required for detectable vegetational or soil condition changes to occur will vary. Experience and the need for trend data will likely be the controlling factors.

U.S. FOREST SERVICE NESTED FREQUENCY PROCEDURE

The nested frequency part of the trend study method is adapted directly from U. S. Forest Service methodology. It is designed to provide detailed information on plant composition and ground cover. A minimum of two observers are necessary to conduct the study. The following procedure is taken from the Region 4 range analysis handbook.

RANGE ANALYSIS HANDBOOK

* 4.63 - NESTED FREQUENCY/SHRUB DENSITY METHOD

4.63A - NESTED FREQUENCY TECHNIQUE:

Frequency is defined as the number of times a species occurs in a given number of plots and considers only species presence or absence. It is a rapid, objective means of collecting data for evaluating trend.

The nested frequency concept involves sampling of the vegetation with various sized plots nested within a frame. Samples are taken along randomly selected transect lines confined to a single habitat type. The data collected is a function of plot size, which in turn is related to density, distribution, and size of the vegetation. This data serve as a basis for determining trend and can be evaluated by applying statistical procedures and computer technology.

The nested frequency procedure has several important advantages over other trend study methods: (1) It is highly objective, (2) relatively easy to perform, (3) repeatable, (4) significantly more reliable than previously used methods, and (5) allows for continuity in noting vegetative changes through the use of nested plots.

Presently the nested frequency sampling method provides information on changes in vegetal composition and ground cover exclusively. Site specific score cards are needed before range condition ratings can be assigned.

4.63B - SELECTING THE STUDY SITE:

Frequency sampling, as with any other trend study methods, should be confined to a single habitat type. Section 4.11 should be used as a guide in selecting and screening benchmark locations. Prior to superimposing the nested frequency technique on some other type of trend study, it should first be determined that the existing transect meets the requirements for an acceptable trend study. If there are problems which cannot be corrected, a new site should be selected.

4.63C - LOCATION DESCRIPTION:

Upon selecting the study site and/or finding the previously established benchmark, the location should be documented and any changes in reference points or status of the transect noted. This information is recorded on the back of the Nested Frequency Data Sheet, R4-2200-22 (7/82), exhibit 1.

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

NESTED FREQUENCY DATA

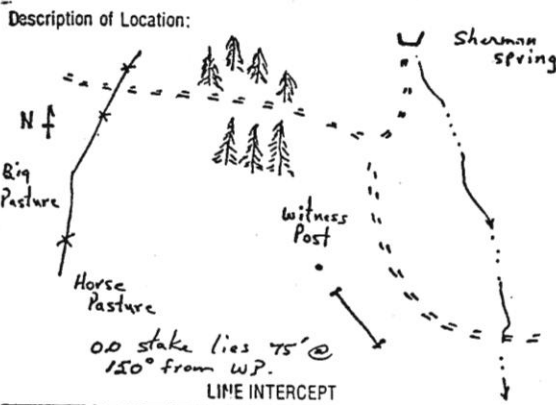
Forest Bridger - Teton District Big Piney Allotment Sherman Date 8/28/81
 Study Name and/or Number Horse Pasture Draw BT-25 Belt Number 1-11
 Vegetative (Habitat) Type ARTRV/FEID Conducted by Training Group

Species	Sample Number																				Plot Freq.				No. Occur	% Comp	Desirab. Rating	Allowable Occur.										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4				D	I	L								
Grasses	FEID	1	2	1	1	1	4	1	1	1	1	4	1	1	1	4	1	1	1	4	75	80	80	100	16	15.5	D-30/It	16										
	SILE	3	1			2	4	2		1	3	4	1	1				3	4	20	30	45	60	9	9.7	I		9										
	AGTR		1		4			2	3		4		3		4	3		4		3	5	10	30	50	6	5.8	D-20/It	6										
	KOCR						2				3				2						0	10	15	15	3	2.9	D	3										
	POAM		3						2					3				4			0	5	15	20	3	2.9	D	3										
	JURA	4		1			3	4		2				3		1	4		3	4	10	15	30	50	6	5.8	D	6										
	CAFI	3	2				2	1	4		3			4			4	3	4	2	5	20	35	60	7	6.7	D	7										
Forbs	POGR	3	4	3		2		3		4		3	4	4	3	3		4	3	2	0	10	45	70	9	8.7	D-5/It	5	4									
	ERHEJ	1	4			3		1	4		3			4	1		3	4	1	4	3	20	20	40	65	8	7.8	I		8								
	ASCHA	4	1		1		4	1	2	4	1		1	1		2	4	1	4	1	4	40	50	50	80	10	9.7	I		10								
	ACHIL	4	3	2	4		4		1	4	3			4		4		4	3	4	5	10	25	65	5	4.8	I		5									
	GEVE	3		2		4	3		4	2	2	4	2			4	3		3	4	3	0	20	45	70	9	8.7	D-5/I-25/L	5	4								
	LISE			1						3				2	1				3		10	15	25	25	5	4.8	D-5/I-20/L	5										
	ARCO2					2								4	1						5	10	10	15	2	1.9	L			2								
	ARHO		2								4										0	10	10	15	2	1.9	I		2									
	ERVE									1								2			5	5	5	5	1	.97	I		1									
	ARLU											2									0	5	5	5	1	.97	I-20/Lt		1									
Shrubs	ARTRV				3		4												4	0	0	5	15	1	.97	I-10/Lt												
	Plot yielding best frequencies (Plot size to be summarized)																																					
Ground Cov.	Veg.	Lit.	Rock	Pave	Moss	Soil	Total													Totals	103	98.5				56	45	2										
Dot Tally	24	14	21	13	11	11	80													Other Species: ASLE 2, VIPR Plot #3 is the best plot for this site. Desirability Rating based on 1969 score card.																		
Totals	23	17	2			8																																

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RANGE ANALYSIS HANDBOOK

Exhibit 1 (cont.)



Species	ARTRV	ARCA			
Inches of Intercept	15	10			
	8	7			
	22				
	2				
	13				
TOTAL	64	17			

Species		SHRUB DENSITY			
		ARTRV	ARCA		
Age Class	Seeding Sprout	S	3		
	Young Sapling	Y	3		
	Mature	M	4	4	
	Decadent	D			
	Dead	X			
Form Class	All Available	Lightly Hedged	U	U	
		Moder Hedged	7	7	
		Closely Hedged			
	Largely Avail.	Lightly Hedged			
		Moder Hedged			
		Closely Hedged			
Mostly Unavailable					
Unavailable					

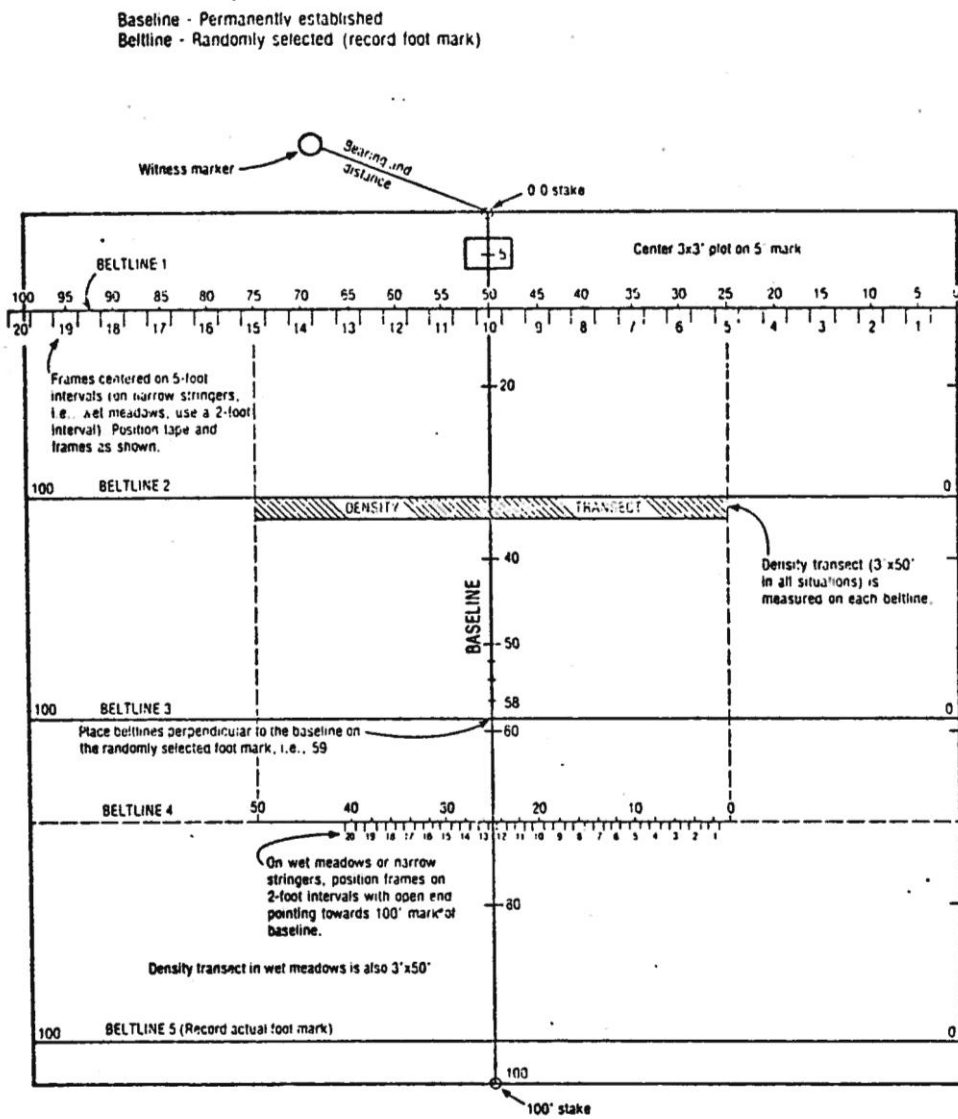
BROWSE TREND CHARACTERISTICS RATING

Upward Trend	No Apparent Trend	Downward Trend
<p>D and I browse plants healthy, vigorous, and have good color for the site. ✓</p> <p>Reproduction of browse species high, all age classes represented. The percent of seedlings and young plants exceed those of decadent and dying plants by more than 5 percent. ✓</p> <p>Young plants not being pulled up, trampled out, or otherwise destroyed by use of the area. ✓</p> <p>Crown of D and I browse species normal, bosc, and open growing ✓</p> <p>Two or more year's production of vigorous and healthy regrowth following the heavy seeding of D and I. ✓</p>	<p>D and I species exhibit good health but may have reduced vigor and poor color for the site. ✓</p> <p>Moderate amounts of reproduction of D and I species. Seedlings and young age classes of the better browse equal to but do not exceed the number of decadent and dying plants. ✓</p> <p>D browse plants not being trampled out, pulled up, or otherwise destroyed by use of the area. ✓</p> <p>Crowns of D and I browse plants showing moderate hedging. ✓</p> <p>Few dead branches or plants of D or I species. ✓</p>	<p>D and I species unhealthy, lack good color and exhibit lack of vigor for the site. ✓</p> <p>Reproduction of D and I species lacking or nonexistent. Number of old and decadent plants of preferred and stable species exceed seedlings or younger age classes by more than 5 percent. ✓</p> <p>Young browse plants being pulled up, trampled out, or otherwise destroyed by use of the area. ✓</p> <p>Crowns of least desirable browse plants compact and exhibit heavy hedging ✓</p> <p>Regrowth lacking following heavy hedging. Annual growth of twigs short and few in number. ✓</p> <p>Many decadent plants and plants with 50 percent of the branches dead. ✓</p>

4. 63D - SETTING UP THE BASELINE:

The baseline is defined as the permanent reference part of the study. Setting up the baseline for this technique is similar to that of the Parker 3-Step procedure (4.62a) except that the precise location and placement of the tape and stakes is not critical. The 100' tape is stretched along the previously established or newly selected transect line assuring the 0.0 stake corresponds reasonably well with the 0' mark on the tape (see exhibit 1). If it is a new study, an 18-24" piece of reinforcing rod can be used in place of angle iron stakes. After establishing the baseline, proceed to lay out the 3'x3' plot as described in section 4.62a item 4.

NESTED FREQUENCY - SHRUB DENSITY MACROPLOT LAYOUT



4.63E – PHOTOGRAPHS:

Photos are an important part of the study and should portray changes taking place on the ground. They should provide a good visual image of the site and help to relocate the study for future measurements.

As a minimum, a general view and a close-up photo of the 3'x3' plot should be taken on the baseline before taking any measurements. Both photos should be taken from the 0.0 baseline stake; any additional photos may be taken if desired. Section 4.61b provides specific guidelines for taking photographs.

4.63F - LOCATION OF THE BELTLINES:

The beltline is defined as the randomly selected tapeline along which the data are collected. A minimum of five beltlines will be established perpendicular to the baseline. Location of the beltlines in relation to the baseline has been predetermined using a stratified random sample technique. One beltline will be established at each of the following foot marks on the baseline:

<u>Belt</u>	<u>Foot Mark</u>
Belt #1	11
Belt #2	34
Belt #3	59
Belt #4	71
Belt #5	95

These five numbers identify where the beltlines will be set up during current and future measurements. The assigned belt location should be recorded on the data form, exhibit 1, section 4.63c, in the following manner: 1-11, 2-34, 3-59, etc. The first number indicates the belt, while the second denotes the randomly selected beltline location. A separate data form is needed for each beltline.

4.63G - SETTING UP THE BELTLINE TRANSECT:

The 100' tape should be stretched at right angles to the baseline with the 50' mark of the tape positioned over the selected footmark of the baseline. The only requirement is that the beltline be essentially at a 90 degree angle to the baseline, stretched reasonably tight and as close to the ground as possible. There is no need to install permanent stakes along the beltlines as long as the above procedures are followed. Exhibit 1, section 4.63d, illustrates how the beltlines are arranged in reference to the baseline.

In sampling long narrow types, a 50' tape should be used; however, the 100' tape may be used as long as samples are confined to a single habitat type.

4.63H - NUMBER OF SAMPLES (FRAMES):

A minimum of 100 frames will be sampled at each study site. Twenty frames will be measured along each of the beltlines and should be positioned in the manner illustrated in exhibit 1, section 4.63d.

Where the vegetation is found to be very diverse in kind and distribution of species, a greater number of samples may be needed. In these instances, additional belts can be established.

-R-4 FSH 1/83 AMEND 13-

4. 63L - FREQUENCY FRAME/NESTED PLOT SIZE:

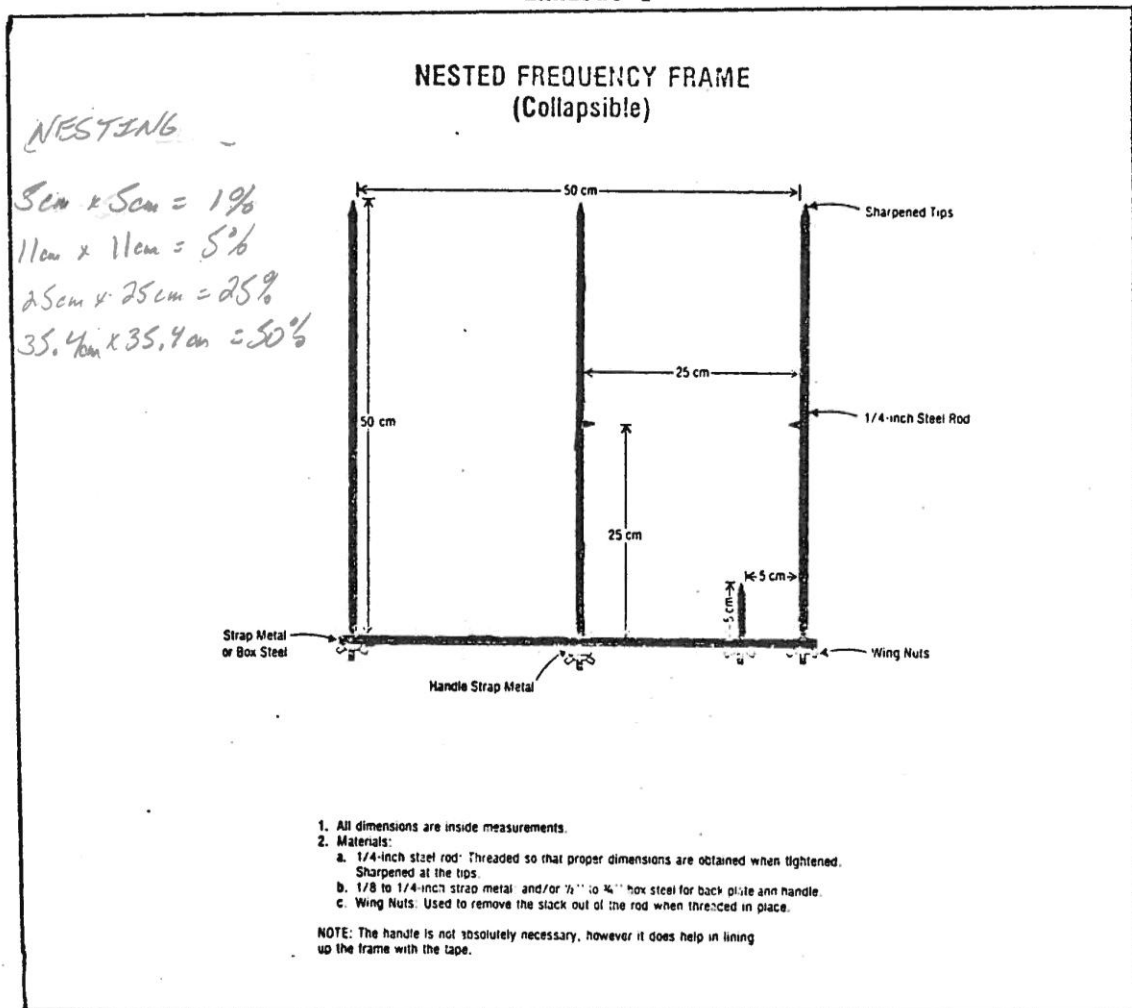
The frame is defined as the sampling tool. The nested plot(s) refers to the size of the sampling units contained (nested) within the frame. For the purpose of this methodology, sampling with successive nested plots can be defined as:

Sampling of the vegetation with four plots of different sizes where the smaller plots are contained (nested) within a larger plot.

Approximate plot sizes contained within the standard sized frame are as follows:

5cm x 5cm	1.96in x 1.96in
25cm x 25cm	9.84in x 9.84in
25cm x 50cm	9.8in x 20in
50cm x 50cm	20in x 20in

The Frequency Frame (collapsible):



*Penciled marks are estimated % for methods changes in 1992

In very sparse vegetation, i.e., in very poor sites or in desert types, a larger plot may be needed in order to monitor the vegetation. In these situations, the optional frame would be used to collect the data.

Most sites contain grasses, forbs, and shrubs mixed in the composition. Selecting the plot size for sampling mixed communities would present a real dilemma without the benefit of successive nested plots. By using nested plots, data from four-sized plots is collected and evaluated for preferred frequency values.

The largest plot contained within the frame will quite often yield high frequencies in densely vegetated areas whereas the smallest plot will yield low frequencies or may even miss certain species. Ideally, the best frequencies (20-80 percent) for most species should occur in one of the medium- sized plots. However, if the best frequencies occur in either of the other plots, the data are still valid. The data will indicate the size of plot best suited to monitor the vegetation. All comparisons must be based on a single plot size; however, if the frequency values change substantially, it may be necessary to select a different plot size for future comparisons.

The following example serves to illustrate this concept:

Plot Size	Frequency Obtained
50 x 50cm	100%
25 x 50cm	100%
25 x 25cm	70%
5 x 5cm	10%

In this example, the data collected reveals the nested 25 x 25cm plot yielded frequencies (70 percent) in the desired range since the value fell between 20-80 percent. Data collected with this plot size during a subsequent measurement would normally be used to monitor the species. However, if the species were to become more abundant, a subsequent measurement might produce higher frequencies in the 25 x 25cm plot; therefore, the 5 x 5cm plot might be best suited to monitor the species from that point on.

In this example, if the frequency values dropped significantly in the 25 x 25cm plot > the 25 x 50cm plot could be used to monitor the species. It should be kept in mind that trend can be either up or down and the use of nested plots offers the opportunity to monitor these changes. In order to do this, data must be collected from all plot sizes each time the study is measured.

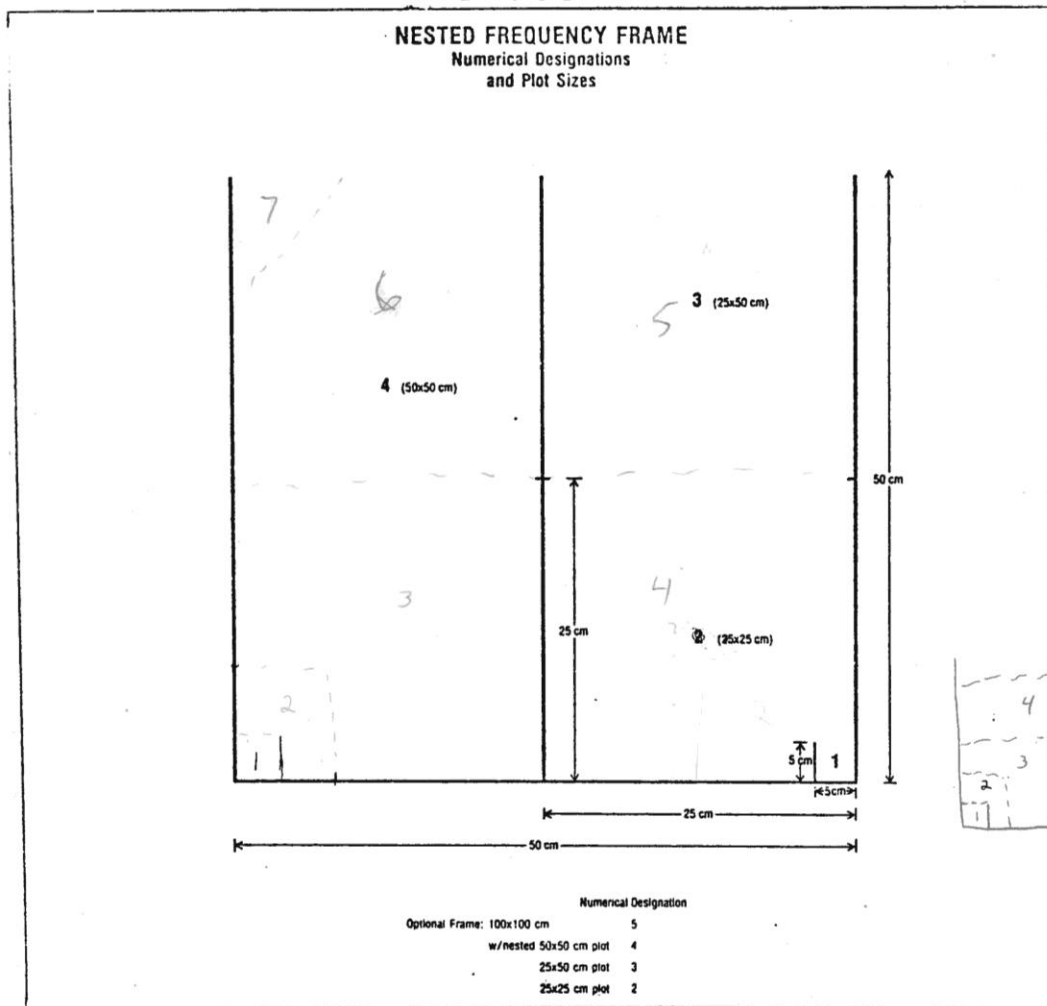
4.63J - NUMERICAL IDENTIFICATION OF NESTED PLOTS:

Since data will be collected from all four plots within the frequency frame, the individual plots within the frame need to be easily identifiable. For the sake of uniformity in recording of data, exhibit 1 numerically identifies the nested plots within the frame.

The concept of nested plots can be best described as follows: If a certain species were encountered in plot No. 1, it is automatically contained within plots No. 2, 3, 4. If a species were found in plot No. 2, it is also in the larger plots (plot No. 3 and 4), but it is not within plot No. 1.

The number five will be used to designate the 75 centimeter plot; however, data will only be collected from the four largest plots. The numerical designation corresponding to plot sizes should be entered on the form under the heading plot frequency.

This numerical designation will facilitate recordkeeping according to the various plot sizes.



*Penciled marks are representative of methods added in 1992

4.63K - COLLAPSIBLE NESTED:

Frequency Frame: Since part of the sampling will be done in remote location, the examiner should be able to carry the needed equipment with relative ease. The basic design for a lightweight collapsible sampling frame is illustrated in exhibit 1, section 4.63i. Generally, heavier materials are recommended for construction of rigid frames.

In the event the collapsible frame is to be carried horseback, a leather, or canvas pouch could be constructed. Care should be taken to prevent the prongs of the frame from being bent. If this occurs, they should be straightened out and/or replaced. A change in dimensions could result in a change in frequencies thereby invalidating the collected data.

4. 63L - READING AND RECORDING DATA:

1. *Placement of the Frame:* Once the beltline has been set up, the frame should be placed at regular intervals along the beltline as illustrated in exhibit 1, section 4.63d. Frames should be placed at 5' intervals along the 100' tape except when sampling narrow stringers; i.e., wet meadows. In these situations, the frames should be placed at 2' intervals along a 50' tape.

- a. The frame should be positioned so that the open end of the frame is pointed towards the 100' end of the tape. Once the frame is placed on the footmark, it should not be moved during sampling to include or exclude species. Placing the frame at the specified interval assures that samples are well distributed along the beltline and avoids personal bias.
 - b. This procedure should be followed until data have been collected from twenty frames along each of the five beltlines.
2. *Composition and Cover Measurements:* Only species rooted within the frame will be recorded. No effort will be made to count the number of individual plants. A plant is considered rooted within the plot/frame if any portion of the root crown is contained therein. Reading and recording will be as follows :
- a. Determine the presence of all species contained within the smallest nested plot Record their presence on the Nested Frequency Data form by placing a number one in the block for that particular sample along the belt, see exhibit 1, section 4.63c.
 - b. Determine the presence of any additional species in the net larger plot. Enter a number two for these species. Record a 2 only for species not encountered in the smaller plot. The species encountered in the smaller plot are also contained within each larger plot.
 - c. Determine the presence of any additional species in the third largest plot. Enter a number three for those additional species encountered. Only species not encountered in the two smaller plots are recorded as a three.
 - d. Record the presence of any other species in the largest plot; place a No. 4 only if additional species are encountered. Where the 100 x 100cm plot is used, a number five would be used to record the presence of species in this plot size.
 - e. Record cover and bare soil data by noting the type of ground cover component present at the four pointed prongs of the frame.
 - i. The tips of the prongs should be sharpened to obtain discrete measurements. Actual measurements are made at the point where individual tips come to rest on the ground. The prongs should be pressed against the ground and an observation made of the ground cover characteristic directly under each tip.
 - ii. For each placement of the frame, four separate cover measurements will be dot tallied. Cover hits will be recorded in the following categories:
 - Vegetation
 - Bare Soil (Soil particles <1/8" diameter)
 - Pavement (1/8" to 3/4")
 - Rock (greater than 3/4" diameter)
 - Litter
 - Cryptogams (moss, lichens)
 - f. The field portion of the data form should be completed before proceeding to the net beltline. This includes computing frequency for each plot, summarizing ground cover, identifying a key species if possible, and listing species missed in sampling. Shrub density data should be obtained as described in section 4.63n.

3. *Computation of Frequency:* Frequency is defined as the ratio of times the species occurs in a particular sized plot to the number of possible occurrences. Percent Frequency will be computed for all species sampled as described in the following example with *Agropyron trachycaulum*:

<u>Nested Plot Sizes</u>		<u>Plot Number</u>
	50 x 50cm	4
Frame	25 x 50cm	3
50 x 50 cm	25 x 25cm	2
	5 x 5cm	1

Frame	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AGTR	4	2	3	1	3		3	4	3	3	4	3	4	3	3	2	4	4	3	2

Percent Frequency of AGTR: Plot Size No. 1 = $\frac{1 \text{ (No. of occurrences)}}{20 \text{ (No. of samples)}} \times 100 = 5\%$
frequency

In this example, AGTR occurred only one time in plot size No. 1.

To compute frequency on plot No. 2, count all the No. 1's and No. 2's and again divide by the number of frames per belt.

$$\text{Plot Size No. 2} = \frac{4}{20} \times 100 = 20\% \text{ frequency}$$

To compute frequency for plot size No. 3, count all the 1's, 2's, and 3's; since the occurrences in plot size 1 and 2 are also contained within plot No. 3. The total number of occurrences are then divided by the number of frames to obtain the percent frequency for plot #3.

$$\text{Plot Size No. 3} = \frac{13}{20} \times 100 = 65\% \text{ frequency}$$

$$\text{Plot Size No. 4} = \frac{19}{20} \times 100 = 95\% \text{ frequency}$$

4. *Species Found But Not Encountered in Plots:* Any species not encountered in the individual plots but found growing along the beltline should be listed at the bottom of the data sheet. These species, although not very abundant, may be indicative of the management emphasis needed.

4.63M - SELECTING THE PLOT SIZE TO BE SUMMARIZED:

The example above indicates that plot No. 3 yielded the best frequency for AGTR since it fell closer to the midrange of the desired frequencies. Data collected with plots 1, 2 and 4 were on the fringe or outside of the preferred range of 20-80 percent frequency. Plots 1 and 2 were too small while plot No. 4 was too large to effectively monitor the species. Although individual species can be monitored in this fashion, a given plot size may not be the best for monitoring all species. The objective should be to select the one which does the best job of monitoring the majority of the plant species.

The frequencies obtained for a particular species should be reasonably consistent on all five beltlines and the best plot size for the vegetative community should be the same on all beltlines. When different beltlines indicate a different plot size is needed to monitor the vegetation, one or more of the following situations may exist.

1. Beltlines or portions of a beltline are not within the same habitat type.
2. Data were erroneously recorded.
3. Frequency was computed erroneously.
4. Taxonomically similar species may have been misidentified between beltlines.

4.63N - SHRUB DENSITY TECHNIQUE:

Although shrub density data have not been previously used in Region 4 as a means of monitoring trend, it can be used to supplement data collected with the Nested Frequency method. It should not be employed as the sole basis for determining trend but may be used in lieu of the line intercept procedure. The technique provides shrub species density along with information on the form and age class of the various shrubs present. This information provides additional data for evaluating condition and/or trend in the shrub community.

Shrub density and/or line intercept data (discussed in a later section) should always be collected when shrubs are present in the vegetative community. This data is especially important where some form of cultural treatment has been done and/or where the shrub component is important for wildlife.

4.63O - DENSITY MEASUREMENTS AND RECORDING:

Measurements are taken along a 50' segment of each beltline by using a 3' stick held perpendicular to the beltline tape. This creates a sample area 50' long and 3' wide. Exhibit 1, section 4.63d, shows how the belt transect should be laid out in connection with the Nested Frequency beltline. The technique can also be used in a similar fashion along each transect of a -parker 3-Step cluster.

All shrubs encountered along the belt transect are dot tallied by species and classified according to form and age class. The reverse side of the Nested Frequency Data Form (exhibit 1, section 4.63c) is used to record this information.

- a. *Age Classes*: To assure consistency in classifying and recording shrubs by form and age class, the following definitions should be used:

Seedling (Sprouts) (S): A very young plant, which has become firmly established yet, obviously is a newcomer on the site (first year seedlings are ignored). It is usually distinguished by its relatively small size, generally single stem, simple or no branching, succulent bark, less than 1/8" diameter at the base, and does not possess a large root stock (sprouts may be an exception). No evidence of flowering or seed production.

Young (Sapling) (Y): A relatively young plant, larger than a sprout or seedling (1/8" to 1/2" diameter at the base, varying with species) with more complex branching, may possess multiple basal stems but are attached to a relatively small root stock (except for saplings), bark is more fibrous but is not fissured as with a mature plant. Crowns are not rounded and are made up of all living wood. May or may not show signs of flowering and seed production.

Mature (M): A mature plant exhibits complex branching and multiple stems, fibrous fissured bark, rounded growth form, large, heavy, often gnarled stems and a firmly established predominant root stock. The root crown is made up of three-quarters or more living wood. Evidence of flowering and or seed production is present.

Decadent (D): A mature plant, which possesses more than 50 percent dead wood in the crown.

Dead (X): A plant which obviously does not possess any live crown, but the root is still firmly attached (downed, unattached, woody stems are considered litter).

- a. *Form Classes:* The form classes are based on availability of browse plants and their degree of hedging. These factors along with age structure can assist in determining the relative health of a browse stand and can aid in evaluating trend.

Availability represents the relative amount of twig growth which is within reach of grazing animals. Snow depth or duration will have no bearing on availability, as defined in this Handbook. Hedging is the result of repeated utilization and is one of the factors which affect availability of shrubs. The general appearance of the plant is a primary criterion in determining degree of hedging.

The following descriptions are provided as an aid to classifying shrub availability.

All available: This category signifies that all of the current years twig growth is within reach of grazing animals. This type of plant is generally represented by an open crown.

Largely available: The bulk of the vegetation in this category is available to the class of herbivores present in the area. A few shrubs are unavailable due to:

1. Large crowns.
2. Moderate to heavy hedging.
3. Shrubs height.
4. Steep terrain.
5. Stand density.

Mostly unavailable: A large portion of current year's growth is not available for grazing. This may be due to one or more of the reasons mentioned in the largely available category above.

Unavailable: These shrubs may produce large quantities of twig growth; however, it is not available to grazing animals. Frequently, a tall growth form places shrubs in this category. A hedgeline is also common where shrubs have become unavailable. Dead or decadent plants often fall in this category.

Hedging categories are described as follows:

Lightly hedged: Shrubs of this nature generally have open, loose crowns and produce a large quantity of vigorous twigs. Frequently, these plants are either all or largely available. Their appearance is that of healthy, fast-growing plants.

Moderately hedged: These shrubs possess moderately open crowns, but show signs some clubbing. Plants which are hedged to this degree exhibit varying levels of vigor and begin to take on a ragged appearance. Some of the twigs are readily available while the remaining twig growth is generally unavailable due to the tight growth form and presence of larger clubbed stems on the periphery of the crown.

Closely hedged: A closed, compact rounded appearance is usually characteristic of this degree of hedging on a mature plant. Generally, very little twig growth is present on the exterior portion of the shrub; most of the twig growth is confined to the interior.

A decadent plant often shows signs of close hedging on the few larger stems, which produce limited leader growth. Young plants are generally not very common in a closely hedged shrub community.

4.63P - SUMMARIZATION OF DATA:

Data collected from all of the beltlines should be summarized on the Nested Frequency Summary worksheet. Only data from the best plot size will be summarized. Summarization and subsequent evaluation will be based solely on the number of occurrences obtained from each beltline. The following is an explanation of how the data should be summarized and organized in preparation for statistical evaluation.

1. *Nested Frequency Data Summary:* The data collected from the selected plot size should be summarized for each beltline as follows:
 - a. *Number of Occurrences:* Once the best plot size for the vegetative community is selected, the number of occurrences should be calculated. The number of occurrences is merely the number of times the species occurred in the selected plot size. This can easily be computed by either counting the number of occurrences; i.e., 10 out of 20 equals 10 occurrences; or if a 30 percent frequency is obtained, the number of occurrences can be computed as follows:
 - i. Number of occurrences = 20 frames x 30 percent frequency = 6
 - b. *Percent Composition:* Compute the percent composition for each of the species listed. This is done by dividing the total number of occurrence for each species by the total number of occurrences of all species in the beltline. The sum of these individual values should total 100 (+ or -1) percent.
 - c. *Desirability Rating:* Enter the desirability rating for each of the species encountered. Use the species list contained in exhibit 5 or 6, section 2.41d. In order to make valid comparisons, all data from each year's measurement must be classified according to the proper desirability.

- d. *Allowable Occurrences*: Determine the allowable occurrences for each species as to D, I, and L. The explanations in the proceeding example make reference to exhibit 1, section 4.63e.

A species such as *Festuca idahoensis* (FEID) with desirability of D-30 would be classified as desirable up to 30 percent of the composition. The balance, if any, would be classified as intermediate. Since FEID makes up 15.5 percent of the composition, all of the occurrences would be listed as desirable (D). *Geranium viscosissimum* is classified as D-5, I-6-25, L-26+; could be rated in all three categories if its percent composition were greater than 25. In exhibit 1, section 4.63c, *Geranium viscosissimum* is listed as having 9 occurrences and 8.7 percent composition. To determine the number of occurrences to be classed as desirable, multiply 5 percent (.05) times the total number of occurrences (103). This calculation gives a value of 5.15, which is rounded off to 5 occurrences. These 5 occurrences are entered in the desirable (D) column. The remaining 3.55 units of the composition ($8.7 - 5.15 = 3.55$) is then multiplied by 103 to arrive at the 4 (3.66 rounded off) occurrences which are entered in the intermediate (I) column. In this case, there are no further entries since GEVI only makes up 8.7 percent of the composition. The final step in summarizing allowable occurrences is to obtain totals for D, I, and L.

- e. *Ground Cover*: Total up the number of hits on all ground cover components. The total of these should equal 80 on each beltline.
2. *Shrub Density Data*: Summary: Shrub density data are summarized concurrently with the frequency data. The summary is merely a total of the dot tallies recorded for each individual species on each belt transect. These totals can subsequently be compared with previous or subsequent measurements of the same stand.

4.63Q - APPARENT TREND RATING:

After collecting and summarizing both nested frequency and shrub density data, the Apparent Trend Form (exhibit 1, section 2.23f) should be completed. Where shrubs are present, the Browse Trend Characteristic Rating on the back side of the Frequency Data Form (exhibit 1, section 4.63c) should also be completed before leaving the study site. It should be recognized that apparent trend indicators are basically use oriented and may not correlate with the trend of ecological condition. The apparent trend rating should not be confused with long-term trend, which is obtained by comparison of repeated measurements made over time. This rating merely serves to highlight what appears to be taking place within the community as it relates to the management objectives for the area.

4.63R – EVALUATION OF DATA:

The summarized data from each beltline should be transferred to the Nested Frequency/Shrub Density Summary, R4-2200-23 (8/82), (exhibit 1) and evaluated using Analysis of Variance to determine if the changes between measurements are significant. At least two readings are needed in order to use this statistical evaluation.

Although many different comparisons can be made, as a minimum, the following parameters should be evaluated in connection with each study: (1) changes in plant composition as expressed by the occurrences in the three desirability groups, i.e., desirables, intermediates, and least desirables; and (2) changes in bare soil; and (3) changes in one or more key species. If the trend study is located on an important winter deer range, it might be very important to know whether there are significant changes taking place in the number and/or age class of a particular browse species. This information could be obtained from the shrub density measurements.

1. *Analysis of Variance Test*. The Analysis of Variance Test can easily be performed manually using a programmable calculator or the data can be evaluated with the use of the computer. At least two readings are necessary to perform this test.

The objective is to determine if (1) there are significant differences between means and (2) if more than 2 years data are available, establish the basis for performing the least significant differences (LSD) test.

A table displaying the degree of freedom (df), sum of squares (SS), mean square (MS), calculated "f" and tabular "f" values should be generated for all sources of variation.

<u>Source</u>	<u>"df"</u>	<u>SS</u>	<u>MS</u>	<u>calculated "f"</u>	<u>tabular "f"</u>
Years (y)					
Belts					
Error					
Total					

After these figures are computed, the calculated "f" and tabular "f" values can be compared to determine if there is a need to proceed with further testing of the various means. When the calculated "f" exceeds the tabular "f" value, a significant difference does exist and the test for Least Significant Difference (LSD) may be performed where more than 2 years of data are being evaluated.

The LSD test is used to determine which of the years and/or belts are significantly different. If a significant difference is found between any of the belts, it may be attributed to one or more of the following:

- a. The study is not located in a uniform habitat type.
- b. There is too much variation within the habitat type and five beltlines cannot adequately sample the site.
- c. Errors were made in collecting or summarizing the data.
- d. The site may have had some form of local disturbance.

Where any beltlines are found to be significantly different, effort should be made to confirm the reason(s) for these differences. If these differences persist on the same belts during subsequent readings, it would indicate that the differences are due to factors other than sampling error. In this situation, only those belts which are not significantly different should be utilized to assess changes in the yearly means.

Where yearly means are found to be significantly different, it is also possible they are due to sampling error. Sampling errors may include:

- a. Improper recording of data.
- b. Assignment of wrong desirability ratings.
- c. Misidentification of species (i.e., FEID and STLE or DECA).

After any obvious sampling errors are corrected, any remaining differences can be attributed to real changes in the environment.

The procedure for manually performing this test is as follows using the allowable occurrence data on desirables contained in exhibit 1, section 4.63r, and on exhibit 1 in this section.

<u>Desirables</u>	<u>Beltline</u>					<u>Totals</u>	<u>Mean (x)</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
Year 1 <u>1964*</u>	44(1)	44	43	46	42	219(5)	43.8
Year 2 <u>1970*</u>	48	47	46	48	46	235	47.0
Year 3 <u>1981**</u>	<u>.56**</u>	<u>.50*</u>	<u>.53*</u>	<u>.53*</u>	<u>.52*</u>	<u>264</u>	52.8
Totals	148(3)	141	142	147	140	718(15)	

*Data used in exhibit 1, section 4.63r, are hypothetical.

**Data are from exhibit 1, section 4.63c; all other figures for this year are hypothetical. Note sample size (n) in parenthesis.

a. Calculate the sum of squares (SS) for the following:

- 1 Total
- 2 Years (y)
- 3 Belts (B)
- 4 Error

Begin by calculating the correction term (CT).

$$CT = \frac{(\sum x)^2}{N} = \frac{718^2}{15} = 34368.26$$

$$SS = \frac{\sum x^2}{N} - CT$$

$$\begin{aligned} \text{Total SS} &= 44^2+44^2+43^2+46^2+42^2+48^2+47^2+46^2+47^2+46^2+48^2+46^2+47^2+46^2+47^2+46^2 - CT \\ &= 34608 - 34368.26 \\ &= 239.74 \end{aligned}$$

$$\begin{aligned} \text{Year SS} &= \frac{219^2+235^2+264^2}{5 \text{ (No. of belts)}} - CT \\ &= 34576.4 - 34368.26 \\ &= 208.14 \end{aligned}$$

$$\begin{aligned} \text{Belt SS} &= \frac{148^2+141^2+142^2+147^2+140^2}{3 \text{ (No. of years)}} - CT \\ &= 34386 - 34368.26 \\ &= 17.74 \end{aligned}$$

$$\begin{aligned} \text{Error SS} &= \text{Total SS} - \text{Year SS} - \text{Belts} \\ &= 239.74 - 208.14 - 17.74 \\ &= 13.86 \end{aligned}$$

b. Calculate the mean square (MS) for the years belts and error.

$$MS = SS/df$$

The degrees of freedom "df" associated with the number of years can be obtained from the following table, where five belts were measured during each reading:

<u>Number of Readings</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
Years df	1	2	3	4	5	6	7
Belts df	4	4	4	4	4	4	4
Error df	4	8	12	16	20	24	28
Total df	9	14	19	24	29	34	39

The "df" is always one less than the number of observations involved in each total. The error "df" is obtained by subtracting the year and belt "df" from the total.

$$\text{Years MS} = \frac{\text{Year SS}}{\text{Year df}} = \frac{208.14}{2} = 104.07$$

$$\text{Belt MS} = \frac{\text{Belt SS}}{\text{Belt df}} = \frac{17.74}{4} = 4.35$$

$$\text{Error MS} = \frac{\text{Error SS}}{\text{Error df}} = \frac{13.86}{8} = 1.73$$

c. Calculate the "f" values for years and belts.

$$f = \frac{MS}{\text{Error MS}}$$

$$\text{Year } f = \frac{\text{Year MS}}{\text{Error MS}} = \frac{104.07}{1.73} = 60.15$$

$$\text{Belt } f = \frac{\text{Belt MS}}{\text{Error MS}} = \frac{4.35}{1.73} = 2.51$$

d. Display the data in tabular form as follows:

Source	df	SS	MS	Calculated "f"	Tabular "f"	Significance
Years	2	208.14	104.07	60.15	4.46**	Yes
Belts	4	17.74	4.35	2.51	3.84**	No
Error	8	15.46	1.73	-	-	
Total	14	*239.74				

*The individual SS must equal the total SS.

**The tabular "f" at the 95% confidence interval (see following table)

Years of Reading	Error df	Degrees of freedom (associated with years or belts)						
		1	2	3	4	5	6	7
2	4	7.71	6.94	6.95	6.39	6.26	6.16	6.09
3	8	5.32	4.46	4.07	3.84	3.69	3.58	3.50
4	12	4.75	3.88	3.49	3.26	3.11	3.00	2.92
5	16	4.49	3.63	3.24	3.01	2.85	2.74	2.66
6	20	4.35	3.49	3.10	2.87	2.71	2.60	2.52
7	24	4.26	3.40	3.01	2.78	2.62	2.51	2.43
8	28	4.20	3.34	2.95	2.71	2.56	2.44	2.36

In the previous example, the calculated "f" (2.51) for the belts does not exceed the tabular "f" (3.84); therefore, there is no significant difference between belts. From this, it is concluded the site was properly selected and the study was installed and re measured correctly. The calculated "f" (60.15) for years exceeds the tabular "f" (4.46); this clearly indicates there is a significant difference between years. However, since there are three (3) years of readings, the LSD test must be performed to determine which of the years are different.

e. Compute the Least Significant Difference (LSD) to determine the amount of change needed between yearly means (x) for a change to be considered significant.

$$LSD = tdf = \sqrt{MS(Error) \frac{1}{ni} + \frac{1}{nj}}$$

The "t" value at 95% confidence limit with 8 degrees of freedom for the error is obtained from the "t" table contained in exhibit 8, table 2, section 2.4ld.

$$\begin{aligned} LSD &= t_{.95} \sqrt{1.73 \left(\frac{1}{5} + \frac{1}{5} \right)} \\ &= 2.131 \sqrt{.692} \\ &= 1.91 \end{aligned}$$

In the event data from one or two of the belts were not evaluated because of significant difference between beltlines, the number of observations (n) in this calculation (i.e., 5) would change according (i.e., 3 or 4) to the number of belt-lines used to make the yearly comparisons.

Where only two years of data are available, there is no need to perform the LSD test as described. However, in order to determine the amount of change in yearly means, which is needed for a significant change, the following formula can be used:

$$D = t_{4d} S_{\bar{x}} \sqrt{2}$$

Where D = the difference in yearly means needed for a significant change.

$$S_{\bar{x}} = \sqrt{\frac{\text{Error MS}}{5}}$$

$t_{4d} = 2.776$ (from Section 2.4Id, Exhibit 18, Table 2)

- f. Compute the differences between yearly means to determine which yearly means \bar{x} are significantly different. They can be displayed as follows and compared against the LSD.

	x	x - 42.4	Yearly \bar{x} diff	Total \bar{x} diff
Year 1	43.8	0	3.2	
Year 2	47.0	3.2	5.8	9.0
Year 3	52.8	9.0		

This comparison indicates the means (x) between years 1 and 2 and between years 2 and 3 are significantly different since their differences exceeded 1.91. In this example, the number of occurrences of desirables increased and an upward trend is indicated for years 2 and 3.

The evaluation is accomplished in the same manner for all other attributes regardless of the number of years. The associated degrees of freedom (df) would change with the number of times a particular study was re-measured.

NESTED FREQUENCY/SHRUB DENSITY
Summary

Forest Bridger-Teton District Big Piney Allotment Sherman Date 9/4/82
 Study Name/Number Horse Pasture Draw BT-25 Vegetative (Habitat) Type ARTRV/FEID
 Summary by _____

DESIRABLES	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	44	48	56			148
2	44	47	50			141
3	43	46	53			142
4	46	48	53			147
5	42	46	52			140
Total	219	235	264			718
Mean \bar{x}	43.8	47.0	53.8			

KEY SPECIES	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	6	14	16			36
2	5	12	14			31
3	8	15	19			42
4	7	13	15			35
5	8	13	15			36
Total	34	67	79			180
Mean \bar{x}	6.8	13.4	15.8			

INTERMEDIATES	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	60	56	45			161
2	59	57	43			159
3	63	60	52			175
4	64	58	51			173
5	65	60	49			174
Total	311	291	240			842
Mean \bar{x}	62.2	58.2	48.0			

BARE SOIL	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	22	21	8			51
2	23	19	12			54
3	24	22	10			56
4	22	18	11			51
5	21	19	12			52
Total	112	99	53			264
Mean \bar{x}	22.4	19.8	10.6			

LEAST DESIRABLES	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	8	6	2			16
2	9	5	4			18
3	8	4	5			17
4	5	3	2			10
5	7	4	3			14
Total	37	22	16			75
Mean \bar{x}	7.4	4.4	3.2			

SHRUB DENSITY and/or COVER (ARTRV)	Year					Total
	1	2	3	4	5	
	1964	1970	1981			
Belt 1	210	41	64			315
2	180	43	58			281
3	208	36	68			312
4	135	33	60			228
5	146	31	55			232
Total	879	184	305			1368
Mean \bar{x}	175.8	36.8	61.0			

4.63S - ASSESSMENT OF TREND:

Each parameter or set of parameters which were summarized on R4-2200-23 should be carefully evaluated and a trend rating assigned (up, down, or static) based on the significance of the change and the direction of that change. Form R4-2200-26 (7/82), Nested Frequency/Shrub Density Evaluation Record shown in exhibit 1 is used to document these changes and the basis for the final assessment of trend.

The following guidelines can be used as an aid in defining the direction of change for the variable monitored.

1. A static trend would be assigned to changes which are not significant, i.e., calculated values which are less than the LSD value.
2. The individual component, i.e., D, I, or L which shows the most change will often dictate the direction of the overall change.

3. A shift to a lower desirability, i.e., the loss of desirables with an increase of intermediates and/or least desirables, would indicate a downward ecological trend.
4. Significant increase in ground cover would indicate an upward soil trend.
5. An increase in the number of shrubs could indicate either a downward or an upward trend. This would depend on the site potential and the shrub species involved. On a grassland site, an increase in woody vegetation could imply a downward ecological trend.
6. A shift in the age class of a particular shrub may also indicate the direction of change. An increase in the older age categories of a sagebrush stand may denote an upward ecological trend.
7. Reduced quantities or loss of species normally found in the habitat type would indicate a downward ecological trend; i.e., Idaho fescue within a sagebrush stand lost due to heavy grazing or fire.

Although the trend rating assigned to each parameter may not always agree with each other; an overall rating for the vegetation and soil should be assigned. Assigning a trend rating to the soil normally does not present any problems; however, rating the overall vegetative trend can be difficult particularly where conflicting trends are indicated by the various parameters. Generally speaking, the overall trend will normally be that which occurs more often when all parameters are considered. The investigator must exercise professional judgment in deciding on the overall vegetative trend. This decision should be based on the significance and direction of change.

The following example serves to illustrate an assessment employing the analysis of variance technique described.

RANGE ANALYSIS HANDBOOK

Belt	Desirables				Intermediates				Least Desirables			
	(1) 1964	(2) 1970	(3) 1981	Total	(1) 1964	(2) 1970	(3) 1981	Total	(1) 1964	(2) 1970	(3) 1981	Total
1	44	48	56*	148	60	56	45*	161	8	6	2*	16
2	44	47	50	141	59	57	43	159	9	5	4	18
3	43	46	53	142	63	60	52	175	8	4	5	17
4	46	48	53	147	64	58	51	173	5	3	2	10
5	42	46	52	140	65	60	49	174	7	4	3	14
Total	219	235	262	718	311	291	240	842	37	22	16	75
x	43.8	47.0	52.8		62.2	58.2	48.0		7.4	4.4	3.2	
Difference												
LSD =	1.91				2.29				1.44			
Years Different	1, 2, & 3				1 and 3, 2 and 3				1 and 2, 1 and 3, 2 and 3			
Years Not Different												
Short-Term Change	Gain				Loss				None			
Long-Term Change	Gain				Loss				Loss			

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

Based on comparisons of the LSD values against the differences in years, several changes are noted to be significant on both short-and long-term trends.

The assessment of short-term trend (year 2 versus year 3) would be as follows:

The significant gain in desirables and loss of intermediates would signify an upward trend due to a shift toward a higher desirability. However, an overall downward trend is indicated since the magnitude in loss of intermediates is not outweighed by the gain in desirables while least desirables exhibit no change.

The assessment of long-term trend (year 1 versus year 3) would be as follows:

A significant change is noted on all three parameters. Upward vegetative trends are indicated by the gain in desirables and a loss in least desirables. The loss of both intermediates and least desirables coupled with a gain in desirables indicates a shift towards a higher desirability class; therefore, an upward trend is substantiated.

**NESTED FREQUENCY/SHRUB DENSITY
Evaluation Record**

Forest Bridger-Teton District Big Piney Allotment Sherman Date 8/10/82
 Study Name/Number Horse Pasture Draw BT-25 Vegetation (Habitat) Type ARTRV / FEID
 Evaluation by _____

DESIRABLES	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	43.8	47.0	52.8		
\bar{x} Difference:					
Short Term	Yr 1-2 3.2	Yr 2-3 5.8	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 3.2	Yr 1-3 9.0	Yr 1-4	Yr 1-5	
LSD	1.03	1.91			
Change: Short Term	Gain	Gain			
Long Term		Gain			

KEY SPECIES	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	6.8	13.4	15.8		
\bar{x} Difference:					
Short Term	Yr 1-2 2.6	Yr 2-3 2.9	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 2.6	Yr 1-3 9.0	Yr 1-4	Yr 1-5	
LSD	1.41	1.27			
Change: Short Term	Gain	Gain			
Long Term		Gain			

INTERMEDIATES	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	62.2	58.2	48.0		
\bar{x} Difference:					
Short Term	Yr 1-2 4.0	Yr 2-3 10.2	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 4.0	Yr 1-3 14.2	Yr 1-4	Yr 1-5	
LSD	1.95	2.29			
Change: Short Term	Loss	Loss			
Long Term		Loss			

BARE SOIL	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	22.4	19.8	10.6		
\bar{x} Difference:					
Short Term	Yr 1-2 2.6	Yr 2-3 9.2	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 2.6	Yr 1-3 11.8	Yr 1-4	Yr 1-5	
LSD	1.66	2.35			
Change: Short Term	Loss	Loss			
Long Term		Loss			

LEAST DESIRABLES	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	7.4	4.4	3.2		
\bar{x} Difference:					
Short Term	Yr 1-2 3.0	Yr 2-3 1.2	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 3.0	Yr 1-3 4.2	Yr 1-4	Yr 1-5	
LSD	1.20	1.44			
Change: Short Term	Loss	None			
Long Term		Loss			

SHRUB DENSITY and/or COVER	Year				
	1	2	3	4	5
	1964	1970	1981		
Mean \bar{x}	175.8	36.8	61.0		
\bar{x} Difference:					
Short Term	Yr 1-2 139	Yr 2-3 24.2	Yr 3-4	Yr 4-5	
Long Term	Yr 1-2 139	Yr 1-3 114.8	Yr 1-4	Yr 1-5	
LSD	38.8	26.4			
Change: Short Term	Loss	None			
Long Term		Loss			

TREND ASSESSMENT

Short Term Trend: Vegetation: Static (→) Soil: up (↑)
 Basis for assessment:

Vegetation: short term trend in vegetation is considered static due to the gain in Desirables and FEID coupled with the loss in Intermediates while Least Desirables and ARTRV did not change; it would appear that any previous improvement has slowed down.

Soil: short term trend in soil is considered up (↑) due to the significant loss (decrease) in the amount of bare soil.

Long Term Trend: Vegetation: up ↑ Soil: up ↑
 Basis for assessment:

Vegetation: Long term trend in vegetation is considered up due to the shift towards a higher desirability as is indicated by the gain in Desirables coupled with the loss of Intermediates and Least Desirables. It is further substantiated by the gain in FEID and loss of ARTRV.

Soil: Long term trend in soil is up due to the significant loss in the amount of bare soil.

Assessment of SHRUB DENSITY and/or COVER ARTRV

Short Term Trend

Basis for assessment:

cover measurements taken with Line Intercept indicate no change in the cover of ARTRV occurred between years 2 and 3. Therefore trend is considered to be STATIC (→).

Long Term Trend

Basis for assessment:

cover measurements between years 1 and 3 verify a significant loss in the amount of ARTRV therefore an upward (↑) trend is indicated.

BLM NESTED DENSITY-CHARACTERIZATION PROCEDURE

The nested density-characterization procedure is the method currently being utilized by the Bureau of Land Management in Utah. The following guidelines are taken directly from the Bureau's instructions to their field personnel.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
UTAH STATE OFFICE
136 E. SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

IN REPLY REFER TO

4412.2
(U-932)

Instruction Memorandum No. UT 81-267
Expires 9/30/82

To: AFQs
From: State Director, Utah
Subject: Rangeland Monitoring Procedures

The attached Utah Guidance for Range Studies provides the primary procedures to be used in establishing new rangeland monitoring studies in Utah. This guidance is consistent with procedures outlined in the Draft Manual Section 4430 (IM No. DSC-81-109) and will be updated into a manual supplement when the Manual is released.

Established trend studies should be retained or at least re-photographed periodically. They may also be expanded using the attached methodology if necessary.

The procedures should work well for most vegetation types in Utah, but we realized there will be situations where alternative study methods will be preferable. If you plan to use another method, submit the proposed method and reasons to UT-930 for approval.

Earlier in May, the trend method was field tested in several vegetation types. Some of our findings were:

1. The square nested plot (3 x 3' or 5 x 5') was preferred over the 9.6 ft.² circle.
2. Seedlings and annuals should be listed if they occur, but do not need to be counted since yearly climate fluctuations account for most of the variability in these.
3. The distance between plots does not have to be precisely 100', but can be somewhat less in order to locate plots so they contain some of the key species for the area. The exact distance should be measured and recorded on the location map.

We will conduct a training session at the Cedar City District Office on June 10, 1981, at 8:00 a.m. through the morning of June 12, 1981. Each District should try to send their District Range Conservationist and the Area's Supervisory Range Conservationist, if possible, on this short notice. Weather permitting, one day will be in the field.

Enclosure
Utah Guidance for
Range Studies

Distribution
SCD, D-245 (2)
Director, W-221


ACTING

UTAH GUIDANCE FOR RANGE STUDIES

BLM MANUAL 4412.2

Rangeland Monitoring Studies are the Bureau's tools used to measure and interpret soil and vegetative changes brought about by management action and/or natural events such as climate. The purpose of this supplement is to provide additional guidance for conducting Utah Rangeland Monitoring Studies, on an interim basis, until BLM Manual 4412.2 is rewritten and implemented. Study examiners should be familiar with basic considerations and procedures set out in the existing Manual 4412.2 as well as this supplement.

BLM MANUAL 4412.21 - BASIC CONSIDERATIONS

A. Objectives of the studies should:

1. Provide Procedures for gathering sufficient field data to:
 - a. Serve as a base for interpreting and evaluating management plans or strategies; including verify or adjust livestock and/or wild ungulate populations after initial stocking rates are set,
 - b. Offer comparison between present management strategies and site potential,
 - c. Support other production-oriented studies.
2. Involve a multidiscipline approach to avoid duplication of effort and allow maximum efficiency.

B. Priorities

1. Allotments will receive studies in the following priority:
 - a. Problem or highly important allotments,
 - b. Allotments under AMP's or grazing systems,
 - c. Allotments where management is planned,
 - d. All remaining allotments.
2. Conducting studies will be as follows:
 - a. Establish complete set of studies (excluding climate) on allotments according to criteria set out in 4412.21B1 above.
 - b. Establish climate studies representative areas or areas where there are data voids to supplement existing weather station data.
 - c. Conduct studies to provide data necessary to verify or adjust stocking rates for livestock and/or wild ungulate populations, adjust seasons of use for livestock, and evaluate progress in achieving management objectives for vegetation resources.

- C. Basic studies will include: actual use; utilization; trend; condition; and climate. Phenology and green weight/dry weight conversion studies such as climate/phenology correlation. These studies will be considered the standard. Additional studies (water quality; browse utilization; soil erosion; etc.) may be necessary on crucial key areas.
- D. *Establishing studies:* They key area-key species concept will be used in all range studies.
1. Definition - A key area is a portion of a range (pasture within an allotment) which because of its location, grazing value and/or use, serves as an indicative sample of range conditions, trend or degree of use seasonally. A key area may be considered to be the "pulse" of the range (pasture within an allotment) and guides the management of the entire area of which it is a part.
 2. Criteria for Establishment and Study
 - a. As a standard, basic studies (excluding climate) will be established on key areas in each priority allotment. A final objective is a complete set of studies (excluding climate) on each key area in each pasture of each allotment.
 - b. Preferably, a key area should be established to represent only one vegetation-soil unit such as a site write-up area (SWA) where SVIM mapping has been completed where the manager feels that it is. Desirable to monitor more than one vegetation-soil unit on one key area, all data collected should be kept separate by site.
 - c. There are at least four consideration points in the planning and implementation process where key area locations should be assessed, as follows:
 - I. Use MFP constraints as assessed in allotment planning and as necessary to monitor these special and critical problems. Key areas should be crucial for any or all of the following: watershed, wildlife, range.
 - II. Select key areas as necessary to evaluate vegetation responses from the grazing system or use established. These key areas will normally result from fence locations and planned water development (allotment planning phase).
 - III. Select key areas, as necessary, following full implementation of an AMP where actual grazing patterns are different than anticipated in the allotment planning phase.
 - IV. Prior to initiation of any new studies, the study site will be evaluated by the multidiscipline team. The intent should be to establish as few studies as possible yet provide the maximum data for all disciplines. As many of these basic studies as possible should be taken in the same key or crucial key area and at the same time to minimize interpretive error and travel costs. Existing studies which provide valuable data will be retained regardless of type, but may not be read on a regular basis.
 - d. Key plant species (indicators of vegetation change) should be determined by a multidiscipline team. This team will be composed of range, wildlife, soils, and watershed specialists.
 - I. A key species should be abundant on a range in satisfactory condition. Grazing values may be of secondary importance. For example, watershed protection may

require the selection of plans as key species that protect the watershed but are not the best forage species.

- e. Comparison areas should be established for major sites to document site potential and aid in determining management objectives. (Manual 4412.14D8)
3. Study files will be established for each key area. A key area location sheet with diagrammatic sketch (illustration 4412-1) will be prepared when studies are established. A key area number will be assigned in accordance with the well-numbering system used in Utah. (Illustration 4412-2) Since there will seldom, if ever, be more than one key area in a quarter section, it should not be necessary to number beyond the quarter section code.

BLM MANUAL 4412.22 - STUDY METHODS

Listed below are study methods recommended for Utah. Specific circumstances may warrant use of other study methods outline in Manual 4412.2 or other modified outlined in Manual 4412.2 or other modified study procedures. Alternative study procedures must be approved by the State Director prior to implementation.

A. Actual use

1. *Frequency:* Actual grazing use surveys (such as form 4130-5, illustration 4412-3) from operators will be taken annually at the end of the grazing season or billing year. Livestock (and wildlife) counts can be taken any time as deemed appropriate by the range manager.
2. Documentation
 - a. The following information will be requested from the livestock operator:
 - I. Allotment name - pastures grazed,
 - II. Livestock numbers grazed,
 - III. Season of use (dates).
 - b. Animal counts will be documented on form 4113-1 for livestock and form 6602-1 for big game.

B. Utilization

1. *Frequency:* Data will be collected at the end of each grazing period as soon as possible after each class of animal leaves an allotment or pasture. Where both livestock and wild ungulates use the area simultaneously, it may be necessary to compare use on adjacent non-use pastures or on differential enclosures.
2. Methodology will normally be the key forage plant method. Techniques for estimating utilization are found in Manual 4412.22B7.
 - a. Photographs of key species can be taken showing the different levels of use on both grasses and shrubs to supplement transect information. Mapping should show utilization patterns according to the standard 20% class intervals. Mapping will be done in the field on topographic maps, orthophotoquads or other suitable maps or photos and kept in the allotment file. Where SVIM-type surveys have been completed, utilization patterns will normally follow SWA boundaries since present vegetation communities usually represent

historic grazing patterns. Use of SWA boundaries makes it much simpler to determine acreage and areas, which utilization patterns represent.

- b. The following information should be shown in each map delineation: transect location; observed utilization; acreage; the location of water and other improvements.
 - c. Data will be recorded on form 4412-12
- C. Trend data will quantify vegetation changes in terms of plant density (number of plants per unit area) by species and plant community composition by age and form class.
1. Establishing sites will use the key area concept outlined in part .21D of this supplement. Existing sites will be reviewed to insure they are well within ecological site boundaries. If a site is determined to be improperly located, the existing photo plots will be retained and a new site selected for additional studies. Further readings and calculations of trend index of existing sites will be at the discretion of the manager.
 2. *Frequency*: Data will be collected the year prior to proposed 3 and 5 year decisions following an ES or RMP and in accordance to the frequency key for range trend thereafter (illustration 4412-4).
 3. *Mapping*: Trend study areas will be correctly located on a topographic map or orthophotoquad and made a part of the study area's permanent file.
 4. *Methodology*: Three permanently located plots, located 100 feet apart on line will be used (illustration 4412-5). Under no circumstance will plants be clipped within these study plots.
 - a. Plot size will normally be a 9.6 square foot hoop nested within an 8.3-foot radius plot (1/200 acre).
 - b. Alternative size plots such as 3 x 3 or 5 x 5 foot frames or 11.7 foot radius (1/100 acre) may be considered necessary or desirable by the multidiscipline team due to exceptionally sparse or dense vegetation or the presence of existing studies utilizing a particular plot size. If a square plot is used as the nested plot, the corner marker farthest from the photo point would be used as a pivot for the 8.3 or 11.7 foot radius plot.
 - c. Record plant density and characterization data on form 4412-27(V-2) (illustration 4412-6).
 - I. Record administrative data in items (3) thru (9).
 - II. Record plot sizes in items (10) and (11).
 - III. Record plot number 1 in column (13).
 - IV. Characterize grass and forb species in the nested plot.
 - i. Record the first species to be characterized in column 14.
 - ii. Record average height and average crown diameter of the species (not the individual plant) in columns (19) and (20) respectively.

- iii. Record the different combinations of age and form class for that specie in columns (21) and (22). Age and form class codes are listed in form 4412-27a - instructions for record type V2.
 - iv. Count the number of individual plants in each age and form class combination and record on the same line in column 23.
 - V. Characterize shrub and tree species in the 8.3 or 11-7 foot radius plot and record in the same manner as for grasses and forbs.
 - VI. Repeat (4) and (5) for plots 2 and 3.
5. For comparison purposes, the density in plants/acre can be easily calculated for each age and form class for key species and entered on a summary work sheet. The calculation would be:
- a. Total number counted in form and age class for three plots X Constant for plot size = $\frac{\# \text{Plats}}{\text{acre}}$. Where: Constant for plot size = $\frac{43,560 \text{ ft.}}{3 \times \text{plot area (ft)}^2}$

Typical constants are:

$$3' \times 3' \text{ plot} = \frac{43,560}{27} = 1,613.3$$

$$9.6 \text{ ft}^2 \text{ plot} = \frac{43,560}{28.8} = 1,512.5$$

$$5' \times 5' \text{ plot} = \frac{43,560}{75} = 580.8$$

- 6. Supplemental data may include ground cover and/or soil surface factor (SSF). The need for supplemental data will be determined by the multidisciplinary team and the manager.
 - a. Ground cover will be gathered utilizing a 200-point step-point transect and recorded on form 4412-26 (illustration 4412-7) according to procedures in Manual 4412.14D2.
 - b. Soil Surface Factor (SSF) data will also be recorded on form 4412-26.
- 7. Photographs
 - a. A general view photograph should be taken from a camera point at the first plot toward the remaining two. A panoramic photo (three overlapping photos) may be used where necessary.
 - b. A close photograph of each nested plot should be taken.
 - c. Identify all photos with form 4412-16 (illustration 4412-8) or with just the date and key area number (illustration 4412-9) when using that numbering system described in .21D3.
- D. Phenology and Green Weight/Dry Weight Conversion studies are needed to adjust transect data and for special studies such as climate/phenology correlation.
 - 1. Frequency: Data will be collected annually during the growing season as needed.

2. *Methodology*: The methodologies for these studies will be followed as set out in Instruction Memorandum Number UT-81-192 (dated March 27, 1981) regarding phenology studies and green weight/dry weight conversions.
- E. Climate data is needed to make a reasonable analysis of climate influences on plant growth as related to "normal" or average years and differentiate between management-caused vegetation changes as opposed to natural occurrences.
1. Selection of sites should be based on the climatic classification scheme used by the Soil Conservation Service (i.e., desert, semi-desert, upland, mountain, and high mountain).
 2. Data needs include:
 - a. Daily precipitation.
 - b. Daily maximum and minimum air temperature.
 - c. Daily maximum and minimum soil temperature.
 - d. Additional data to improve accuracy of calculations, especially in early study phases include
 - I. Date of last permanent snow cover.
 - II. Soil moisture at begin growth for selected key species at representative locations then at mid and late growing season.
 - III. Wind speed and duration.
 3. Data gathering can be from a number of sources to provide adequate coverage with limited resources.
 - a. Livestock operators.
 - b. Remote, automatic sensing devices.
 - c. Other local and federal agencies.
 - d. Permanent weather stations

BLM MANUAL 4412.23 - EVALUATION OF STUDIES

Data will be in accordance with Manual 4413.

Key Area # _____

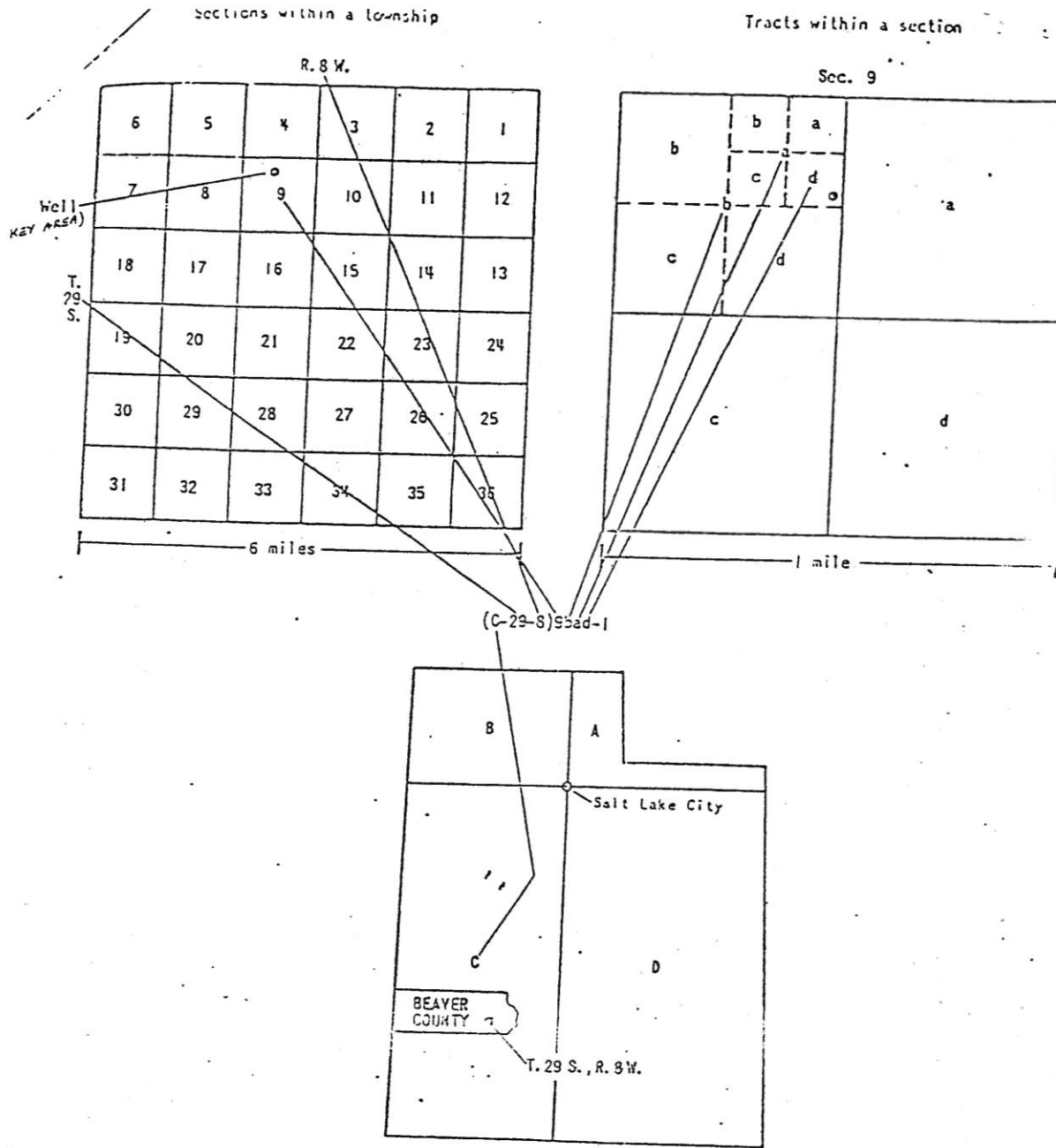
Key Area Location

District _____ Date _____
Allotment _____ Aerial Photo # _____
Prepared by _____ or 7½' Quad _____
_____ or Orthophoto _____
Photo or Map Date _____

Location Sketch (Scale _____)

show appropriate permanent landmarks (with names and distances) in relation to the study plot.

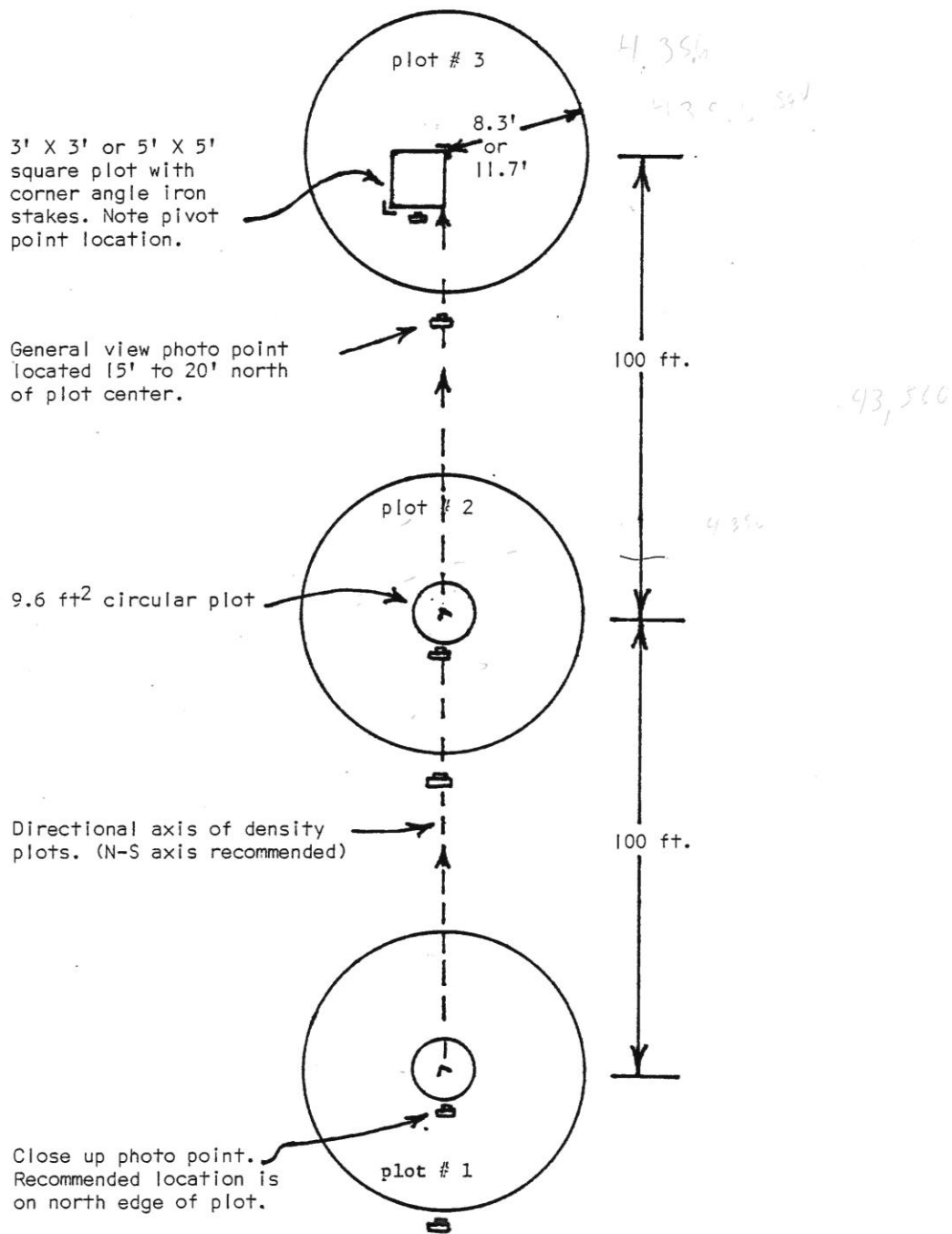
A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES



Well-numbering system used in Utah.

FIGURE 2

DENSITY PLOT DETAIL



(66)

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

GPO 578-589

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT			Notes:			V2
SOIL-VEGETATION INVENTORY METHOD WEIGHT ESTIMATE AND VEGETATION CHARACTERIZATION DATA						
(2) INV AAAX	(3) SWA ANNN	(4) TRN NN				(1) PG NNNN
REC V2-1	LINE 01	(5) ACT A	(6) CA A	(7) MAP ID X(16)	(8) REC'DR XXX	(9) DT (YYMMDD)

WEIGHT ESTIMATE DATA PLOTS TO BE CLIPPED (Circle)										VEGETATION CHARACTERIZATION PLOTS TO BE CHARACTERIZED (Circle)									
1 2 3 4 5 6 7 8 9 10										1 2 3 4 5 6 7 8 9 10									
(10) PLOT SIZE (Check One)										(11) PLOT SIZE (Check One)									
<input type="checkbox"/> .96 <input type="checkbox"/> 9.60 <input type="checkbox"/> Other										<input type="checkbox"/> 100th <input type="checkbox"/> 200th									
LINE NN	(12) ACT A	(13) PLT NUM NN	(14) PLNT X(S) NN	AVERAGE			(18) GREEN WEIGHT IN GRAMS NNNN				AVERAGE		(21) AGE CL A	(22) FORM CL N	(23) NUM CHAR Z NNN	(24) TOT CHAR Z NNN			
				(15) AVAIL A	(16) PHNO N	(17) UTIL N	HGT 1		HGT 2		(19) HGT NN.NN	(20) DIA NN.NN							
							EST	CLIP	EST	EST									
02																			
03																			
04																			
05																			
06																			
07																			
08																			
09																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			

(Instructions on reverse) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 Form 4412-27 (April 1982)

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

GENERAL INSTRUCTIONS

Beneath each field heading are Alpha, Numeric, or Alphanumeric Codes, indicating the size of the field.

A - ALPHA CODE: A-Z
 N - NUMERIC CODE: 0-9
 X - ALPHANUMERIC CODE: Any combination of Alpha and Numeric or special (e.g., ., →) characters. For any A, N, or X Code followed by a number in parenthesis, the number indicates field size.

For Alpha and Numeric Codes, see bottom front of form.

SPECIFIC INSTRUCTIONS

Item	Data Element	Item	Data Element
1	3518		
		16	3712
2	3940		
3	3507		
4	3508	17	3832
5	7350		
6	3572	18	3941
7	3582		
8	6525		
9	6618	19	3504
10	3510	20	3522
11	3514	21	3502
12	7350		
13	3512	22	3503
14	2646		
15	3830	23	3918
		24	3531

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

☆ GPO 578-588

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT			Notes:		VI
SOIL-VEGETATION INVENTORY METHOD STEP-POINT TRANSECT DATA					
(2) ENV AAAX	(3) SWA ANNN	(4) TRN NN			(1) PG NNNN
REC VI-1	LINE 01	(5) ACT A	(6) CA A	(7) MAP ID X(16)	(8) RECDR XXX
					(9) DT (YYMMDD)

(10) SOIL SURFACE FACTOR RATING

RTG NN	SOIL MOVEMENT	SURFACE LITTER	SURFACE ROCK	PEDESTALLING	FLOW PATTERNS	RILLS	GULLIES
REC VI-2							

(11) OBSERVED PLNT LIST

LINE	(5) ACT	PLNT		PLNT		PLNT		PLNT		PLNT		PLNT	
		X(5)	NN	X(5)	NN	X(5)	NN	X(5)	NN	X(5)	NN	X(5)	NN
02													
03													
04													

(12) GROUND COVER DATA

REC VI-3	LINE 05	(5) ACT A											
BASAL	B BARE GROUND	P PERSIST LITTER	N NON- PERSIST LITTER	G GRAVEL (2MM-1")	C COBBLE (> 1" - 10")	S STONE (> 10")	R BEDROCK						
DOT COUNT													
HITS NNN													

(13) BASAL AND CANOPY GROUND COVER

LINE	(5) ACT	BASAL		CANOPY 1		CANOPY 2		CANOPY 3		(14) HITS NNN
		X(5)	NN	X(6)	NN	X(6)	NN	X(6)	NN	
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										

Instructions on reverse: ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890 Form 4412-26 (April 1982)

GENERAL INSTRUCTIONS

Beneath each field heading are Alpha, Numeric, or Alphanumeric Codes, indicating the size of the field.

A - ALPHA CODE: A-Z
 N - NUMERIC CODE: 0-9
 X - ALPHANUMERIC CODE: Any combination of Alpha and Numeric or special (e.g., -, +) characters. For any A, N, or X code followed by a number in parenthesis, the number indicates field size.

For Alpha and Numeric Codes, see bottom front of form.

Comments:

SPECIFIC INSTRUCTIONS

Item	Data Element																					
1	3518	<p>PAGE NUMBER - Enter consecutive page numbers for all Transects (V1, V2) for entire inventory area. All SWA and Transect numbers should also be in consecutive order to simplify checking and correcting your data. E.g.,</p> <table border="1"> <thead> <tr> <th>FORM</th> <th>PAGE NUMBER</th> <th>SWA</th> <th>TRANSECT</th> </tr> </thead> <tbody> <tr> <td>V1</td> <td>1</td> <td>A001</td> <td>01</td> </tr> <tr> <td>V2</td> <td>2</td> <td>A001</td> <td>01</td> </tr> <tr> <td>V1</td> <td>3</td> <td>A002</td> <td>01</td> </tr> <tr> <td>V2</td> <td>4</td> <td>A002</td> <td>01</td> </tr> </tbody> </table>	FORM	PAGE NUMBER	SWA	TRANSECT	V1	1	A001	01	V2	2	A001	01	V1	3	A002	01	V2	4	A002	01
FORM	PAGE NUMBER	SWA	TRANSECT																			
V1	1	A001	01																			
V2	2	A001	01																			
V1	3	A002	01																			
V2	4	A002	01																			
2	3940	INVENTORY CODE - Enter Inventory Code, e.g., Worland Dist. Inventory # 1, WORL.																				
3	3507	SITE WRITEUP AREA - Enter code as assigned by the field office. Code <i>must</i> be unique and in consecutive order within an inventory area, e.g., A001.																				
4	3508	TRANSECT NUMBER - Enter number (01 thru 99). If more than one transect per SWA, numbers <i>must</i> be consecutive and unique.																				
5	7350	ACTION CODE - Enter "A" to add record, "C" to change existing data, or "D" to delete existing record.																				
6	3572	COMPARISON AREA - Enter "C" if data is from Comparison Area, otherwise leave blank.																				
7	3582	MAP IDENTIFIER - Enter Aerial Photo Number, Topographic Map Name, Quad Name, etc.																				
8	6525	RECORDER - Enter Recorder's initials.																				
9	6618	DATE - Enter Date of Recordation (YR, MO, Day).																				
10	4817	SOIL SURFACE FACTOR RATING - Enter a value for each item as determined for entire transect. Items that do not apply enter zero or leave blank.																				
11	2646	OBSERVED PLANT LIST - Record other plants observed but not encountered on step-point transect. See item 13 below for plant coding instructions.																				
12	3527	GROUND COVER DATA - Enter dot count for each type of ground cover and total the hits by category.																				
13	2646 or 3526	BASAL AND CANOPY GROUND COVER - Enter appropriate ground cover and/or plant codes encountered at each level. For plant coding enter the alpha or alpha and special character(s) part of the plant code in first column and numeric part in second column. If canopy exceeds 20' precede plant code by asterisk. E.g., *POTR.																				
14	3527	BASAL AND CANOPY HITS - Enter total hits for each basal and/or canopy combination (record dot count on markers).																				

DATE _____

DIST _____

ALLOT _____

PASTURE _____

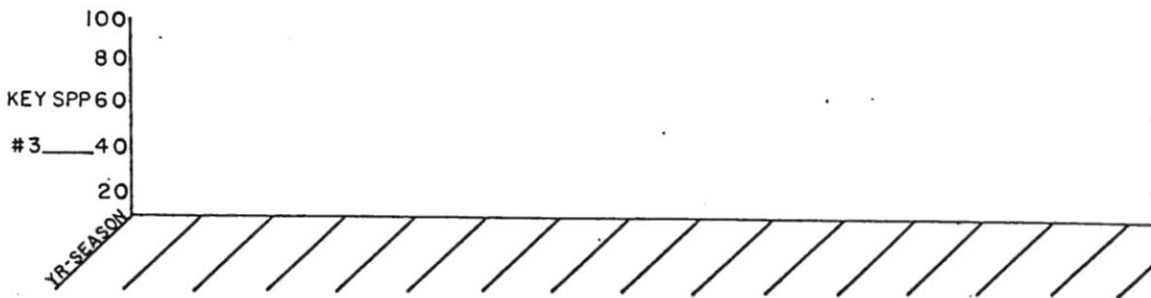
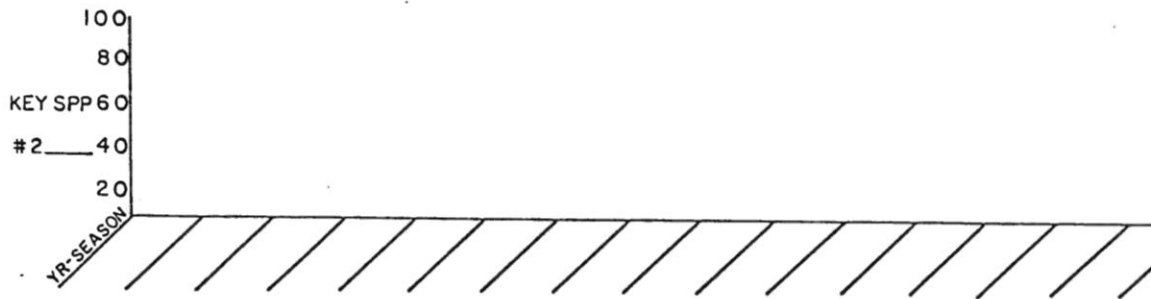
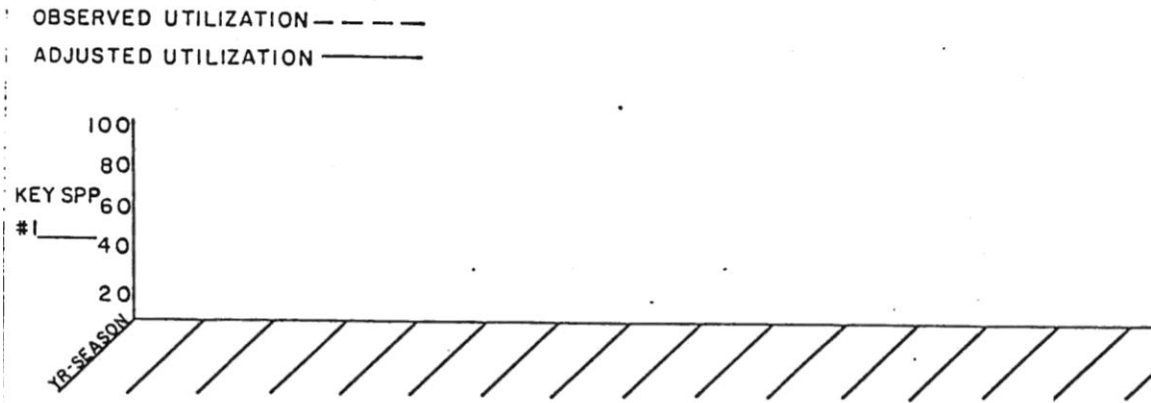
PLOT NO. _____

Form 4412-16 (November 1976)

TREND PHOTO IDENTIFICATION

U.S. Government Printing Office: 14-70-712-0

KEY SPECIE UTILIZATION SUMMARY



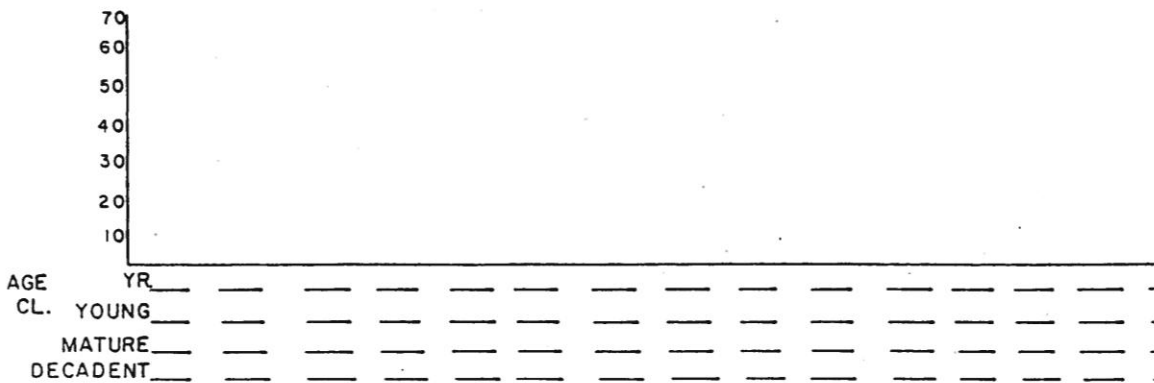
CLIMATE ADJUSTMENT USED

YR. ————
 ADJ. ————

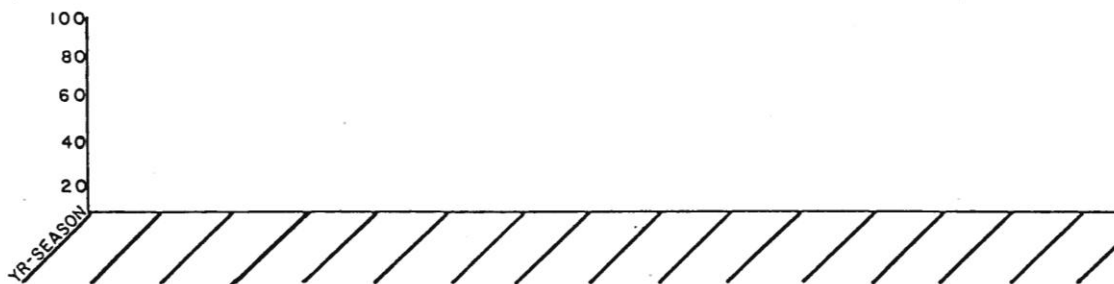
STUDY _____

KEY SPECIE DENSITY/UTILIZATION SUMMARY

TOTAL # PLANTS (3 PLOTS)- KEY SPP _____



UTILIZATION



OBSERVED UTILIZATION -----
 ADJUSTED UTILIZATION _____

CLIMATE ADJUSTMENT USED

YR. -----
ADJ. _____

INTERAGENCY COMBINATION METHOD

The combination procedure utilizes the most vital elements of the nested frequency and nested density-characterization methods already presented. Although methodology is largely unchanged, there are some significant modifications. As a result, the data forms are somewhat different. Copies of the appropriate data forms are included in the appendix. The procedure to be used is briefly outlined in the following sections.

1. The nested frequency method will be used as indicated in the Forest Service manual except that:
 - a. The "close-up" photo of the 3' x 3' plot centered on the 5' mark of the baseline is eliminated. Other close-up photos will be taken on the nested density plots.
 - b. The shrub density portion of the method is dispensed with. Shrub density counts will be made on the nested density plots.
 - c. Spaces on the data form are provided for ALPHA and NUMERIC codes of each plant species encountered. This will facilitate computer processing of the data. In addition, the frequency worksheet has been considerably simplified and no computations of any kind are necessary. A computer can more efficiently do the summarizing. Note that the nested frequency data worksheet also serves as a data entry form for automatic data processing. Each sampling belt requires one form. The ground cover data on the left side of the form is later transferred to a separate data entry form.
 - d. The columns on the Nested Frequency Summary Worksheet entitled "Species Desirability" and "Allowable Occurrences" will not be used unless site-specific scorecards are available as part of a defined management objective for the site.
2. The BLM nested density-characterization method will be employed with the following changes :
 - A. A comparison of the data form used by the BLM with that employed on the combination procedure will reveal that they are markedly different. The administrative portion at the top has been changed as well as the data portion.
 - B. A numeric code peculiar to each plant species is recorded. Codes can be found in the Interagency Range Trend Study Species List.
 - C. Herbaceous plants are treated quite differently. Columns 15-18 from BLM Form 4412-27 are deleted because none of this information is collected with the combination procedure. Individual plants within each species are grouped into age class categories. Beyond that, each age class is graded according to the average height, crown diameter and vigor for the species.
 - D. Shrubs and trees are given special attention. With the combination method, all individual plants are placed in distinct age, form and vigor classes. The scorecards for age and form class also differ somewhat from that found in BLM instructions. Most importantly, form class is a composite of availability and hedging. Age-class criteria for shrubs are also different from that applied to herbaceous plants. Another change is that average height and crown diameter are recorded for each age-class within a species rather than for the species as a whole within a given plot.

A more detailed explanation of the nested density-characterization portion of the study method follows:

The second part of the Interagency Range Trend Procedure is designed to complement the nested frequency procedure already discussed. The most serious shortcoming of frequency sampling is that it provides no absolute estimates of plant abundance; the use of density plots is intended to correct this problem. In addition, plant characterization data is collected on selected parameters which should be useful for trend assessment. Particular emphasis is given to shrubs and trees. Age and Form class structure of this vegetative component is perhaps the best "predictor" of trend available. The procedure outlined in the following pages is adapted from a trend monitoring method developed by the Bureau of Land Management.

PLOT INFORMATION

In most cases, three permanent nested plots marked by angle iron stakes or a steel fencepost will be used. These are to be located immediately adjacent to the frequency transect and always within the same habitat type. Be sure also that each plot is accurately documented on the trend study location form. Several plot arrangements are acceptable and these are depicted in Figure 1. Some common sense judgment will be essential in locating plots. Normally, plots will be located 100 ft apart on a line; however, this distance is not an ironclad rule. Plot locations may vary somewhat so as to ensure that some individuals of key species are included.

Plot size can vary. The most common arrangement will likely be a 9.6- ft circular plot (Quadrat) nested within a larger 8.3 ft radius plot (1/200 acre). A premeasured chain, rope, cable, etc., can be used for the larger plot. The smaller plot is to be used for characterizing and counting grasses and forbs and the larger for shrubs and trees. On range types, where vegetation is more sparse (i.e., desert shrub, pinyon-juniper), it may be necessary to use larger plots. In this case, an 11.7 ft radius plot (1/100 acre) can be used for shrubs. Square 3 x 3 or 5 x 5 foot frames can also be used for forbs and grasses. If a square plot is used as the nested plot, two permanent corner markers will be necessary instead of one. Angle iron stakes are best for this purpose but concrete reinforcing rod or fenceposts can also be used. When square plots are employed, the corner marker farthest from the photo point should be used as the pivot for the macroplot. See Figure 2 for a diagram of plots. Whenever possible, align density plots and the frequency baseline on a North-South axis, so that shadows can be avoided in the photographs. Photo points should be located at the north edge of the grass and forb plot.

SETTING UP THE STUDY

Since the combination procedure is comprised of two rather distinct parts, the question arises: How are the two parts located with respect to each other? A variety of physical arrangements is possible as long as they meet the basic requirement that both frequency and density portions of the study fall clearly within the boundaries of the homogenous range type selected for study. Figure 1 diagrams several potential arrangements of plots, etc. It is necessary, of course, that the layout used be accurately documented and diagrammed in the Trend Study Location Form.

DATA COLLECTION

Once a plot center is established or plot corners in the case of square plots, the data can be collected. The initial step is to place the selected frame for the nested plot on the ground. Step 2 will be to take a close-up photograph of the plot from just outside the plot edge. This point should be identified by a steel rebar and should be located on the north side of the plot. A general view photo to encompass the shrub macroplot looking toward the other two plots is also recommended. The photo point should be located on the line of travel, 15 to 20 feet from the plot center. Normally this point will be north of the plot center if the line of density plots is aligned on a N-S axis. We also recommend that a camera with a wide angle lens (28mm-35mm) be employed and that a small stepladder or similar platform be used to get the photographer well above the photo plot. As with the overall view of the frequency study, color print film is recommended. All photographs should be appropriately identified. We have found that black construction paper with identifying

information written with white chalk works well. This material is also easily portable. Once photographs have been taken, the quantitative data can then be collected. The actual reading of the plot is quite simple. Perhaps the best way to explain it is to discuss the data forms.

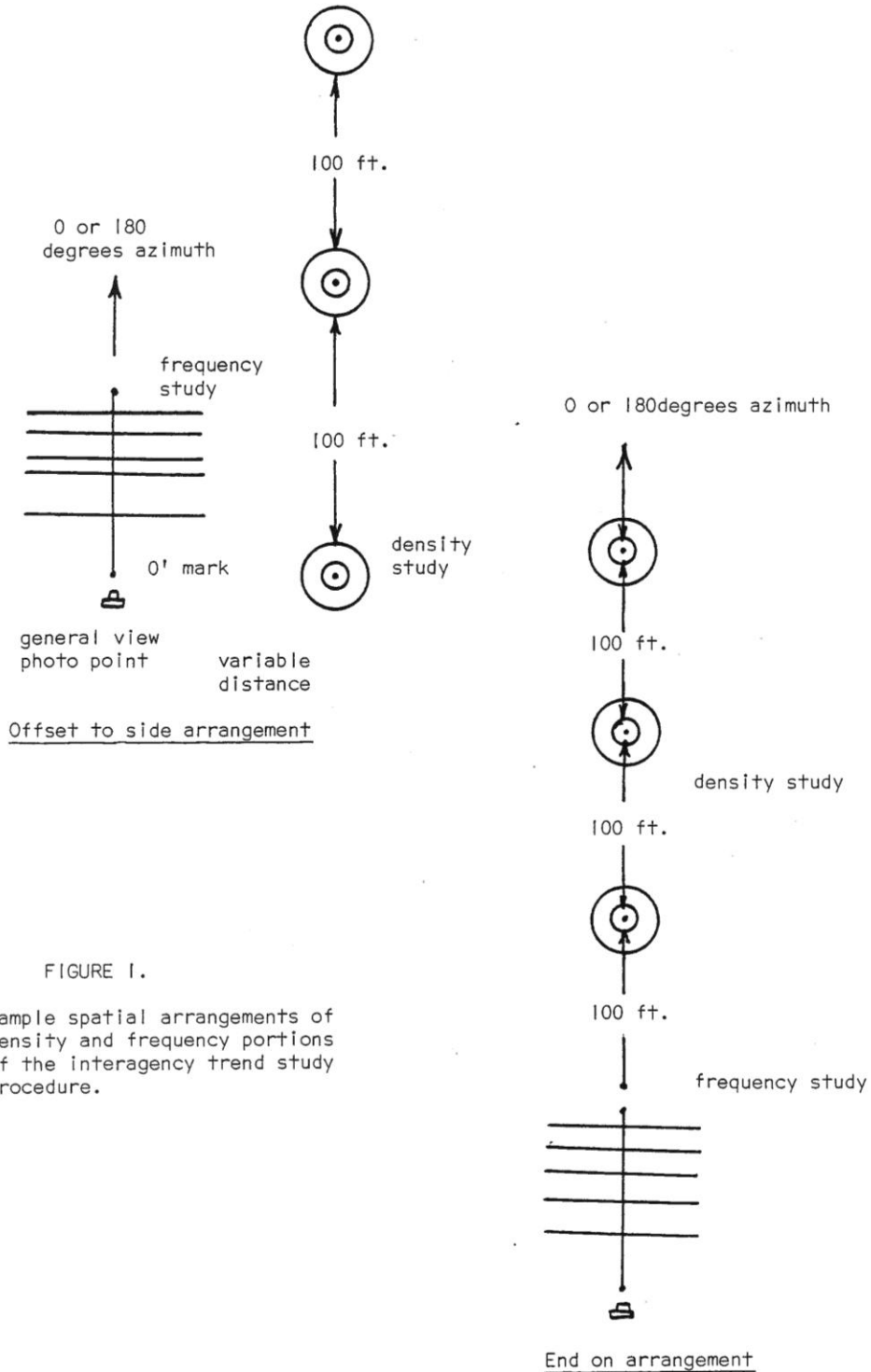
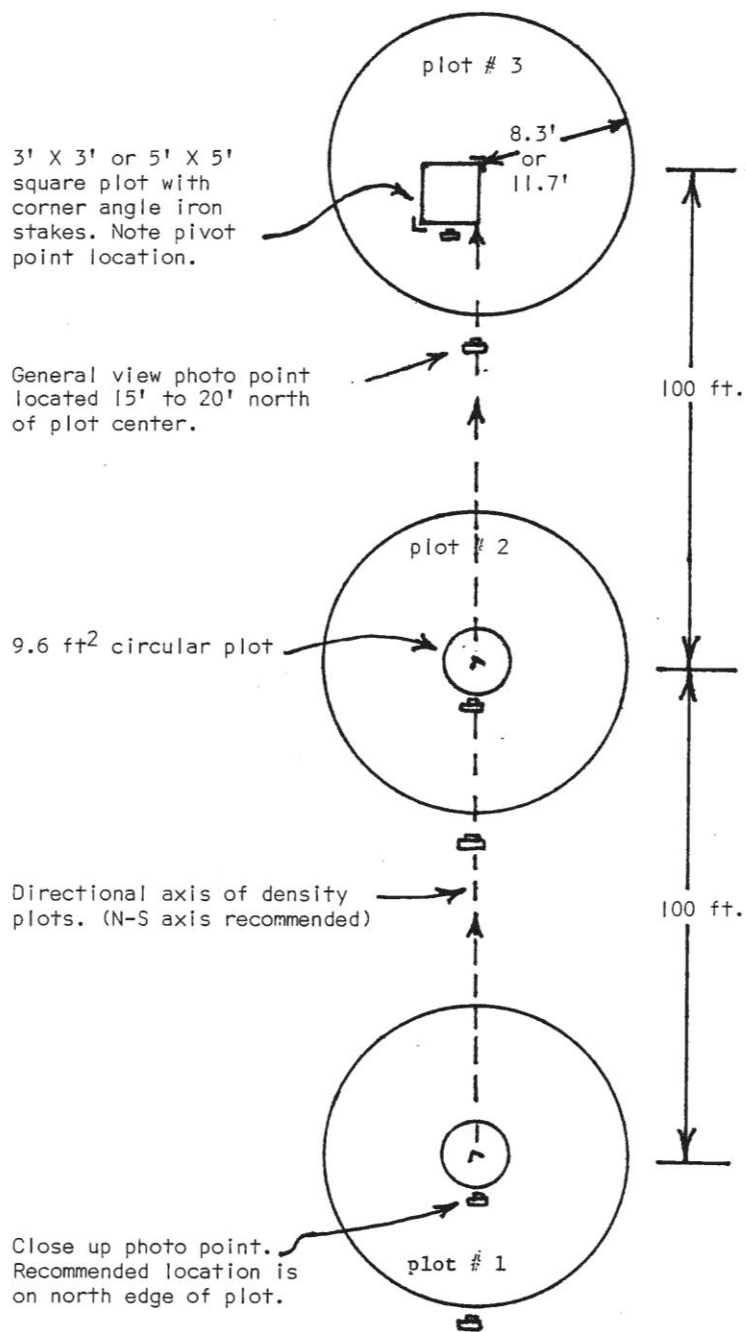


FIGURE 1.

Sample spatial arrangements of density and frequency portions of the interagency trend study procedure.

FIGURE 2

DENSITY PLOT DETAIL



(81)

The nested density worksheet is composed of two parts. The first form contains the necessary administrative and reference information as well as the data sections for grasses and forbs. The second form is similar, but deals with shrubs and trees. Sample completed copies of the worksheets are attached.

- Reference Section:** Most of this is self-explanatory. There are, however, some exceptions:
- Trend study #:** Trend studies should be numbered consecutively within herd units. For example, the third study to be established on a given herd unit in 1982 would be numbered 3-82.
- Range type:** Gambel Oakbrush, Big Sagebrush Grass, etc.,--a list of these and their numeric codes is in the appendix. Others can be added as needed.
- Number of plots:** Added as needed. Most trend studies will have 3 density plots. Occasionally, however, there may be circumstances where more or less are required.
- Plot size:** The standard size for forbs and grasses is a 9.6 ft² circular plot. This is to be centered over the permanent plot marker. Square (3' x 3' or 5' x 5') nested plots can also be used. For shrubs and trees, 8.3 ft (1/200 acres) and 11.7 ft (1/100 acre) radius plots can be used depending on the character of the vegetation.
- Azimuth, plot 1 to 3:** Record the compass azimuth in true degrees or miles from density plot 1 to plot 3.

Grasses and Forbs: Plot numbers (i.e., 1-3) are recorded in the left hand column. The species ALPHA and NUMERIC codes for each species encountered in the plot are recorded in the next two columns. Species should be recorded with the correct symbol and numeric code as listed in the Range Trend Species List. Careful recording of these codes saves much editing when the data are processed at a later date. A dot count of individuals within each grass and forb species and age class is recorded in the next four columns the total count of individuals for each species is listed at the far right of the form. Average height, crown diameter and vigor for each age class are recorded in the remaining columns. Vigor codes are recorded according to the scorecard presented later in this handbook. The total count of grasses and forbs (of all species encountered) is tallied at the bottom of the form. Do not count or characterize annual plants. These, if present, should be identified and their relative abundance, etc., assessed in the remarks section.

Shrubs and Trees: This vegetative component is handled differently since they are such sensitive trend predictors. In this section, individuals of each species are placed in the various age and form class combinations using a dot count, which is then totaled when the plot is completed. Height and crown diameter estimates are recorded for each age-class represented. A check for recording errors is to compare the dot count between form and vigor classes for each species. These should be the same. Subtotals are compiled across rows and down columns for each species to provide form, age and vigor class totals.

SUMMARY AND ANALYSIS

After the field data forms are correctly filled out for all portions of the study, it remains to return to the office and prepare the data for computer processing. Copies of the appropriate data entry forms are included in the appendix. These forms are organized so that the pertinent information can easily be keypunched. Four record types, designated 1 through 4 in column 80 are utilized to enter frequency, cover, grass and forb density/characterization, and browse density/characterization respectively.

Record type 1: Note that for this record type, the field data form is also the form for keypunching. The only parts of this form needing further explanation are the columns labeled VEG TYPE and the box on the left side for recording ground cover hits. VEG TYPE will be either G (grass), F (forb), or B (browse). Ground cover should be dot counted and when the belt is, complete the number of dots in each category written down within the block. Be certain that the total equals 80.

Record type 2: This record type is where the ground cover data is recorded. Each study requires one horizontal line or ADP card. The number of cover hits in each category are totaled among the 5 belts and entered. Check to be sure that the total number of hits entered equals 400.

Record type 3: Grass and forb density/characterization data are entered on this form. The first 19 columns and the species ALPHA and NUMERIC codes are self explanatory. Plot size should be entered as either 0090, 0096 or 0250 to represent the area in square feet of the plot used. Vegetation type is entered as either G or F. The remaining columns are taken directly from the density worksheet for each plot number/age class combination.

Record type 4: Record type 4 is used to enter data on browse density and characterization. Note that each age class/plot number combination within a species requires a separate line or record on the data entry form.

Once the raw data has been correctly entered and punched, a computer program exists at the Salt Lake City office of the DWR to select best plot sizes, number of occurrences, and percent composition by species and other computed parameters for a summary report. The analysis of variance described in the Forest Service Manual can also be done in this manner when two or more readings of the same study are available, or when data from a suitable "comparison area" is available. Statistical testing of the density data can also be accomplished through computer programs. From these summaries and tests an assessment of trend relative to the management objective can be made.

APPARENT TREND EVALUATION

The apparent trend evaluation is designed to provide land managers with a preliminary assessment of range trend on a given site. It is particularly important when statistical comparisons from the more formalized study procedure are not yet available. The evaluation is based on a combination of the observer's subjective judgments about a site and preliminary analysis of the data collected on the nested frequency and density plots. Because of the latter requirement, the apparent trend evaluation should be done only after data from the nested plots have been collected and summarized. The first step in doing an evaluation will be for the observer(s) to make brief walk or reconnaissance through the study area and make note of personal observations site conditions and various trend indicators. This information will then be tempered by any outstanding indications or predictors of trend that can be gleaned from a preliminary look at results from the nested plots. An Apparent Trend Evaluation Form is provided to aid the observer in knowing what to look for. In addition, a short narrative about the site should be prepared. Instructions for the narrative are provided in the following section and an example of the narrative form can be found in the appendix. The narrative, in combination with the apparent trend rating form should assist in making an overall trend assessment for the site. The person making the assessment must, of course, have an appreciation of the management objective.

STUDY SITE NARRATIVE GUIDELINES

Evaluation of trend on individual sites depends essentially on two components. Obviously, one of these is the data collected and the various ways it can be manipulated, analyzed and displayed. The second component is equally important. It requires the personal, sometimes objective observations of the person or persons conducting the study. There is really no substitute for careful on-site impressions of an experienced land manager or observer. The attached guidelines are an attempt to provide a checklist of some of the items which should be noted and written about. You may temper, qualify or reinforce your observations by a preliminary assessment of the collected data but remember that it is you are carefully considered impressions that are the important item here. Each time a study is established or read it is important that a short narrative be prepared. Do not be concerned that your narrative is too long or too subjective. A two page form is provided but do not hesitate to use extra paper if necessary.

A MANUAL OF UTAH BIG GAME RANGE TREND STUDY GUIDELINES

APPARENT TREND EVALUATION

Deer Herd Unit _____ Study Site Name _____ Trend Study # _____

Habitat Type _____ Date _____ Observer(s) _____

	<u>VEGETATION</u> 1/		
	<u>Apparent Trend</u>		
	<u>Up</u>	<u>Stable</u>	<u>Down</u>
Age class distribution of key species	_____	_____	_____
Age class distribution of invader or increaser species	_____	_____	_____
Form and vigor of key species	_____	_____	_____
Plant composition	_____	_____	_____
Obvious ecological signs	_____	_____	_____

<u>SOIL</u>	
Up or Stable	Down
1. Ground cover dispersion - uniform. _____	1. Ground cover dispersion - variable to highly variable. _____
2. No detectable soil movement. _____	2. Soil movement detectable. _____
3. Soil cover continuous and intact. _____	3. Soil Cover broken and soil exposed. _____
4. No exposure of plant roots. _____	4. Plant roots exposed. 1/ _____
5. Stones and rock fragments where present, normal, and in place - no movement of rock fragments. _____	5. Stones and rock fragments, where present, concentrating on surface as erosion pavement. Fragments loose and often moving downslope. _____
6. Lichen lines on stones and rock fragments extend to soil level. _____	6. Lichen lines on stones considerably above soil surface - no lichens on rock fragments. _____
7. No active gullies. _____	7. Active gullies - indicated by recent cutting and sloughing. _____
8. No recent soil deposits either alluvial or aeolian. _____	8. Recent soil deposits - alluvial or aeolian. _____
9. No wind-scoured depressions. _____	9. Wind-scoured depressions. _____

1/ At high elevations and on heavy soils some of this may be natural due to frost heaving.

Remarks _____

 Overall Vegetative trend _____

 Overall Soil Trend _____

1/ See back of form for explanation and instructions for use of this form.

Age class: -An important parameter. In stable populations, the number of seedlings and young plants should equal or slightly exceed the number of decadent plants. Expanding or declining populations will be skewed towards either extreme. With respect to invader or increaser species, an expanding population might be an indicator of downward trend, however this could vary depending on the management objective.

Form class and vigor: For most key species, it is desirable to have preponderance of plants in form classes 1 and 2 and in vigor class 1. Any significant deviation that would indicate heavy utilization, decreased availability, or poor plant vigor are trend predictors.

Plant composition: Pay attention to the relative mix of forbs, shrubs, and grasses and also the mix of desirable, intermediate, and least desirable species within each group. If a particular species is known to be especially aggressive and/or competitive, make note of this in the remarks section.

Obvious ecological signs: Look for evidence of certain ecological and succession processes. For instance, aspen to conifer succession, juniper invasion, or reinvasion by sagebrush of sprayed or seeded sites. Tree canopy closure and resultant loss of light may adversely affect a key understory species.

Remarks: Use this section of pertinent or necessary explanations of ratings.

Overall ratings: These should be based on the various trend elements. Some judgment will be required. Include a short explanation.

STUDY SITE NARRATIVE

PHYSICAL FACTORS - (Slope, aspect, elevation, precipitation, fire, distance to water etc.)

SOIL - (Apparent depth, texture, color hardpan, alkali deposits, soil surface character, erosion, sedimentation, organic matter, compaction, are soil exposed, litter, vegetative cover, etc.)

PLANT COMPOSITION - (Dominant overstory & understory, height, availability, preference & palatability, abundance, density, potential or designated key species, age structure, form class, intensity of animal use of important species, vigor, insects and disease, unique or rare species)

ANIMAL USE - (Big game, livestock, seasonality & intensity of use, antler drops, pellet groups, resting, foraging, escape cover, thermal cover, etc., other wildlife use)

OTHER LAND USE - (Minerals, energy, timber, summer homes, roads, people pressure, etc.)

APPENDIX

NUMERIC CODES FOR RANGE AND LAND USE TYPES

The following codes are to be utilized for data entry purposes and for mapping purposes.

CODE	DESCRIPTION	CODE	DESCRIPTION
01	Juniper	42	Perennial Forb
02	Juniper-Pinyon	43	Wet Meadow
03	Pinyon	44	Dry Meadow
04	Pinyon-Juniper	45	Alpine Grass
05	Big Sagebrush	46	Alpine Forb
06	Big Sagebrush-Grass	47	Alpine Shrub
07	Low Sagebrush	48	Alpine-Mixed
08	Black Sagebrush	49	Riparian habitat-Grass, Forb
09	Sand Sagebrush	50	Riparian habitat-Shrub
10	Fringed Sagebrush	51	Riparian habitat-Broadleaf Tree
11	Bud Sage	52	Riparian habitat-Coniferous
12	Rubber Rabbitbrush	53	Douglas Fir-White Fir
13	Small Rabbitbrush	54	Limber Pine
14	Snakeweed	55	Lodgepole Pine
15	Black Greasewood	56	Ponderosa Pine
16	Winterfat	57	Bristlecone Pine
17	Shadscale	58	Engelmann Spruce-Alpine Fir
18	Mat Saltbush	59	Quaking Aspen
19	Castle Valley Clover	60	Mixed Broadleaf Trees
20	Fourwing Saltbush	61	Selective logged-Subalpine Forest
21	Hopsage	62	Selective logged-Ponderosa Pine
22	Mixed Salt desert Shrub	63	Selective logged-Mixed Conifer
23	Burrobrush	64	Clearcut-Subalpine Forest
24	Creosote Bush	65	Clearcut-Ponderosa Pine
25	Blackbrush	66	Clearcut-Mixed Conifer
26	Mixed Southern Desert Shrub	67	Clearcut-Aspen
27	Ephedra-Dalea	68	Chained, Cabled-Reseeded P-J
28	Gambel Oakbrush	69	Chained, Railed-Shrubland
29	Mixed Oak-Sage	70	Sprayed shrubland
30	Shrub Live Oak	71	Agricultural-Pasture
31	Wavy Leaf Oak	72	Agricultural-Cropland
32	Snowberry	73	Agricultural-Hay Meadow
33	Serviceberry	74	Rural-Residential
34	Bitterbrush	75	Rural-Industrial, Commercial
35	Manzanita	76	Urban-Residential
36	True Mtn. Mahogany	77	Urban-Industrial, Commercial
37	Curlleaf Mtn. Mahogany	78	Mining Activity
38	Stansbury Cliffrose	79	Oil & Gas Activity
39	Annual Grass	80	Lake or Reservoir
40	Perennial Grass	81	Barren
41	Annual Forb	82	Mixed Mountain Brush

AGE CLASS SCORECARD

Code Number	Grasses	Forbs
S-seedling	Must be an established plant base less than 1/4" diameter	Must be an established plant base less than 1/4" diameter
Y-young	Base 1/4" to 1" diameter (usually minimum flowering)	Base 1/4" to 1" diameter (may flower and seed sparingly)
M-mature	Flowers and produces fruits Base larger than 1" diameter, Rhizominous species usually have produced 1 or more sprouts.	(Same)
D-decadent	Over 25% of crown dead (do not include dead material from previous year's growth)	(Same)

*Applies only to perennial species, annuals are not counted. Important biennial species such as sweet clover etc., should be classed as young when in the basal rosette stage, plants with fruiting stalks are mature.

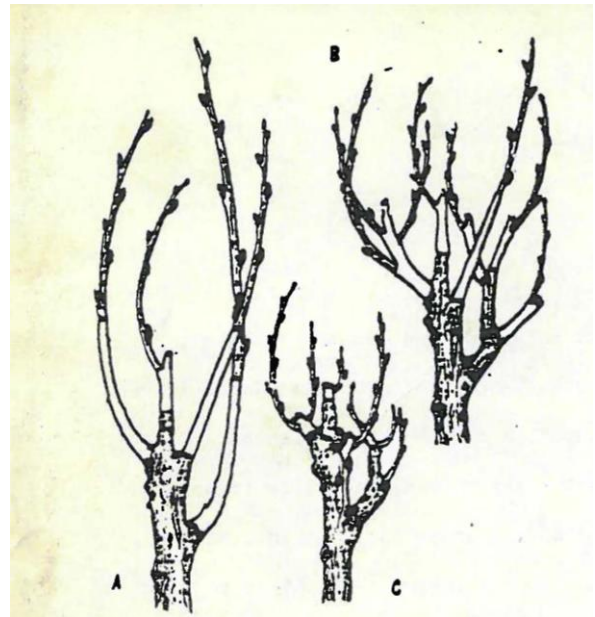
BROWSE FORM CLASS SCORECARD

DEGREES OF HEDGING:

- A. Zero to light.
- B. Moderate
- C. Severe

FORM CLASS

- 1. All available, lightly hedged.
- 2. All available, moderately hedged.
- 3. All available, heavenly hedged.
- 4. Largely available, lightly hedge
- 5. Largely available, moderately hedged
- 6. Largely available, heavily hedged
- 7. Mostly unavailable.
- 8. Unavailable due to height
- 9. Unavailable due to hedging



- Lightly hedged:** 0 to 40 percent of twigs browsed.
- Moderately hedged:** 41 to 60 percent of twigs browsed.
- Heavily hedged:** Over 60 percent of twigs browsed. Degree of hedging is based on leader use over the past three years; current annual growth is not included.
- Largely available:** One-third to two-thirds of plan available is animal.
- Mostly available:** Less than one-third of plant available. In classifying browse for form class, unavailability may be the result of height, location, or density.

AGE CLASS

S = Seedling Y = Young plant M = Mature plant D = Decadent plant

- Seedling:** Plant up to three years old which has become firmly established, usually less than 1/8-inch diameter.
- Young plant:** Larger, with more complex branching and more fibrous bark than seedling, does not show signs of maturity. Usually between 1/8 and 1/5-inch diameter.
- Mature plant:** Complex branching, rounded growth form, larger size. Seed is produced on healthy plants. Generally larger than 1/4-inch diameter.
- Decadent plant:** Plant, regardless of age, that is in a state of decline, usually evidenced by 25 percent or more dead branches.

VIGOR CLASS

Code number:

1. Normal & vigorous.
2. Insect infested or diseased.
3. Poor vigor chlorotic or discolored leaves, smaller than normal stem or leaves, flowering restricted, partially trampled, pulled up, or otherwise damaged. Stunted growth, partial crown death, (not to be confused with normal seasonal crown diebacks or leaf drop.)
4. Dying - substantial portion of crown dead (more than 50%), more extreme than 3 above, and probably an irreversible condition.

EQUIPMENT NEEDS

EQUIPMENT NEEDS

The materials listed below are for one 2 man crew to do 1 study. The list is complete and should cover all plot sizes which may be used.

<u>Number</u>	<u>Item</u>
2	100 ft. tapes with 1 ft. graduations
4	Anchoring posts (T bars) for securing tape ends
1	4 lb. sledgehammer
5	"T" fenceposts or angle iron posts (3 ft. minimum)
1	Nested frequency frame
1	Clipboard or tatum holder
1	Compass
1	Interagency Range Trend Study Manual
1	Plant species list with alpha-numeric codes
var	Plant identification aids
1	Quadrat frame (9.6 ft ² circular)
1	Quadrat frame (3' x 3' square)
1	Quadrat frame (5' x 5' square)
1	Chain or rope etc., 8.3 ft. length
1	Chain or rope etc., 11.7 ft. length
var	Appropriate data forms
var	Pen and Pencils
1	Camera and color print film
1	Small chalkboard or ID forms for photographs
1	Chalkboard holder
1	Meter stick, cm. graduated
1	Small stepladder or platfrom for photographs
1	Map or aerial photo

NESTED FREQUENCY WORKSHEET (DATA ENTRY)

NESTED FREQUENCY DATA WORKSHEET AND ENTRY FORM & COVER FIELD FORM

STUDY SITE NAME		DATE STUDY ESTABLISHED		OBSERVERS		SPECIES IDENTIFIER																	
HEAD UNIT	STUDY NUMBER	DATE READ	RANGE TYPE	BELT NUMBER	REC. TYPE	SPECIES ALPHA CODE	SPECIES NUMERIC CODE																
1	2	3	4	5	6	7	8																
9	10	11	12	13	14	15	16																
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(KEY PUNCHING INSTRUCTIONS) The above fields to be repeated																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">GROUND COVER</td> <td style="width: 50%;"></td> </tr> <tr> <td>VEGETATION</td> <td></td> </tr> <tr> <td>LITTER</td> <td></td> </tr> <tr> <td>ROCK (>3/4")</td> <td></td> </tr> <tr> <td>PAVEMENT (1/8"-3/4")</td> <td></td> </tr> <tr> <td>CRYPTOGAMS</td> <td></td> </tr> <tr> <td>BARE SOIL (<1/8")</td> <td></td> </tr> <tr> <td>TOTAL</td> <td></td> </tr> </table>								GROUND COVER		VEGETATION		LITTER		ROCK (>3/4")		PAVEMENT (1/8"-3/4")		CRYPTOGAMS		BARE SOIL (<1/8")		TOTAL	
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CRYPTOGAMS																							
BARE SOIL (<1/8")																							
TOTAL																							

NESTED DENSITY/CHARACTERIZATION WORKSHEET (BROWSE)

NESTED DENSITY - CHARACTERIZATION WORKSHEET
(Shrubs)

Deer Herd Unit _____ Study Site Name _____ Trend Study # _____ Date _____
 Range Type _____ Date Established _____ Land Ownership _____
 Observers _____ # of Plots _____ Plot Size _____
 Interval(s) between plot centers _____ Azimuth, plot 1 to 3 _____

Plot no.	Species Code (shrubs)	Numeric Code	Age Class	Form Class									Vigor Class				Tot. no.	Avg. Ht. (cm)	Avg. Crown Diam.	
				1	2	3	4	5	6	7	8	9	1	2	3	4				
			S																	
			Y																	
			M																	
			D																	
Species Subtotal(all ages)																				
			S																	
			Y																	
			M																	
			D																	
Species Subtotal(all ages)																				
			S																	
			Y																	
			M																	
			D																	
Species Subtotal(all ages)																				
			S																	
			Y																	
			M																	
			D																	
Species Subtotal(all ages)																				
			S																	
			Y																	
			M																	
			D																	
Species Subtotal(all ages)																				

(CONTINUED ON BACK)

Plot no.	Species Code	Numeric Code	Age Class	Form Class									Vigor Class				Tot. no.	Avg. Ht.	Avg. Crown Diam.
				1	2	3	4	5	6	7	8	9	1	2	3	4			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			
			S																
			Y																
			M																
			D																
Species Subtotal(all ages)																			

WILDLIFE MANAGEMENT UNIT 01

KELTON – STUDY NO. 01-1

HERBACEOUS TRENDS--

Management unit 01, Study no: 1

T y P e	Species	Nested Frequency	
		'84	'90
G	Bromus tectorum (a)	-	360
G	Poa secunda	5	-
G	Sitanion hystrix	14	16
G	Unknown grass - perennial	3	-
Total for Annual Grasses		0	360
Total for Perennial Grasses		22	16
Total for Grasses		22	376
F	Descurainia pinnata (a)	-	13
F	Euclidium syriacum	-	2
F	Halogeton glomeratus (a)	-	24
F	Lactuca serriola (a)	-	5
F	Phlox longifolia	5	-
F	Salsola iberica (a)	-	369
F	Sphaeralcea grossulariifolia	2	9
F	Tragopogon dubius (a)	3	-
F	Unknown forb-perennial	3	-
Total for Annual Forbs		3	411
Total for Perennial Forbs		10	11
Total for Forbs		13	422

BASIC COVER--

Management unit 01, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	23.00
Rock	1.25	.75
Pavement	.25	1.25
Litter	80.75	54.25
Cryptogams	8.25	0
Bare Ground	7.50	20.75

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata tridentata										
84	2565	13	61	26	166	36	58	19	27/34	
90	132	50	25	25	-	0	0	0	10/8	
Chrysothamnus nauseosus hololeucus										
84	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	100	0	0	22/26	
Chrysothamnus viscidiflorus stenophyllus										
84	199	50	17	33	-	0	0	0	12/20	
90	0	0	0	0	-	0	0	0	-/-	
Grayia spinosa										
84	66	0	100	-	-	0	100	0	33/48	
90	0	0	0	-	-	0	0	0	-/-	

ROSETTE – STUDY NO. 01-2

HERBACEOUS TRENDS--

Management unit 01, Study no: 2

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron smithii	73	51
G	Agropyron spicatum	-	1
G	Oryzopsis hymenoides	1	2
G	Poa secunda	180	231
G	Sitanion hystrix	21	74
Total for Annual Grasses		0	0
Total for Perennial Grasses		275	359
Total for Grasses		275	359
F	Allium acuminatum	23	-
F	Astragalus utahensis	-	2
F	Calochortus nuttallii	-	3
F	Chaenactis douglasii	10	4
F	Cryptantha sp.	-	5
F	Cymopterus longipes	53	55
F	Delphinium nuttallianum	17	-
F	Eriogonum caespitosum	2	16
F	Penstemon sp.	-	1
F	Phlox hoodii	27	51
F	Phlox longifolia	48	66
F	Streptanthus cordatus	8	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		188	207
Total for Forbs		188	207

BASIC COVER--

Management unit 01, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.25	8.25
Rock	0	.50
Pavement	9.25	4.00
Litter	37.25	26.25
Cryptogams	7.25	11.50
Bare Ground	42.00	49.50

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 2

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
84	66	0	100	-	-	100	0	0	10/10
90	0	0	0	-	-	0	0	0	-/-
<i>Artemisia tridentata wyomingensis</i>									
84	6332	9	67	23	66	41	52	21	19/20
90	3799	0	23	77	66	14	11	28	27/28
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
84	3466	15	63	21	400	65	4	15	7/13
90	4198	30	35	35	466	8	17	8	9/8
<i>Juniperus osteosperma</i>									
84	0	0	0	-	-	0	0	0	-/-
90	0	0	0	-	66	0	0	0	-/-
<i>Leptodactylon pungens</i>									
84	0	0	0	0	-	0	0	0	-/-
90	465	72	14	14	133	0	0	0	5/5
<i>Opuntia sp.</i>									
84	66	0	100	-	-	0	0	0	6/4
90	66	0	100	-	-	0	0	0	6/10

ROSEBUD HILLS – STUDY NO. 01-3

HERBACEOUS TRENDS--

Management unit 01, Study no: 3

Type	Species	Nest Frequency	
		'84	'90
G	Oryzopsis hymenoides	23	31
G	Sitanion hystrix	68	17
Total for Annual Grasses		0	0
Total for Perennial Grasses		91	48
Total for Grasses		91	48
F	Astragalus beckwithii	2	-
F	Astragalus newberryi	1	1
F	Cryptantha sp.	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		3	2
Total for Forbs		3	2

BASIC COVER--

Management unit 01, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.25	4.50
Rock	43.00	54.75
Pavement	14.00	19.25
Litter	19.25	13.75
Cryptogams	.50	0
Bare Ground	22.00	7.75

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
84	5999	4	49	47	1633	6	91	26	14/23	
90	6398	27	32	41	999	2	.52	7	9/18	
Atriplex confertifolia										
84	1366	10	59	32	33	10	5	2	8/13	
90	1066	9	41	50	100	0	0	19	8/9	
Chrysothamnus viscidiflorus stenophyllus										
84	632	26	63	10	33	16	11	0	6/8	
90	599	44	56	0	66	0	0	0	8/11	
Ephedra nevadensis										
84	100	0	100	-	-	33	67	33	10/13	
90	99	33	67	-	-	33	33	0	11/14	
Juniperus osteosperma										
84	66	0	100	-	-	50	0	0	60/66	
90	66	50	50	-	-	0	0	0	67/87	
Tetradymia nuttallii										
84	399	83	17	-	33	0	0	0	5/2	
90	100	100	0	-	200	0	0	0	-/-	
Tetradymia spinosa										
84	33	0	100	-	-	0	0	0	15/19	
90	33	0	100	-	-	0	0	100	14/24	

CHOKECHERRY SPRING – STUDY NO. 01-4

HERBACEOUS TRENDS--

Management unit 01, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	58	72
G	<i>Festuca ovina</i>	-	1
G	<i>Oryzopsis hymenoides</i>	4	14
G	<i>Poa secunda</i>	22	35
G	<i>Sitanion hystrix</i>	17	10
G	<i>Stipa thurberiana</i>	-	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		101	138
Total for Grasses		101	138
F	<i>Agoseris glauca</i>	28	32
F	<i>Allium sp.</i>	40	4
F	<i>Astragalus beckwithii</i>	4	15
F	<i>Astragalus cibarius</i>	34	24
F	<i>Balsamorhiza sagittata</i>	4	6
F	<i>Calochortus nuttallii</i>	-	2
F	<i>Chaenactis douglasii</i>	4	2
F	<i>Cirsium arvense</i>	5	4
F	<i>Comandra pallida</i>	7	6
F	<i>Crepis acuminata</i>	2	33
F	<i>Hackelia patens</i>	19	27
F	<i>Lactuca serriola (a)</i>	2	-
F	<i>Lithospermum ruderales</i>	1	15
F	<i>Lomatium triternatum</i>	9	13
F	<i>Lupinus argenteus</i>	13	3
F	<i>Lygodesmia spinosa</i>	29	47
F	<i>Oenothera caespitosa</i>	2	2
F	<i>Penstemon speciosus</i>	-	1
F	<i>Phlox longifolia</i>	60	89
F	<i>Tragopogon dubius (a)</i>	1	5
Total for Annual Forbs		3	5
Total for Perennial Forbs		261	325
Total for Forbs		264	330

WILDLIFE MANAGEMENT UNIT 01

BASIC COVER--

Management unit 01, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.75	11.50
Rock	8.25	9.75
Pavement	14.75	16.50
Litter	58.50	45.25
Cryptogams	0	0
Bare Ground	16.75	17.00

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	3998	45	33	22	333	30	18	5	34/36	
90	3399	8	71	22	-	8	2	14	19/25	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	3932	17	63	20	-	20	0	0	28/32	
90	3333	16	48	36	-	6	0	6	15/16	
<i>Juniperus osteosperma</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	66	100	0	-	66	0	0	0	-/-	
<i>Opuntia sp.</i>										
84	200	0	100	-	-	0	0	0	6/5	
90	200	0	100	-	-	0	0	0	8/17	
<i>Purshia tridentata</i>										
84	333	100	0	0	-	20	40	20	-/-	
90	132	0	50	50	-	50	50	0	15/35	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
84	266	50	50	0	-	25	0	0	26/65	
90	332	20	60	20	-	0	0	20	17/52	

DEVIL'S PLAYGROUND – STUDY NO. 01-5

HERBACEOUS TRENDS--

Management unit 01, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	28	56
G	Oryzopsis hymenoides	4	17
G	Poa secunda	53	162
G	Sitanion hystrix	114	100
G	Stipa thurberiana	11	22
Total for Annual Grasses		0	0
Total for Perennial Grasses		210	357
Total for Grasses		210	357
F	Astragalus beckwithii	2	7
F	Astragalus utahensis	10	14
F	Castilleja chromosa	11	1
F	Chaenactis douglasii	22	4
F	Cryptantha sp.	-	4
F	Eriogonum cernuum (a)	1	6
F	Phlox hoodii	-	8
F	Phlox longifolia	35	23
F	Townsendia sp.	-	2
F	Tragopogon dubius (a)	13	-
Total for Annual Forbs		14	6
Total for Perennial Forbs		80	63
Total for Forbs		94	69

BASIC COVER--

Management unit 01, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.50	8.25
Rock	.25	.50
Pavement	20.75	25.00
Litter	39.75	33.00
Cryptogams	1.25	1.50
Bare Ground	35.50	31.75

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	4266	11	33	56	-	17	80	20	9/16	
90	5266	0	18	82	66	1	0	22	10/15	
<i>Artemisia tridentata wyomingensis</i>										
84	332	20	20	60	66	80	20	0	20/25	
90	332	20	20	60	-	40	0	0	21/29	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	1932	28	55	17	133	31	38	3	10/11	
90	2332	51	46	3	-	3	0	0	15/19	
<i>Juniperus osteosperma</i>										
84	0	0	0	-	66	0	0	0	-/-	
90	0	0	0	-	-	0	0	0	-/-	
<i>Leptodactylon pungens</i>										
84	532	88	12	-	-	0	0	0	4/4	
90	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia polyacantha</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	66	100	0	-	-	0	0	0	-/-	

BOVINE EXCLOSURE – STUDY NO. 01-6

HERBACEOUS TRENDS--

Management unit 01, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	35	7
G	Agropyron spicatum	138	207
G	Elymus cinereus	12	2
G	Oryzopsis hymenoides	-	1
G	Poa secunda	54	145
Total for Annual Grasses		0	0
Total for Perennial Grasses		239	362
Total for Grasses		239	362
F	Agoseris glauca	-	17
F	Allium sp.	3	-
F	Arabis sp.	-	10
F	Astragalus beckwithii	16	32
F	Astragalus cibarius	24	-
F	Balsamorhiza sagittata	11	5
F	Calochortus nuttallii	-	3
F	Caulanthus crassicaulis	-	4
F	Comandra pallida	-	4
F	Cordylanthus ramosus (a)	29	-
F	Crepis acuminata	97	45
F	Delphinium nuttallianum	52	2
F	Erigeron pumilus	15	10
F	Galium aparine (a)	47	-
F	Hackelia patens	-	23
F	Lomatium sp.	6	-
F	Lomatium triternatum	15	1
F	Penstemon cyananthus	3	33
F	Phlox longifolia	128	172
F	Unknown forb-perennial	-	5
Total for Annual Forbs		76	0
Total for Perennial Forbs		370	366
Total for Forbs		446	366

BASIC COVER--

Management unit 01, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	5.75
Rock	.75	1.00
Pavement	18.00	13.75
Litter	55.00	51.50
Cryptogams	2.00	1.75
Bare Ground	20.75	26.25

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	199	0	33	67	433	17	0	67	10/12	
90	166	0	20	80	-	0	0	0	10/9	
<i>Artemisia tridentata tridentata</i>										
84	1532	9	28	63	-	33	20	67	15/11	
90	3199	51	26	23	566	5	0	3	18/18	
<i>Chrysothamnus nauseosus consimilis</i>										
84	33	100	0	-	-	0	0	0	-/-	
90	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	232	28	57	14	-	14	14	0	10/15	
90	399	33	58	8	-	17	0	0	11/15	
<i>Juniperus osteosperma</i>										
84	66	0	100	-	-	0	0	0	69/187	
90	33	0	100	-	-	0	0	0	236/276	

WILDLIFE MANAGEMENT UNIT 01

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Opuntia sp.										
84	133	0	100	-	-	0	0	0	4/8	
90	199	17	83	-	-	0	0	0	6/15	

SOUTH SIDE EMIGRANT PASS – STUDY NO. 01-7

HERBACEOUS TRENDS--

Management unit 01, Study no: 7

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	-	2
G	Oryzopsis hymenoides	26	70
G	Poa secunda	3	6
G	Sitanion hystrix	15	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		44	87
Total for Grasses		44	87
F	Allium sp.	5	-
F	Astragalus utahensis	18	23
F	Castilleja chromosa	5	-
F	Crepis acuminata	3	-
F	Cryptantha sp.	116	58
F	Erigeron argentatus	-	2
F	Haplopappus acaulis	4	32
F	Phlox hoodii	57	43
F	Phlox longifolia	90	124
F	Sphaeralcea coccinea	-	2
F	Sphaeralcea grossulariifolia	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		299	284
Total for Forbs		299	284

BASIC COVER--

Management unit 01, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.25	9.75
Rock	5.75	11.00
Pavement	62.75	56.00
Litter	23.50	14.75
Cryptogams	1.50	1.50
Bare Ground	3.25	7.00

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
84	10466	44	41	15	1866	49	18	10	8/11	
90	9665	41	30	30	2533	5	0	2	11/14	
Artemisia spinescens										
84	1932	31	66	3	-	31	34	3	6/8	
90	0	0	0	0	-	0	0	0	-/-	
Atriplex confertifolia										
84	2598	28	33	38	-	49	33	26	7/10	
90	1866	4	21	75	333	0	0	43	10/8	
Chrysothamnus viscidiflorus stenophyllus										
84	2866	56	40	5	66	14	28	2	7/11	
90	3331	54	16	30	200	0	0	4	11/13	
Kochia americana										
84	1866	57	32	11	-	11	14	11	2/2	
90	400	100	0	0	-	0	0	0	-/-	
Tetradymia nuttallii										
84	266	25	0	75	-	25	25	50	-/-	
90	866	38	0	62	66	0	0	23	-/-	

MUD SPRINGS BASIN – STUDY NO. 01-8

HERBACEOUS TRENDS--

Management unit 01, Study no: 8

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron smithii	-	16
G	Agropyron spicatum	46	84
G	Oryzopsis hymenoides	24	27
G	Poa secunda	51	182
G	Sitanion hystrix	58	63
Total for Annual Grasses		0	0
Total for Perennial Grasses		179	372
Total for Grasses		179	372
F	Agoseris glauca	1	-
F	Ambrosia artemisiifolia	-	2
F	Astragalus beckwithii	8	-
F	Astragalus cibarius	5	6
F	Astragalus utahensis	-	8
F	Balsamorhiza hookeri	2	-
F	Calochortus flexuosus	3	-
F	Castilleja chromosa	3	-
F	Crepis acuminata	1	15
F	Hackelia patens	-	16
F	Halogeton glomeratus (a)	-	10
F	Phlox hoodii	3	13
F	Phlox longifolia	29	66
F	Sphaeralcea grossulariifolia	3	-
F	Unknown forb-perennial	-	27
Total for Annual Forbs		0	10
Total for Perennial Forbs		58	153
Total for Forbs		58	163

WILDLIFE MANAGEMENT UNIT 01

BASIC COVER--

Management unit 01, Study no: 8

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	7.00
Rock	1.75	1.75
Pavement	12.00	21.25
Litter	70.25	39.00
Cryptogams	1.00	1.25
Bare Ground	12.75	29.75

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	5865	34	52	14	25333	42	31	7	26/34	
90	3732	34	38	29	466	0	0	14	22/22	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	266	0	100	-	66	100	0	75	12/14	
90	199	33	67	-	-	0	0	0	10/9	

SOUTH WEST ROSETTE – STUDY NO. 01-9

HERBACEOUS TRENDS--

Management unit 01, Study no: 9

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron smithii	47	55
G	Poa secunda	167	223
G	Sitanion hystrix	186	135
Total for Annual Grasses		0	0
Total for Perennial Grasses		400	413
Total for Grasses		400	413
F	Allium sp.	1	-
F	Arabis sp.	1	2
F	Astragalus beckwithii	-	2
F	Astragalus utahensis	-	1
F	Castilleja chromosa	-	1
F	Chaenactis douglasii	41	-
F	Crepis acuminata	2	-
F	Cymopterus sp.	-	46
F	Delphinium nuttallianum	3	-
F	Gilia congesta	-	5
F	Phlox hoodii	14	31
F	Phlox longifolia	112	85
F	Trifolium gymnocarpon	18	8
Total for Annual Forbs		0	0
Total for Perennial Forbs		192	181
Total for Forbs		192	181

BASIC COVER--

Management unit 01, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	14.50
Rock	.75	2.25
Pavement	7.25	13.25
Litter	43.75	30.25
Cryptogams	2.25	2.00
Bare Ground	44.00	37.75

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	4932	14	54	32	333	58	32	3	23/33	
90	3132	4	43	53	-	57	0	21	22/25	
<i>Chrysothamnus nauseosus consimilis</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	133	0	0	100	-	0	0	50	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	10065	23	58	19	66	28	3	2	11/14	
90	6732	8	46	47	-	0	0	9	9/11	
<i>Juniperus osteosperma</i>										
84	0	0	0	-	66	0	0	0	-/-	
90	0	0	0	-	66	0	0	0	-/-	
<i>Leptodactylon pungens</i>										
84	666	30	70	0	-	0	0	0	7/6	
90	733	0	73	27	-	0	0	18	6/8	

KILGORE BASIN – STUDY NO. 01-10

HERBACEOUS TRENDS--

Management unit 01, Study no: 10

Type	Species	Nested Frequency	
		'84	'90
G	Oryzopsis hymenoides	2	-
G	Poa secunda	10	-
G	Sitanion hystrix	73	50
Total for Annual Grasses		0	0
Total for Perennial Grasses		85	50
Total for Grasses		85	50
F	Allium sp.	8	-
F	Arabis drummondii	12	-
F	Astragalus beckwithii	7	1
F	Phlox hoodii	51	87
F	Phlox longifolia	80	57
Total for Annual Forbs		0	0
Total for Perennial Forbs		158	145
Total for Forbs		158	145

BASIC COVER--

Management unit 01, Study no: 10

Cover Type	Average Cover %	
	'84	'90
Vegetation	0	5.50
Rock	11.00	6.75
Pavement	40.00	55.25
Litter	21.50	13.75
Cryptogams	1.50	1.50
Bare Ground	26.00	17.25

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
84	15931	6	47	47	1799	0	93	32	12/21	
90	16199	9	24	66	933	30	36	28	9/17	
Atriplex confertifolia										
84	1398	5	24	71	-	67	14	19	12/12	
90	1399	10	29	62	-	0	10	24	7/10	
Chrysothamnus viscidiflorus stenophyllus										
84	3199	2	50	48	-	58	10	15	6/7	
90	3399	20	76	4	-	20	0	0	7/11	
Grayia spinosa										
84	66	0	100	-	-	0	100	100	16/4	
90	0	0	0	-	-	0	0	0	-/-	
Opuntia sp.										
84	66	0	100	-	-	0	0	0	4/4	
90	132	50	50	-	-	0	0	0	3/4	

KIMBER RANCH – STUDY NO. 01-11

HERBACEOUS TRENDS--

Management unit 01, Study no: 11

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	-	9
G	Oryzopsis hymenoides	4	21
G	Poa secunda	6	8
G	Sitanion hystrix	79	58
G	Stipa thurberiana	99	106
Total for Annual Grasses		0	0
Total for Perennial Grasses		188	202
Total for Grasses		188	202
F	Astragalus beckwithii	1	-
F	Astragalus utahensis	11	3
F	Castilleja angustifolia	28	-
F	Chaenactis douglasii	1	-
F	Erigeron aphanactis	4	-
F	Eriogonum caespitosum	5	2
F	Orobanche fasciculata	-	1
F	Phlox longifolia	13	9
F	Streptanthus cordatus	-	1
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		63	17
Total for Forbs		63	17

BASIC COVER--

Management unit 01, Study no: 11

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.75	9.00
Rock	19.50	26.50
Pavement	40.50	43.50
Litter	35.75	17.75
Cryptogams	0	0
Bare Ground	2.50	3.25

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 11

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
84	5665	15	51	34	-	8	88	15	7/17	
90	5133	8	23	69	-	21	0	29	9/15	
Artemisia tridentata wyomingensis										
84	1532	52	30	17	-	22	52	9	17/21	
90	399	17	33	50	-	0	0	17	11/14	
Chrysothamnus viscidiflorus stenophyllus										
84	1465	5	73	23	-	36	0	5	11/15	
90	1000	0	80	20	-	0	0	20	11/16	
Juniperus osteosperma										
84	66	100	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	0	0	0	65/55	
Opuntia sp.										
84	0	0	0	-	-	0	0	0	-/-	
90	66	100	0	-	-	0	0	100	-/-	

RED BUTTE EXCLOSURE – STUDY NO. 01-12

HERBACEOUS TRENDS--

Management unit 01, Study no: 12

Type	Species	Nestled Frequency	
		'84	'90
G	<i>Agropyron dasystachyum</i>	237	267
G	<i>Koeleria cristata</i>	2	-
G	<i>Poa fendleriana</i>	7	102
G	<i>Poa secunda</i>	47	47
G	<i>Sitanion hystrix</i>	-	1
G	<i>Stipa comata</i>	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		293	418
Total for Grasses		293	418
F	<i>Agoseris glauca</i>	66	43
F	<i>Allium acuminatum</i>	94	36
F	<i>Antennaria sp.</i>	-	8
F	<i>Arabis sp.</i>	-	1
F	<i>Astragalus beckwithii</i>	13	-
F	<i>Astragalus cibarius</i>	16	26
F	<i>Astragalus convallarius</i>	-	2
F	<i>Balsamorhiza sagittata</i>	60	60
F	<i>Comandra pallida</i>	2	7
F	<i>Crepis acuminata</i>	56	70
F	<i>Delphinium nuttallianum</i>	22	18
F	<i>Eriogonum umbellatum</i>	-	6
F	<i>Hackelia patens</i>	11	13
F	<i>Lomatium triternatum</i>	21	24
F	<i>Phlox longifolia</i>	154	217
F	Unknown forb-perennial	4	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		519	531
Total for Forbs		519	531

WILDLIFE MANAGEMENT UNIT 01

BASIC COVER--

Management unit 01, Study no: 12

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	11.50
Rock	1.75	1.00
Pavement	3.00	2.50
Litter	59.25	54.25
Cryptogams	2.50	.75
Bare Ground	30.50	30.00

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	266	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata tridentata</i>										
84	2332	11	29	60	666	43	6	23	33/33	
90	2532	11	37	53	-	13	3	3	24/30	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	4066	28	39	33	133	20	0	2	11/10	
90	3932	42	31	27	266	12	7	5	15/17	
<i>Opuntia sp.</i>										
84	1600	0	100	0	-	0	0	0	4/3	
90	799	33	42	25	200	8	0	33	4/10	
<i>Purshia tridentata</i>										
84	266	0	50	50	-	25	75	25	11/13	
90	266	0	75	25	-	0	0	0	13/17	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
84	4465	85	15	-	-	0	0	0	17/46	
90	532	12	88	-	266	25	0	0	10/15	

RAFT RIVER NARROWS – STUDY NO. 01-13

HERBACEOUS TRENDS--

Management unit 01, Study no: 13

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	8	10
G	Oryzopsis hymenoides	5	8
G	Poa secunda	3	35
G	Sitanion hystrix	16	13
Total for Annual Grasses		0	0
Total for Perennial Grasses		32	66
Total for Grasses		32	66
F	Arabis sp.	-	3
F	Astragalus beckwithii	6	4
F	Chaenactis douglasii	1	16
F	Erigeron pumilus	1	-
F	Eriogonum caespitosum	-	3
F	Phlox hoodii	5	5
Total for Annual Forbs		0	0
Total for Perennial Forbs		13	31
Total for Forbs		13	31

BASIC COVER--

Management unit 01, Study no: 13

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	5.50
Rock	18.25	24.50
Pavement	10.50	31.00
Litter	56.50	31.75
Cryptogams	.50	2.25
Bare Ground	12.25	5.00

BROWSE CHARACTERISTICS--
Management unit 01, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	2599	6	42	51	-	8	92	9	26/42	
90	2499	7	45	48	66	15	4	20	27/31	
<i>Artemisia tripartita tripartita</i>										
84	199	0	83	17	-	0	100	0	13/17	
90	0	0	0	0	-	0	0	0	-/-	
<i>Atriplex confertifolia</i>										
84	33	0	100	0	-	0	0	0	9/9	
90	33	0	0	100	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	7333	18	35	47	66	46	12	2	7/9	
90	6665	7	62	31	33	0	0	8	8/10	
<i>Leptodactylon pungens</i>										
84	599	83	17	-	-	0	0	0	3/2	
90	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
84	166	0	100	-	-	0	0	0	6/7	
90	500	40	60	-	33	0	0	0	5/9	
<i>Sarcobatus vermiculatus</i>										
84	33	0	0	100	-	100	0	0	-/-	
90	33	0	100	0	-	0	0	0	35/35	

BROAD HOLLOW – STUDY NO. 01-14

HERBACEOUS TRENDS--

Management unit 01, Study no: 14

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	152	135
G	Agropyron spicatum	9	-
G	Elymus cinereus	3	-
G	Oryzopsis hymenoides	1	4
G	Poa fendleriana	27	20
G	Poa secunda	55	174
G	Sitanion hystrix	4	1
G	Stipa comata	26	42
Total for Annual Grasses		0	0
Total for Perennial Grasses		277	376
Total for Grasses		277	376
F	Agoseris glauca	39	12
F	Arabis sp.	3	4
F	Astragalus beckwithii	5	3
F	Astragalus utahensis	-	2
F	Balsamorhiza sagittata	9	11
F	Calochortus nuttallii	-	3
F	Chaenactis douglasii	6	6
F	Crepis acuminata	54	66
F	Eriogonum umbellatum	12	7
F	Hackelia patens	3	17
F	Lomatium triternatum	3	2
F	Phlox hoodii	5	1
F	Phlox longifolia	12	5
F	Senecio multilobatus	-	3
F	Tragopogon dubius (a)	18	3
Total for Annual Forbs		18	3
Total for Perennial Forbs		151	142
Total for Forbs		169	145

BASIC COVER--

Management unit 01, Study no: 14

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	13.00
Rock	7.00	6.50
Pavement	1.00	1.00
Litter	62.50	46.25
Cryptogams	1.00	2.50
Bare Ground	26.50	30.75

BROWSE CHARACTERISTICS--

Management unit 01, Study no: 14

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
84	133	0	100	-	-	100	0	0	31/32	
90	66	0	100	-	-	0	100	100	33/28	
<i>Artemisia tridentata vaseyana</i>										
84	1465	45	50	5	733	50	5	0	14/19	
90	1332	45	35	20	-	35	15	0	16/17	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	7065	17	69	14	600	16	0	8	17/26	
90	5598	19	37	44	66	18	6	5	16/14	
<i>Leptodactylon pungens</i>										
84	866	23	77	0	-	0	0	0	10/12	
90	665	10	80	10	-	0	0	10	5/9	
<i>Opuntia sp.</i>										
84	999	0	100	0	-	0	0	0	3/8	
90	1866	32	64	4	-	0	0	18	4/17	

WILDLIFE MANAGEMENT UNIT 01

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
84	999	27	53	20	-	53	27	7	20/31	
90	665	40	50	10	66	60	30	0	19/20	
<i>Symphoricarpos oreophilus</i>										
84	2532	29	71	0	-	18	0	0	23/23	
90	1799	15	63	22	66	4	4	4	19/29	

CEDAR HILLS – STUDY NO. 01-15

HERBACEOUS TRENDS--

Management unit 01, Study no: 15

Type	Species	Nested Frequency '90
G	Agropyron dasystachyum	76
G	Agropyron spicatum	37
G	Poa secunda	256
Total for Annual Grasses		0
Total for Perennial Grasses		369
Total for Grasses		369
F	Antennaria sp.	1
F	Arabis sp.	3
F	Astragalus sp.	6
F	Astragalus utahensis	3
F	Chaenactis douglasii	10
F	Crepis acuminata	3
F	Cryptantha sp.	7
F	Erigeron sp.	2
F	Haplopappus acaulis	9
F	Penstemon sp.	2
F	Phlox hoodii	111
F	Senecio multilobatus	14
Total for Annual Forbs		0
Total for Perennial Forbs		171
Total for Forbs		171

BASIC COVER--

Management unit 01, Study no: 15

Cover Type	Average Cover % '90
Vegetation	4.00
Rock	1.50
Pavement	11.25
Litter	54.75
Cryptogams	7.75
Bare Ground	20.75

WILDLIFE MANAGEMENT UNIT 01

BROWSE CHARACTERISTICS--
 Management unit 01, Study no: 15

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
9 0	2232	1	12	87	-	1	0	57	20/18	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
9 0	666	30	5	65	-	0	0	30	7/8	
<i>Juniperus osteosperma</i>										
9 0	499	7	87	7	-	0	0	7	108/61	
<i>Pinus monophylla</i>										
9 0	66	0	100	-	166	0	0	0	157/97	
<i>Symphoricarpos oreophilus</i>										
9 0	33	0	100	-	-	0	0	0	6/9	

WILDLIFE MANAGEMENT UNIT 02

HIGH CREEK – STUDY NO. 02-1

HERBACEOUS TRENDS--

Management unit 02, Study no: 1

T y P e	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	9	25
G	Poa bulbosa	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		9	28
Total for Grasses		9	28
F	Agoseris glauca	17	16
F	Allium acuminatum	6	-
F	Ambrosia psilostachya	284	15
F	Artemisia ludoviciana	7	6
F	Astragalus sp.	-	4
F	Calochortus nuttallii	24	-
F	Cirsium undulatum	-	4
F	Crepis acuminata	-	5
F	Epilobium brachycarpum (a)	-	127
F	Hackelia patens	2	12
F	Helianthus annuus (a)	-	30
F	Lactuca serriola (a)	-	47
F	Lomatium grayi	27	30
F	Lupinus argenteus	2	-
F	Machaeranthera sp.	92	-
F	Oenothera caespitosa	15	16
F	Phacelia hastata	7	24
F	Phlox longifolia	3	-
F	Tragopogon dubius (a)	16	58
F	Zigadenus paniculatus	1	-
Total for Annual Forbs		16	262
Total for Perennial Forbs		487	132
Total for Forbs		503	394

BASIC COVER--

Management unit 02, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	6.50
Rock	37.00	49.25
Pavement	21.00	11.50
Litter	30.25	21.00
Cryptogams	1.50	0
Bare Ground	8.00	11.75

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
84	4132	19	77	4	33	23	76	2	25/30	
90	3665	35	52	13	-	4	0	26	24/36	

MOUTH OF BLACKSMITH FORK – STUDY NO. 02-2

HERBACEOUS TRENDS--

Management unit 02, Study no: 2

Type	Species	Nested Frequency	
		'84	'90
G	<i>Aegilops cylindrica</i> (a)	3	81
G	<i>Agropyron spicatum</i>	46	15
G	<i>Aristida purpurea</i>	3	-
G	<i>Koeleria cristata</i>	5	-
G	<i>Poa secunda</i>	12	34
G	<i>Secale cereale</i> (a)	-	8
Total for Annual Grasses		3	89
Total for Perennial Grasses		66	49
Total for Grasses		69	138
F	<i>Agoseris glauca</i>	1	5
F	<i>Allium acuminatum</i>	22	-
F	<i>Ambrosia psilostachya</i>	261	94
F	<i>Artemisia ludoviciana</i>	1	3
F	<i>Asclepias asperula</i>	-	8
F	<i>Astragalus utahensis</i>	6	8
F	<i>Balsamorhiza sagittata</i>	1	-
F	<i>Calochortus nuttallii</i>	1	-
F	<i>Cirsium undulatum</i>	22	1
F	<i>Comandra pallida</i>	3	-
F	<i>Crepis acuminata</i>	5	7
F	<i>Isatis tinctoria</i>	1	46
F	<i>Lactuca serriola</i> (a)	-	6
F	<i>Linum lewisii</i>	1	-
F	<i>Lithospermum ruderales</i>	-	6
F	<i>Lomatium grayi</i>	5	-
F	<i>Medicago sativa</i>	15	19
F	<i>Melilotus alba</i>	9	1
F	<i>Petradoria pumila</i>	2	-
F	<i>Tragopogon dubius</i> (a)	191	35
Total for Annual Forbs		191	41
Total for Perennial Forbs		356	198
Total for Forbs		547	239

BASIC COVER--

Management unit 02, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	11.00
Rock	16.00	20.75
Pavement	14.00	3.50
Litter	58.00	51.75
Cryptogams	1.00	0
Bare Ground	9.00	13.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
84	799	0	8	92	-	0	100	13	32/40	
90	966	31	38	31	-	24	3	24	25/27	
<i>Gutierrezia sarothrae</i>										
84	99	0	67	33	-	67	0	0	19/22	
90	899	7	93	0	-	0	0	0	18/16	
<i>Opuntia sp.</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	0	0	0	6/8	

EAST OF RICHMOND – STUDY NO. 02-3

HERBACEOUS TRENDS--

Management unit 02, Study no: 3

Type	Species	Nested Frequency '84
G	<i>Agropyron spicatum</i>	65
G	<i>Koeleria cristata</i>	40
G	<i>Poa pratensis</i>	269
Total for Annual Grasses		0
Total for Perennial Grasses		374
Total for Grasses		374
F	<i>Achillea millefolium</i>	43
F	<i>Aster chilensis</i>	42
F	<i>Astragalus beckwithii</i>	3
F	<i>Astragalus convallarius</i>	14
F	<i>Balsamorhiza sagittata</i>	156
F	<i>Calochortus nuttallii</i>	20
F	<i>Comandra pallida</i>	105
F	<i>Crepis acuminata</i>	12
F	<i>Geranium fremontii</i>	3
F	<i>Grindelia squarrosa</i>	7
F	<i>Ipomopsis aggregata</i>	7
F	<i>Lathyrus sp.</i>	8
F	<i>Linum lewisii</i>	87
F	<i>Lithospermum ruderales</i>	2
F	<i>Lupinus argenteus</i>	14
F	<i>Penstemon cyananthus</i>	10
F	<i>Penstemon humilis</i>	47
F	<i>Penstemon sp.</i>	12
F	<i>Phlox longifolia</i>	19
F	<i>Tragopogon dubius (a)</i>	28
F	Unknown forb-perennial	5
F	<i>Vicia sp.</i>	3
F	<i>Wyethia scabra</i>	180
F	<i>Zigadenus paniculatus</i>	1
Total for Annual Forbs		28
Total for Perennial Forbs		800
Total for Forbs		828

BASIC COVER--

Management unit 02, Study no: 3

Cover Type	Average Cover % '84
Vegetation	3.75
Rock	.25
Pavement	.75
Litter	67.50
Cryptogams	0
Bare Ground	27.75

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	199	17	33	50	-	17	83	50	17/9	
<i>Mahonia repens</i>										
84	9166	100	0	-	-	0	0	0	-/-	
<i>Prunus virginiana</i>										
84	666	80	20	-	66	20	75	0	33/30	
<i>Purshia tridentata</i>										
84	766	22	52	26	-	9	78	9	22/27	
<i>Ribes aureum</i>										
84	33	0	100	-	-	100	0	0	42/31	
<i>Rosa woodsii</i>										
84	6933	100	0	-	-	0	0	0	-/-	

CROW MOUNTAIN – STUDY NO. 02-4

HERBACEOUS TRENDS--

Management unit 02, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	7	98
G	<i>Festuca ovina</i>	-	1
G	<i>Poa fendleriana</i>	-	1
G	<i>Poa pratensis</i>	310	178
Total for Annual Grasses		0	0
Total for Perennial Grasses		317	278
Total for Grasses		317	278
F	<i>Achillea millefolium</i>	15	13
F	<i>Aster chilensis</i>	4	40
F	<i>Astragalus convallarius</i>	-	21
F	<i>Astragalus sp.</i>	-	5
F	<i>Balsamorhiza sagittata</i>	126	132
F	<i>Calochortus nuttallii</i>	-	5
F	<i>Cirsium undulatum</i>	78	34
F	<i>Comandra pallida</i>	21	49
F	<i>Crepis acuminata</i>	-	1
F	<i>Grindelia squarrosa</i>	11	12
F	<i>Hackelia patens</i>	1	23
F	<i>Helianthella uniflora</i>	-	12
F	<i>Ipomopsis aggregata</i>	-	2
F	<i>Isatis tinctoria</i>	-	6
F	<i>Lactuca serriola (a)</i>	7	16
F	<i>Linum lewisii</i>	38	67
F	<i>Lithospermum ruderales</i>	50	12
F	<i>Medicago sativa</i>	-	1
F	<i>Oenothera caespitosa</i>	-	4
F	<i>Penstemon humilis</i>	-	16
F	<i>Petrorhiza pumila</i>	-	3
F	<i>Phlox longifolia</i>	-	127
F	<i>Senecio sp.</i>	11	-
F	<i>Taraxacum officinale</i>	-	7
F	<i>Tragopogon dubius (a)</i>	176	122
F	<i>Viola sp.</i>	-	22
Total for Annual Forbs		183	138
Total for Perennial Forbs		355	614
Total for Forbs		538	752

BASIC COVER--

Management unit 02, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	15.00
Rock	3.50	3.50
Pavement	2.25	3.50
Litter	70.00	41.75
Cryptogams	0	0
Bare Ground	21.25	36.25

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	0	0	0	16/18	
<i>Purshia tridentata</i>										
84	1933	17	62	21	-	7	83	0	21/41	
90	2266	0	71	29	-	24	0	3	22/34	
<i>Rosa woodsii</i>										
84	1533	22	78	-	266	0	0	0	15/5	
90	1399	81	19	-	-	0	0	0	12/8	

SMITH FIELD CANYON – STUDY NO. 02-5

HERBACEOUS TRENDS--

Management unit 02, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	44	57
G	Poa bulbosa	131	340
G	Poa pratensis	309	51
G	Poa secunda	-	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		484	457
Total for Grasses		484	457
F	Achillea millefolium	5	7
F	Artemisia ludoviciana	7	9
F	Aster chilensis	42	109
F	Astragalus convallarius	-	4
F	Balsamorhiza sagittata	50	48
F	Calochortus nuttallii	3	4
F	Comandra pallida	3	8
F	Cynoglossum officinale	-	2
F	Grindelia squarrosa	36	28
F	Hackelia patens	8	10
F	Helianthus annuus (a)	15	33
F	Lactuca serriola (a)	-	99
F	Lithospermum ruderales	8	11
F	Phacelia sp.	7	-
F	Phlox longifolia	1	88
F	Solidago sp.	1	-
F	Tragopogon dubius (a)	-	130
F	Viola sp.	-	16
F	Zigadenus paniculatus	2	-
Total for Annual Forbs		15	262
Total for Perennial Forbs		173	344
Total for Forbs		188	606

BASIC COVER--

Management unit 02, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.25	34.25
Rock	2.50	.25
Pavement	.25	.25
Litter	62.00	38.75
Cryptogams	0	0
Bare Ground	31.00	26.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	99	0	67	33	-	67	33	0	25/17	
90	132	25	25	50	-	0	0	25	24/17	
<i>Purshia tridentata</i>										
84	933	0	57	43	-	7	93	0	23/21	
90	799	4	38	58	-	21	0	4	21/28	

GREEN CANYON ENCLOSURE – STUDY NO. 02-6

HERBACEOUS TRENDS--

Management unit 02, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	243	199
G	Koeleria cristata	2	-
G	Poa bulbosa	-	3
G	Poa fendleriana	28	-
G	Poa secunda	141	264
Total for Annual Grasses		0	0
Total for Perennial Grasses		414	466
Total for Grasses		414	466
F	Agoseris glauca	-	3
F	Allium sp.	12	-
F	Astragalus sp.	-	14
F	Balsamorhiza hookeri	-	1
F	Balsamorhiza sagittata	71	55
F	Cirsium undulatum	1	3
F	Crepis acuminata	-	3
F	Hackelia patens	2	8
F	Helianthus annuus (a)	25	43
F	Lactuca serriola (a)	-	3
F	Lomatium grayi	1	20
F	Petradoria pumila	5	-
F	Phlox longifolia	2	8
F	Tragopogon dubius (a)	146	67
Total for Annual Forbs		171	113
Total for Perennial Forbs		94	115
Total for Forbs		265	228

BASIC COVER--

Management unit 02, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.75	11.50
Rock	13.75	12.75
Pavement	8.75	5.50
Litter	45.75	41.75
Cryptogams	.25	0
Bare Ground	26.75	28.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
84	366	0	18	82	-	0	100	9	-/-	
90	332	0	50	50	-	0	100	10	20/46	

SPAWN CREEK – STUDY NO. 02-7

HERBACEOUS TRENDS--

Management unit 02, Study no: 7

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	65	32
G	Agropyron trachycaulum	44	105
G	Bromus carinatus	96	166
G	Carex sp.	-	3
G	Melica bulbosa	4	10
G	Poa pratensis	7	14
G	Stipa columbiana	18	7
G	Stipa lettermani	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		234	347
Total for Grasses		234	347
F	Achillea millefolium	35	29
F	Agastache urticifolia	8	7
F	Arabis sp.	-	25
F	Aster chilensis	17	37
F	Astragalus convallarius	1	6
F	Balsamorhiza hookeri	-	3
F	Balsamorhiza sagittata	25	21
F	Calochortus nuttallii	1	2
F	Cirsium sp.	5	2
F	Collomia linearis (a)	3	-
F	Comandra pallida	29	41
F	Crepis acuminata	35	64
F	Cruciferae	-	3
F	Descurainia pinnata (a)	-	1
F	Eriogonum umbellatum	12	26
F	Hackelia patens	6	7
F	Linum lewisii	-	1
F	Lithospermum ruderales	3	-
F	Lupinus sericeus	63	39
F	Machaeranthera canescens	5	24
F	Penstemon cyananthus	4	9
F	Penstemon humilis	2	6
F	Senecio integerrimus	19	35
F	Taraxacum officinale	-	4
F	Tragopogon dubius (a)	-	4
F	Unknown forb-perennial	-	3
F	Viola sp.	-	58

WILDLIFE MANAGEMENT UNIT 02

Type	Species	Nested Frequency	
		'84	'90
F	Wyethia amplexicaulis	46	8
Total for Annual Forbs		3	5
Total for Perennial Forbs		316	460
Total for Forbs		319	465

BASIC COVER--

Management unit 02, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	.50	6.50
Rock	3.50	3.50
Pavement	3.75	1.25
Litter	84.00	76.25
Cryptogams	0	0
Bare Ground	8.25	12.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier alnifolia									
84	132	50	0	50	-	0	50	50	-/-
90	266	25	75	0	-	0	25	25	39/18
Artemisia tridentata vaseyana									
84	2399	8	28	64	-	19	81	36	29/23
90	1399	0	52	48	200	5	5	14	31/33
Chrysothamnus viscidiflorus viscidiflorus									
84	0	0	0	-	-	0	0	0	-/-
90	66	0	100	-	-	0	0	0	24/41

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Mahonia repens										
84	31733	65	35	-	-	0	0	0	6/5	
90	8932	30	70	-	-	0	0	0	4/3	
Prunus virginiana										
84	0	0	0	-	-	0	0	0	-/-	
90	1866	100	0	-	-	0	0	0	-/-	
Purshia tridentata										
84	66	0	0	100	-	0	100	0	-/-	
90	133	0	0	100	-	50	0	0	-/-	
Symphoricarpos oreophilus										
84	1266	11	89	0	-	53	0	0	30/42	
90	3065	41	57	2	-	15	0	0	32/37	

MILLVILLE CANYON – STUDY NO. 02-8

HERBACEOUS TRENDS--

Management unit 02, Study no: 8

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	49	88
G	Poa bulbosa	-	15
G	Poa secunda	170	202
Total for Annual Grasses		0	0
Total for Perennial Grasses		219	305
Total for Grasses		219	305
F	Artemisia ludoviciana	3	7
F	Balsamorhiza sagittata	-	2
F	Cirsium undulatum	-	8
F	Comandra pallida	1	4
F	Ipomopsis aggregata	3	7
F	Isatis tinctoria	-	23
F	Lomatium grayi	3	-
F	Tragopogon dubius (a)	34	23
Total for Annual Forbs		34	23
Total for Perennial Forbs		10	51
Total for Forbs		44	74

BASIC COVER--

Management unit 02, Study no: 8

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.75	4.00
Rock	22.25	20.50
Pavement	17.50	35.25
Litter	39.00	32.00
Cryptogams	3.50	1.00
Bare Ground	14.00	7.25

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	732	0	9	91	-	0	100	64	14/17	
90	132	0	50	50	-	50	0	0	24/25	
<i>Artemisia tridentata-nova hybrid</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	400	0	0	-	-	33	67	0	-/-	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	266	0	100	-	-	0	0	0	12/18	
<i>Juniperus osteosperma</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	133	100	0	-	-	50	0	0	-/-	

BEIRDNEAU – STUDY NO. 02-9

HERBACEOUS TRENDS--

Management unit 02, Study no: 9

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	125	105
G	<i>Poa pratensis</i>	4	10
G	<i>Poa secunda</i>	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		129	125
Total for Grasses		129	125
F	<i>Achillea millefolium</i>	14	-
F	<i>Agoseris glauca</i>	14	26
F	<i>Allium acuminatum</i>	45	29
F	<i>Artemisia ludoviciana</i>	4	3
F	<i>Aster chilensis</i>	49	40
F	<i>Astragalus beckwithii</i>	-	13
F	<i>Astragalus utahensis</i>	1	3
F	<i>Balsamorhiza sagittata</i>	5	5
F	<i>Chaenactis douglasii</i>	-	1
F	<i>Cirsium undulatum</i>	2	5
F	<i>Comandra pallida</i>	8	-
F	<i>Cymopterus sp.</i>	97	118
F	<i>Cynoglossum officinale</i>	5	27
F	<i>Gilia aggregata</i>	-	4
F	<i>Hackelia patens</i>	1	10
F	<i>Isatis tinctoria</i>	-	23
F	<i>Lactuca serriola (a)</i>	-	67
F	<i>Linum lewisii</i>	20	22
F	<i>Lithospermum ruderae</i>	10	8
F	<i>Melilotus officinalis</i>	2	15
F	<i>Penstemon humilis</i>	2	10
F	<i>Phlox hoodii</i>	12	13
F	<i>Tragopogon dubius (a)</i>	159	163
Total for Annual Forbs		159	230
Total for Perennial Forbs		291	375
Total for Forbs		450	605

BASIC COVER--

Management unit 02, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.25	14.50
Rock	20.25	9.00
Pavement	19.50	31.00
Litter	48.00	39.00
Cryptogams	.25	0
Bare Ground	10.75	6.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 9

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	1199	6	28	67	-	6	94	17	22/27	
90	733	0	45	55	-	9	0	18	24/32	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	199	67	33	-	66	0	0	0	25/30	
<i>Gutierrezia sarothrae</i>										
84	1866	25	75	-	-	0	0	0	15/19	
90	66	0	100	-	-	0	0	0	9/14	
<i>Purshia tridentata</i>										
84	599	0	22	78	-	0	100	0	45/53	
90	666	0	70	30	-	50	0	10	63/92	
<i>Symphoricarpos oreophilus</i>										
84	333	60	40	-	-	40	0	0	32/31	
90	733	45	55	-	-	0	0	0	16/28	

BROAD HOLLOW FLAT – STUDY NO. 02-10

HERBACEOUS TRENDS--

Management unit 02, Study no: 10

Type	Species	Nestled Frequency	
		'84	'90
G	<i>Aegilops cylindrica</i> (a)	3	2
G	<i>Agropyron cristatum</i>	247	164
G	<i>Agropyron intermedium</i>	3	26
G	<i>Agropyron spicatum</i>	52	52
G	<i>Aristida purpurea</i>	-	2
G	<i>Poa bulbosa</i>	-	155
G	<i>Poa pratensis</i>	-	1
G	<i>Poa secunda</i>	27	166
G	<i>Secale cereale</i> (a)	-	73
Total for Annual Grasses		3	75
Total for Perennial Grasses		329	566
Total for Grasses		332	641
F	<i>Ambrosia psilostachya</i>	3	16
F	<i>Artemisia ludoviciana</i>	5	11
F	<i>Asclepias asperula</i>	10	9
F	<i>Astragalus utahensis</i>	7	6
F	<i>Comandra pallida</i>	13	-
F	<i>Grindelia squarrosa</i>	3	35
F	<i>Hackelia patens</i>	21	-
F	<i>Isatis tinctoria</i>	13	13
F	<i>Medicago sativa</i>	2	-
F	<i>Oenothera caespitosa</i>	5	-
F	<i>Tragopogon dubius</i> (a)	177	82
F	Unknown forb-perennial	-	3
Total for Annual Forbs		177	82
Total for Perennial Forbs		82	93
Total for Forbs		259	175

BASIC COVER--

Management unit 02, Study no: 10

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	11.00
Rock	9.75	7.25
Pavement	7.00	6.25
Litter	62.50	51.50
Cryptogams	5.50	.75
Bare Ground	14.25	23.25

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 10

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	200	0	0	100	-	0	100	67	-/-	
90	33	0	0	100	-	100	0	100	-/-	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	266	12	88	-	-	0	0	0	11/18	
<i>Juniperus scopulorum</i>										
84	33	0	100	-	-	0	100	0	69/59	
90	33	0	100	-	-	0	0	0	102/67	

2ND DAM BLACKSMITH FORK – STUDY NO. 02-12

HERBACEOUS TRENDS--

Management unit 02, Study no: 12

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	151	176
G	Koeleria cristata	18	8
G	Poa pratensis	-	4
G	Poa secunda	66	162
Total for Annual Grasses		0	0
Total for Perennial Grasses		235	350
Total for Grasses		235	350
F	Achillea millefolium	6	1
F	Agoseris glauca	-	1
F	Allium acuminatum	60	3
F	Astragalus utahensis	2	4
F	Balsamorhiza sagittata	17	24
F	Calochortus nuttallii	2	1
F	Cirsium undulatum	2	4
F	Collomia linearis (a)	7	-
F	Comandra pallida	35	2
F	Crepis acuminata	5	28
F	Eriogonum umbellatum	1	2
F	Isatis tinctoria	-	13
F	Lactuca serriola (a)	-	15
F	Linum lewisii	2	1
F	Lithospermum ruderales	2	-
F	Lomatium grayi	13	27
F	Melilotus officinalis	-	5
F	Petradoria pumila	34	34
F	Senecio sp.	1	-
F	Tragopogon dubius (a)	18	53
Total for Annual Forbs		25	68
Total for Perennial Forbs		182	150
Total for Forbs		207	218

BASIC COVER--

Management unit 02, Study no: 12

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.25	9.75
Rock	43.00	39.00
Pavement	12.25	8.25
Litter	26.25	25.00
Cryptogams	4.25	1.75
Bare Ground	13.00	16.25

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 12

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
84	933	0	36	64	-	18	82	29	34/30
90	633	0	32	68	-	0	0	5	30/31
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	132	25	50	25	-	0	0	0	15/10
90	100	0	100	0	-	0	0	0	18/23
<i>Purshia tridentata</i>									
84	199	0	33	67	-	0	100	0	28/36
90	199	0	67	33	-	17	0	0	24/30

HARDWARE PLATEAU – STUDY NO. 02-13

HERBACEOUS TRENDS--

Management unit 02, Study no: 13

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	267	305
G	Koeleria cristata	-	2
G	Poa pratensis	-	4
G	Poa secunda	244	252
Total for Annual Grasses		0	0
Total for Perennial Grasses		511	563
Total for Grasses		511	563
F	Achillea millefolium	175	133
F	Agoseris glauca	-	1
F	Arabis sp.	-	6
F	Artemisia ludoviciana	15	20
F	Balsamorhiza sagittata	60	61
F	Calochortus nuttallii	-	3
F	Cirsium undulatum	10	19
F	Crepis acuminata	-	153
F	Eriogonum umbellatum	20	12
F	Hackelia patens	27	15
F	Lomatium grayi	-	1
F	Lupinus argenteus	58	34
F	Penstemon humilis	13	12
F	Senecio multilobatus	80	-
F	Tragopogon dubius (a)	2	-
Total for Annual Forbs		2	0
Total for Perennial Forbs		458	470
Total for Forbs		460	470

BASIC COVER--

Management unit 02, Study no: 13

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.75	16.25
Rock	17.50	20.50
Pavement	2.25	.75
Litter	66.75	44.50
Cryptogams	6.50	1.25
Bare Ground	5.25	16.75

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	366	82	9	9	166	82	18	0	27/22	
90	566	77	0	23	-	29	53	6	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	333	0	30	70	-	30	50	0	14/9	
90	133	0	25	75	-	0	75	25	13/13	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	766	13	83	4	-	4	0	4	16/18	
90	433	8	92	0	-	8	0	0	17/21	
<i>Gutierrezia sarothrae</i>										
84	66	50	50	-	-	0	0	0	7/11	
90	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	333	0	40	60	-	0	100	0	18/20	
90	132	0	50	50	-	0	100	0	15/18	
<i>Rhus glabra cismontana</i>										
84	66	0	100	-	-	50	0	0	43/41	
90	0	0	0	-	-	0	0	0	-/-	
<i>Sambucus cerulea</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	0	100	0	31/20	

DRY CANYON – STUDY NO. 02-14

HERBACEOUS TRENDS--

Management unit 02, Study no: 14

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	138	124
G	Oryzopsis hymenoides	9	9
G	Poa pratensis	-	18
G	Poa secunda	15	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		162	156
Total for Grasses		162	156
F	Cirsium undulatum	3	6
F	Cryptantha sp.	5	4
F	Oenothera caespitosa	2	-
F	Tragopogon dubius (a)	38	7
F	Unknown forb-perennial	-	2
Total for Annual Forbs		38	7
Total for Perennial Forbs		10	12
Total for Forbs		48	19

BASIC COVER--

Management unit 02, Study no: 14

Cover Type	Average Cover %	
	'84	'90
Vegetation	.25	2.00
Rock	51.00	53.25
Pavement	9.75	19.25
Litter	19.25	14.00
Cryptogams	5.50	.25
Bare Ground	14.25	11.25

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	732	32	18	50	200	27	59	9	16/33	
90	899	41	22	37	233	4	4	0	19/22	
<i>Gutierrezia sarothrae</i>										
84	800	25	75	0	-	0	0	0	11/12	
90	833	48	48	4	-	0	0	0	7/9	
<i>Juniperus osteosperma</i>										
84	66	50	50	-	-	50	0	0	49/36	
90	66	50	50	-	-	0	0	0	157/157	

LOWER HODGES CANYON – STUDY NO. 02-15

HERBACEOUS TRENDS--

Management unit 02, Study no: 15

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	139	196
G	Koeleria cristata	16	11
G	Poa fendleriana	19	11
G	Poa pratensis	64	89
G	Poa secunda	10	119
Total for Annual Grasses		0	0
Total for Perennial Grasses		248	426
Total for Grasses		248	426
F	Achillea millefolium	7	4
F	Agoseris glauca	-	8
F	Arabis sp.	-	11
F	Astragalus convallarius	18	6
F	Balsamorhiza sagittata	6	4
F	Calochortus nuttallii	-	3
F	Chaenactis douglasii	-	1
F	Cirsium undulatum	4	11
F	Comandra pallida	22	40
F	Crepis acuminata	10	90
F	Eriogonum umbellatum	6	3
F	Linum lewisii	-	2
F	Lupinus argenteus	3	-
F	Penstemon humilis	33	70
F	Phlox longifolia	3	122
F	Tragopogon dubius (a)	28	14
F	Unknown forb-perennial	3	2
Total for Annual Forbs		28	14
Total for Perennial Forbs		115	377
Total for Forbs		143	391

BASIC COVER--

Management unit 02, Study no: 15

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	12.25
Rock	2.25	3.75
Pavement	1.25	1.75
Litter	86.75	72.75
Cryptogams	.25	.50
Bare Ground	8.50	9.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 15

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	533	62	38	-	-	13	0	0	37/33	
<i>Artemisia tridentata vaseyana</i>										
84	1266	0	32	68	-	63	32	32	34/46	
90	1132	12	41	47	-	29	0	29	36/53	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	133	0	100	-	-	0	0	0	19/30	
90	133	0	100	-	-	0	0	0	28/33	
<i>Purshia tridentata</i>										
84	333	40	60	0	-	0	0	0	15/27	
90	1133	12	53	35	-	41	18	6	18/32	
<i>Symphoricarpos oreophilus</i>										
84	1133	47	53	0	-	0	0	0	29/44	
90	4999	12	83	5	-	20	0	5	25/35	

GARDEN CITY CANYON – STUDY NO. 02-16

HERBACEOUS TRENDS--

Management unit 02, Study no: 16

Type	Species	Nest Frequency	
		'84	'90
G	Agropyron spicatum	157	167
G	Koeleria cristata	7	-
G	Poa fendleriana	3	-
G	Poa pratensis	25	-
G	Poa secunda	44	131
Total for Annual Grasses		0	0
Total for Perennial Grasses		236	298
Total for Grasses		236	298
F	Agoseris glauca	4	1
F	Arabis sp.	-	3
F	Artemisia ludoviciana	1	-
F	Calochortus nuttallii	-	6
F	Cirsium undulatum	7	7
F	Comandra pallida	19	24
F	Crepis acuminata	-	1
F	Erigeron divergens	-	1
F	Pellaea breweri	5	-
F	Penstemon sp.	-	1
F	Phlox longifolia	-	2
F	Tragopogon dubius (a)	15	4
F	Wyethia amplexicaulis	1	3
Total for Annual Forbs		15	4
Total for Perennial Forbs		37	49
Total for Forbs		52	53

BASIC COVER--

Management unit 02, Study no: 16

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	10.25
Rock	33.75	28.00
Pavement	.50	.25
Litter	58.75	55.00
Cryptogams	1.75	1.75
Bare Ground	3.00	4.75

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	666	35	50	15	-	30	35	0	31/33	
90	499	20	13	67	33	33	40	20	35/25	
<i>Artemisia arbuscula</i>										
84	1733	6	60	35	66	58	40	19	13/26	
90	1631	10	61	29	-	16	2	12	17/16	
<i>Cercocarpus ledifolius</i>										
84	433	8	92	0	133	0	23	0	68/74	
90	565	29	41	29	33	12	29	0	183/83	
<i>Juniperus scopulorum</i>										
84	66	50	50	-	-	50	0	0	67/83	
90	66	50	50	-	-	0	0	0	118/98	
<i>Mahonia repens</i>										
84	2465	31	69	-	-	0	0	0	8/6	
90	4265	12	88	-	200	3	0	0	7/4	
<i>Pachistima myrsinites</i>										
84	33	0	100	-	-	0	0	0	6/7	
90	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	132	50	25	25	-	0	25	0	24/33	

WILDLIFE MANAGEMENT UNIT 02

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
84	99	33	67	-	-	0	0	0	18/26	
90	199	17	83	-	-	0	0	0	15/28	

MEADOWVILLE – STUDY NO. 02-17

HERBACEOUS TRENDS--

Management unit 02, Study no: 17

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	5	-
G	Agropyron spicatum	95	120
G	Oryzopsis hymenoides	61	61
G	Poa pratensis	3	-
G	Poa secunda	83	152
G	Sitanion hystrix	5	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		252	336
Total for Grasses		252	336
F	Agoseris glauca	-	4
F	Astragalus utahensis	56	51
F	Balsamorhiza sagittata	2	6
F	Castilleja chromosa	8	1
F	Chaenactis douglasii	1	8
F	Cirsium undulatum	22	19
F	Comandra pallida	1	-
F	Lithospermum ruderales	11	16
F	Phlox hoodii	8	4
F	Phlox longifolia	-	3
F	Tragopogon dubius (a)	26	19
F	Unknown forb-perennial	-	3
Total for Annual Forbs		26	19
Total for Perennial Forbs		109	115
Total for Forbs		135	134

BASIC COVER--

Management unit 02, Study no: 17

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.50	11.50
Rock	10.00	9.00
Pavement	13.75	16.25
Litter	66.25	45.00
Cryptogams	.25	1.75
Bare Ground	7.25	16.50

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 17

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	0	0	0	0	-	0	0	0	-/-
90	33	0	0	100	-	0	100	0	-/-
<i>Artemisia tridentata vaseyana</i>									
84	1466	0	0	100	-	9	91	48	-/-
90	966	10	21	69	100	24	7	28	24/22
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	233	14	86	-	-	0	0	0	9/11
90	133	0	100	-	-	0	0	0	10/10
<i>Gutierrezia sarothrae</i>									
84	7598	49	49	2	-	0	0	0	7/11
90	11932	78	20	2	1400	2	0	.27	9/11
<i>Purshia tridentata</i>									
84	166	60	40	0	-	40	20	20	11/49
90	432	38	46	15	-	23	62	0	13/21
<i>Tetradymia canescens</i>									
84	133	0	75	25	-	0	0	0	7/12
90	99	0	67	33	-	0	0	0	8/15

UPPER HODGES CANYON – STUDY NO. 02-18

HERBACEOUS TRENDS--

Management unit 02, Study no: 18

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	126	145
G	Agropyron trachycaulum	72	-
G	Bromus carinatus	28	29
G	Carex sp.	-	12
G	Elymus cinereus	3	2
G	Koeleria cristata	63	23
G	Melica bulbosa	2	3
G	Poa fendleriana	-	90
G	Poa pratensis	90	78
G	Poa secunda	-	11
G	Stipa columbiana	19	113
Total for Annual Grasses		0	0
Total for Perennial Grasses		403	506
Total for Grasses		403	506
F	Achillea millefolium	116	49
F	Agoseris glauca	5	5
F	Arabis sp.	-	24
F	Aster chilensis	27	28
F	Balsamorhiza hookeri	3	1
F	Calochortus nuttallii	14	6
F	Cirsium sp.	1	1
F	Comandra pallida	21	16
F	Crepis acuminata	-	6
F	Eriogonum umbellatum	-	1
F	Geranium viscosissimum	24	14
F	Lactuca serriola (a)	-	3
F	Linum lewisii	3	1
F	Lupinus sericeus	20	9
F	Machaeranthera canescens	-	1
F	Penstemon humilis	2	1
F	Penstemon sp.	-	3
F	Phlox longifolia	-	14
F	Potentilla gracilis	3	-
F	Senecio multilobatus	-	5
F	Taraxacum officinale	-	3
F	Tragopogon dubius (a)	14	24
F	Unknown forb-perennial	13	3
F	Veratrum californicum	1	-

WILDLIFE MANAGEMENT UNIT 02

Type	Species	Nested Frequency	
		'84	'90
F	Viguiera multiflora	-	2
F	Wyethia amplexicaulis	105	101
Total for Annual Forbs		14	27
Total for Perennial Forbs		358	294
Total for Forbs		372	321

BASIC COVER--

Management unit 02, Study no: 18

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	5.75
Rock	.25	1.00
Pavement	.50	.25
Litter	89.50	80.75
Cryptogams	0	0
Bare Ground	8.25	12.25

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 18

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Amelanchier alnifolia									
84	200	0	100	0	66	33	67	0	40/32
90	398	17	17	67	-	50	0	0	23/20
Artemisia tridentata vaseyana									
84	1799	4	52	44	-	63	37	0	26/19
90	2600	15	62	23	133	5	3	10	28/42
Ceanothus velutinus									
84	66	100	0	-	-	0	0	0	-/-
90	0	0	0	-	-	0	0	0	-/-

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Eriogonum heracleoides</i>										
84	3132	72	28	-	133	0	0	0	28/17	
90	2666	8	92	-	-	0	0	5	7/12	
<i>Purshia tridentata</i>										
84	1599	13	54	33	66	17	75	0	23/19	
90	1199	0	94	6	-	39	0	0	25/36	
<i>Rosa woodsii</i>										
84	133	100	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	0	0	0	15/10	
<i>Symphoricarpos oreophilus</i>										
84	1865	68	29	4	-	4	7	0	32/25	
90	1466	36	64	0	-	36	14	0	28/40	

RIGHT FORK LOGAN CANYON – STUDY NO. 02-19

HERBACEOUS TRENDS--

Management unit 02, Study no: 19

Type	Species	Nested Frequency '90
G	Agropyron spicatum	161
G	Poa bulbosa	208
G	Poa pratensis	2
G	Poa secunda	144
Total for Annual Grasses		0
Total for Perennial Grasses		515
Total for Grasses		515
F	Allium sp.	5
F	Astragalus utahensis	8
F	Comandra pallida	2
F	Crepis acuminata	89
F	Cymopterus sp.	234
F	Hackelia patens	2
F	Lactuca serriola (a)	15
F	Penstemon humilis	9
F	Sisymbrium altissimum (a)	16
F	Tragopogon dubius (a)	7
Total for Annual Forbs		38
Total for Perennial Forbs		349
Total for Forbs		387

BASIC COVER--

Management unit 02, Study no: 19

Cover Type	Average Cover % '90
Vegetation	10.00
Rock	31.50
Pavement	12.50
Litter	26.25
Cryptogams	1.00
Bare Ground	18.75

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
90	66	100	0	-	33	50	50	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
90	599	11	89	-	-	28	22	0	13/15	
<i>Purshia tridentata</i>										
90	232	0	28	72	-	0	100	14	29/56	
<i>Symphoricarpos oreophilus</i>										
90	1533	15	78	7	-	11	2	7	26/21	

RICHMOND WMA – STUDY NO. 02-20

HERBACEOUS TRENDS--

Management unit 02, Study no: 20

Type	Species	Nested Frequency '90
G	Agropyron spicatum	20
G	Melica bulbosa	15
G	Poa pratensis	74
Total for Annual Grasses		0
Total for Perennial Grasses		109
Total for Grasses		109
F	Achillea millefolium	3
F	Agoseris glauca	13
F	Artemisia ludoviciana	2
F	Astragalus sp.	6
F	Balsamorhiza macrophylla	169
F	Crepis acuminata	8
F	Lactuca serriola (a)	20
F	Lithospermum ruderales	7
F	Lomatium grayi	120
F	Lupinus argenteus	19
F	Tragopogon dubius (a)	3
F	Viola sp.	10
Total for Annual Forbs		23
Total for Perennial Forbs		357
Total for Forbs		380

BASIC COVER--

Management unit 02, Study no: 20

Cover Type	Average Cover % '90
Vegetation	14.00
Rock	7.00
Pavement	1.75
Litter	46.25
Cryptogams	0
Bare Ground	31.00

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 20

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Purshia tridentata									
90	0	0	0	-	466	0	0	0	-/-

SWAN CREEK – STUDY NO. 02-21

HERBACEOUS TRENDS--

Management unit 02, Study no: 21

Type	Species	Nested Frequency '90
G	<i>Agropyron spicatum</i>	286
G	<i>Poa secunda</i>	55
Total for Annual Grasses		0
Total for Perennial Grasses		341
Total for Grasses		341
F	<i>Achillea millefolium</i>	6
F	<i>Agoseris glauca</i>	25
F	<i>Arabis</i> sp.	10
F	<i>Balsamorhiza sagittata</i>	76
F	<i>Calochortus nuttallii</i>	19
F	<i>Castilleja linariaefolia</i>	4
F	<i>Cirsium undulatum</i>	7
F	<i>Comandra pallida</i>	26
F	<i>Crepis acuminata</i>	106
F	<i>Eriogonum umbellatum</i>	5
F	<i>Hackelia patens</i>	7
F	<i>Lactuca serriola</i> (a)	3
F	<i>Lomatium</i> sp.	5
F	<i>Penstemon</i> sp.	25
F	<i>Petradoria pumila</i>	58
F	<i>Phlox longifolia</i>	28
F	<i>Tragopogon dubius</i> (a)	7
F	<i>Zigadenus paniculatus</i>	9
Total for Annual Forbs		10
Total for Perennial Forbs		416
Total for Forbs		426

BASIC COVER--

Management unit 02, Study no: 21

Cover Type	Average Cover % '90
Vegetation	7.50
Rock	21.25
Pavement	3.00
Litter	53.25
Cryptogams	0
Bare Ground	15.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 21

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Amelanchier alnifolia</i>									
90	865	54	38	8	66	58	12	4	28/17
<i>Artemisia tridentata vaseyana</i>									
90	99	0	33	67	33	33	33	0	26/17
<i>Cercocarpus ledifolius</i>									
90	166	20	80	-	33	0	20	0	157/152
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
90	66	0	50	50	-	0	50	0	10/10
<i>Gutierrezia sarothrae</i>									
90	2198	15	82	3	66	0	0	2	11/16
<i>Mahonia repens</i>									
90	2898	31	69	-	-	2	0	0	4/4
<i>Purshia tridentata</i>									
90	133	25	75	-	-	25	0	0	11/12
<i>Symphoricarpos oreophilus</i>									
90	932	18	71	11	66	7	0	14	19/17

BOX ELDER CANYON – STUDY NO. 02-22

HERBACEOUS TRENDS--

Management unit 02, Study no: 22

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	154	48
Total for Annual Grasses		0	0
Total for Perennial Grasses		154	48
Total for Grasses		154	48
F	Allium sp.	-	3
F	Artemisia ludoviciana	27	10
F	Cirsium sp.	5	-
F	Hedysarum boreale	32	6
F	Isatis tinctoria	-	218
F	Lactuca serriola (a)	-	14
F	Phlox longifolia	-	12
F	Tragopogon dubius (a)	33	14
Total for Annual Forbs		33	28
Total for Perennial Forbs		64	249
Total for Forbs		97	277

BASIC COVER--

Management unit 02, Study no: 22

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.75	11.00
Rock	63.00	58.00
Pavement	3.50	5.00
Litter	28.50	26.00
Cryptogams	0	0
Bare Ground	.25	0

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 22

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
84	133	100	0	0	-	0	0	0	-/-	
90	132	50	0	50	-	0	50	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	200	0	0	100	-	0	100	0	-/-	
90	0	0	0	0	-	0	0	0	-/-	
<i>Chrysothamnus nauseosus consimilis</i>										
84	799	33	50	17	-	17	0	0	50/33	
90	732	9	82	9	-	0	0	9	36/64	
<i>Mahonia repens</i>										
84	19600	100	0	-	-	0	0	0	-/-	
90	39799	93	7	-	-	0	0	0	6/7	
<i>Opuntia fragilis</i>										
84	533	100	0	0	-	0	0	0	-/-	
90	2399	33	44	22	-	0	0	25	4/5	
<i>Rhus glabra cismontana</i>										
84	2865	37	63	-	-	44	30	0	29/17	
90	2466	78	22	-	-	5	5	5	31/20	

FLAT BOTTOM CANYON – STUDY NO. 02-23

HERBACEOUS TRENDS--

Management unit 02, Study no: 23

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	184	182
G	Aristida purpurea	9	38
G	Poa secunda	162	234
Total for Annual Grasses		0	0
Total for Perennial Grasses		355	454
Total for Grasses		355	454
F	Agoseris glauca	-	6
F	Ambrosia psilostachya	83	13
F	Artemisia ludoviciana	39	10
F	Astragalus utahensis	2	1
F	Balsamorhiza hookeri	-	4
F	Cymopterus sp.	-	33
F	Helianthus annuus (a)	-	2
F	Isatis tinctoria	13	16
F	Tragopogon dubius (a)	30	18
F	Unknown forb-perennial	1	-
Total for Annual Forbs		30	20
Total for Perennial Forbs		138	83
Total for Forbs		168	103

BASIC COVER--

Management unit 02, Study no: 23

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	9.50
Rock	16.50	18.00
Pavement	18.25	33.25
Litter	40.00	22.50
Cryptogams	6.00	4.25
Bare Ground	17.00	12.50

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 23

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	2232	48	31	21	33	24	33	4	6/6	
90	566	18	59	23	-	29	12	0	8/10	
<i>Gutierrezia sarothrae</i>										
84	1065	6	81	12	166	0	0	0	9/12	
90	2432	26	73	1	233	1	0	1	7/8	
<i>Opuntia sp.</i>										
84	66	0	100	0	-	0	0	0	7/11	
90	99	67	0	33	66	0	0	0	-/-	

CALLS FORT CANYON – STUDY NO. 02-24

HERBACEOUS TRENDS--

Management unit 02, Study no: 24

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	10	66
G	Aristida purpurea	20	16
G	Poa pratensis	-	9
G	Poa secunda	-	74
G	Sporobolus cryptandrus	114	81
Total for Annual Grasses		0	0
Total for Perennial Grasses		144	246
Total for Grasses		144	246
F	Achillea millefolium	32	28
F	Ambrosia psilostachya	214	165
F	Artemisia ludoviciana	40	32
F	Cirsium undulatum	-	2
F	Comandra pallida	-	2
F	Isatis tinctoria	-	41
F	Lithospermum ruderales	31	2
F	Machaeranthera canescens	-	14
F	Solidago sp.	3	4
F	Tragopogon dubius (a)	1	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		320	290
Total for Forbs		321	290

BASIC COVER--

Management unit 02, Study no: 24

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	16.00
Rock	14.25	16.75
Pavement	10.50	6.50
Litter	64.00	57.25
Cryptogams	0	.50
Bare Ground	9.75	3.00

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 24

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	498	13	33	53	-	0	100	13	23/18	
90	133	0	100	0	-	0	0	0	21/19	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	599	28	72	-	-	0	0	0	19/28	

MOUTH OF TWO JUMP CANYON – STUDY NO. 02-25

HERBACEOUS TRENDS--

Management unit 02, Study no: 25

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	43	65
G	Poa secunda	24	100
Total for Annual Grasses		0	0
Total for Perennial Grasses		67	165
Total for Grasses		67	165
F	Achillea millefolium	12	16
F	Allium sp.	-	2
F	Ambrosia psilostachya	27	39
F	Apocynum androsaemifolium pumilum	-	10
F	Arabis sp.	-	1
F	Artemisia ludoviciana	22	24
F	Astragalus sp.	1	-
F	Balsamorhiza sagittata	33	73
F	Cirsium undulatum	-	1
F	Comandra pallida	-	2
F	Cryptantha sp.	-	5
F	Eriogonum umbellatum	5	6
F	Hackelia patens	-	18
F	Hedysarum boreale	-	12
F	Lithospermum ruderae	4	4
F	Lomatium grayi	-	64
F	Penstemon sp.	7	1
F	Phacelia sp.	32	3
F	Phlox longifolia	-	6
F	Tragopogon dubius (a)	1	7
Total for Annual Forbs		1	7
Total for Perennial Forbs		143	287
Total for Forbs		144	294

BASIC COVER--

Management unit 02, Study no: 25

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	7.00
Rock	18.00	16.75
Pavement	21.25	13.75
Litter	57.50	55.75
Cryptogams	.50	.25
Bare Ground	1.25	6.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 25

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	2065	3	71	26	266	23	77	6	42/43	
90	1465	5	23	73	66	41	23	45	27/33	
<i>Gutierrezia sarothrae</i>										
84	3066	0	100	0	-	0	0	0	13/10	
90	9665	55	40	5	66	0	0	2	11/12	

WELLSVILLE CANYON – STUDY NO. 02-26

HERBACEOUS TRENDS--

Management unit 02, Study no: 26

Type	Species	Nested Frequency '90
G	Agropyron spicatum	124
G	Poa pratensis	120
G	Poa secunda	25
Total for Annual Grasses		0
Total for Perennial Grasses		269
Total for Grasses		269
F	Achillea millefolium	31
F	Agoseris glauca	15
F	Allium sp.	6
F	Ambrosia psilostachya	61
F	Apocynum androsaemifolium pumilum	107
F	Artemisia ludoviciana	36
F	Aster chilensis	85
F	Cirsium undulatum	5
F	Crepis acuminata	2
F	Cynoglossum officinale	13
F	Eriogonum umbellatum	3
F	Isatis tinctoria	44
F	Lactuca serriola (a)	80
F	Lomatium grayi	6
F	Lupinus argenteus	5
F	Melilotus alba	7
F	Melilotus officinalis	8
F	Phacelia sp.	21
F	Tragopogon dubius (a)	225
F	Zigadenus paniculatus	3
Total for Annual Forbs		305
Total for Perennial Forbs		458
Total for Forbs		763

BASIC COVER--

Management unit 02, Study no: 26

Cover Type	Average Cover % '90
Vegetation	21.25
Rock	18.50
Pavement	3.75
Litter	51.50
Cryptogams	0
Bare Ground	5.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 26

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
90	1465	9	68	23	-	9	0	0	32/30
<i>Ceanothus velutinus</i>									
90	200	0	100	-	-	100	0	0	30/20
<i>Mahonia repens</i>									
90	47199	73	27	-	-	0	0	0	6/6
<i>Rosa woodsii</i>									
90	12532	99	1	-	66	0	0	0	4/2

LAKETOWN CANYON – STUDY NO. 02-27

HERBACEOUS TRENDS--

Management unit 02, Study no: 27

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	30	37
G	Oryzopsis hymenoides	37	40
G	Poa secunda	136	270
G	Stipa comata	13	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		216	350
Total for Grasses		216	350
F	Arabis sp.	4	-
F	Chaenactis douglasii	3	3
F	Cirsium undulatum	19	5
F	Cryptantha sp.	4	15
F	Hackelia patens	-	17
F	Senecio multilobatus	12	-
F	Tragopogon dubius (a)	14	-
F	Verbascum thapsus	8	-
Total for Annual Forbs		14	0
Total for Perennial Forbs		50	40
Total for Forbs		64	40

BASIC COVER--

Management unit 02, Study no: 27

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.75	9.50
Rock	33.25	30.75
Pavement	7.00	11.25
Litter	38.00	25.25
Cryptogams	13.75	10.75
Bare Ground	5.25	12.50

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 27

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	1299	8	26	67	233	5	95	0	7/8	
90	599	0	6	94	33	44	0	17	10/16	
<i>Artemisia tridentata vaseyana</i>										
84	299	0	11	89	-	22	78	33	16/18	
90	33	0	0	100	-	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
84	433	23	77	0	333	8	92	0	48/59	
90	299	0	56	44	-	71	0	0	40/45	
<i>Chrysothamnus nauseosus consimilis</i>										
84	332	20	0	80	-	70	0	0	-/-	
90	399	0	83	17	-	0	0	0	32/26	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	500	40	60	-	-	0	0	0	13/27	
90	200	0	100	-	-	0	0	0	10/14	
<i>Gutierrezia sarothrae</i>										
84	4766	44	56	0	-	0	0	0	8/9	
90	1998	58	25	17	733	0	0	4	13/12	
<i>Leptodactylon pungens</i>										
84	66	0	100	-	-	0	0	0	4/4	
90	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 02

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
84	66	50	50	-	-	0	0	0	9/10	
90	100	0	100	-	-	0	0	0	7/7	

NORTH EDEN – STUDY NO. 02-28

HERBACEOUS TRENDS--

Management unit 02, Study no: 28

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	161	210
G	Oryzopsis hymenoides	3	-
G	Poa secunda	210	303
G	Sitanion hystrix	26	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		400	518
Total for Grasses		400	518
F	Astragalus convallarius	9	-
F	Astragalus sp.	2	-
F	Calochortus nuttallii	-	3
F	Crepis acuminata	9	33
F	Cryptantha sp.	1	2
F	Erigeron sp.	-	5
F	Phlox hoodii	6	26
F	Phlox longifolia	-	149
F	Tragopogon dubius (a)	10	-
F	Unknown forb-perennial	-	12
Total for Annual Forbs		10	0
Total for Perennial Forbs		27	230
Total for Forbs		37	230

BASIC COVER--

Management unit 02, Study no: 28

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	10.00
Rock	1.00	1.00
Pavement	0	0
Litter	54.25	43.25
Cryptogams	20.50	16.00
Bare Ground	22.00	29.75

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 28

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	3332	2	28	70	-	40	60	12	13/14	
90	2065	16	52	32	66	0	0	3	15/19	
<i>Artemisia tridentata wyomingensis</i>										
84	5332	5	42	53	533	30	65	10	24/25	
90	3465	10	31	60	66	23	17	33	22/20	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	199	0	33	67	-	0	0	67	21/11	
90	199	0	33	67	-	33	33	33	6/7	
<i>Juniperus osteosperma</i>										
84	133	0	100	-	66	0	0	0	69/49	
90	132	50	50	-	-	0	0	0	93/63	
<i>Opuntia polyacantha</i>										
84	200	0	100	-	-	0	0	0	6/7	
90	400	0	100	-	66	0	0	0	4/7	

WOODRUFF CREEK – STUDY NO. 02-29

HERBACEOUS TRENDS--

Management unit 02, Study no: 29

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	195	201
G	Agropyron spicatum	1	7
G	Oryzopsis hymenoides	1	20
G	Poa fendleriana	46	141
G	Poa secunda	123	161
G	Sitanion hystrix	22	22
Total for Annual Grasses		0	0
Total for Perennial Grasses		388	552
Total for Grasses		388	552
F	Allium acuminatum	14	-
F	Antennaria sp.	7	10
F	Arabis holboellii	2	-
F	Astragalus beckwithii	13	-
F	Astragalus convallarius	13	-
F	Astragalus utahensis	18	6
F	Calochortus nuttallii	1	-
F	Chaenactis douglasii	34	2
F	Comandra pallida	35	21
F	Crepis acuminata	3	-
F	Cryptantha sp.	26	22
F	Erigeron pumilus	11	-
F	Eriogonum umbellatum	4	-
F	Ipomopsis aggregata	7	-
F	Lithospermum ruderales	3	-
F	Penstemon humilis	86	85
F	Phlox hoodii	88	103
F	Phlox longifolia	62	48
F	Senecio multilobatus	61	10
Total for Annual Forbs		0	0
Total for Perennial Forbs		488	307
Total for Forbs		488	307

WILDLIFE MANAGEMENT UNIT 02

BASIC COVER--

Management unit 02, Study no: 29

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.75	7.50
Rock	1.75	2.50
Pavement	10.50	21.75
Litter	47.25	33.50
Cryptogams	3.00	13.75
Bare Ground	32.75	21.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 29

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	6465	5	38	57	-	11	78	6	13/16	
90	6465	4	39	57	-	51	41	28	19/21	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	2999	4	80	16	-	0	0	2	7/10	
90	3598	28	54	19	-	43	2	0	7/12	
<i>Juniperus osteosperma</i>										
84	266	50	50	-	66	0	25	0	57/22	
90	332	80	20	-	-	40	20	0	89/51	
<i>Tetradymia canescens</i>										
84	133	0	100	0	-	50	50	0	9/16	
90	200	0	0	100	-	67	33	0	-/-	

STATE LINE – STUDY NO. 02-30

HERBACEOUS TRENDS--

Management unit 02, Study no: 30

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron smithii	140	94
G	Oryzopsis hymenoides	5	9
G	Poa secunda	235	248
G	Sitanion hystrix	-	9
G	Stipa comata	39	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		419	360
Total for Grasses		419	360
F	Antennaria sp.	6	9
F	Arabis sp.	19	-
F	Astragalus convallarius	20	6
F	Astragalus utahensis	-	2
F	Erigeron pumilus	3	5
F	Eriogonum caespitosum	-	2
F	Haplopappus acaulis	69	64
F	Phlox hoodii	125	128
F	Phlox longifolia	3	25
F	Trifolium sp.	7	4
F	Unknown forb-perennial	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		253	245
Total for Forbs		253	245

BASIC COVER--

Management unit 02, Study no: 30

Cover Type	Average Cover %	
	'84	'90
Vegetation	6.25	12.00
Rock	.75	.25
Pavement	7.00	7.00
Litter	42.75	24.00
Cryptogams	5.50	14.00
Bare Ground	37.75	42.75

WILDLIFE MANAGEMENT UNIT 02

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 30

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
84	7532	15	46	39	1533	45	27	3	14/19
90	8065	17	45	38	66	42	37	19	15/16
<i>Atriplex gardneri falcata</i>									
84	3866	57	43	-	5400	38	0	0	7/11
90	5532	81	19	-	3599	5	5	0	5/7
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	1732	4	92	4	66	0	0	4	11/14
90	2065	6	52	42	-	39	3	6	6/10
<i>Eriogonum microthecum</i>									
84	66	0	100	-	-	0	0	0	1/2
90	0	0	0	-	-	0	0	0	-/-
<i>Opuntia sp.</i>									
84	600	0	100	0	-	0	0	0	5/13
90	932	57	14	29	133	0	0	14	4/6
<i>Tetradymia canescens</i>									
84	66	0	100	-	-	100	0	0	4/5
90	0	0	0	-	-	0	0	0	-/-

SOUTH CRAWFORD MOUNTAINS – STUDY No. 02-31

HERBACEOUS TRENDS--

Management unit 02, Study no: 31

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	140	53
G	Oryzopsis hymenoides	60	45
G	Poa secunda	231	275
G	Sitanion hystrix	107	3
G	Stipa comata	16	98
Total for Annual Grasses		0	0
Total for Perennial Grasses		554	474
Total for Grasses		554	474
F	Agoseris glauca	1	-
F	Antennaria sp.	-	12
F	Arabis drummondi	31	-
F	Astragalus convallarius	60	1
F	Astragalus utahensis	10	8
F	Cryptantha sp.	80	40
F	Erigeron pumilus	8	-
F	Haplopappus acaulis	3	-
F	Phlox hoodii	220	200
F	Tragopogon dubius (a)	4	-
F	Trifolium sp.	26	2
Total for Annual Forbs		4	0
Total for Perennial Forbs		439	263
Total for Forbs		443	263

BASIC COVER--

Management unit 02, Study no: 31

Cover Type	Average Cover %	
	'84	'90
Vegetation	9.25	9.75
Rock	.25	.75
Pavement	8.00	3.00
Litter	52.25	26.00
Cryptogams	5.00	25.25
Bare Ground	25.25	35.25

WILDLIFE MANAGEMENT UNIT 02

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 31

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	8266	16	63	21	2333	68	26	5	14/21	
90	7799	2	26	72	66	50	40	50	12/19	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	6999	11	87	2	-	42	0	0	9/12	
90	6465	10	39	51	-	36	14	21	6/6	
<i>Eriogonum microthecum</i>										
84	333	0	100	-	-	60	0	0	5/8	
90	733	18	82	-	-	27	9	0	5/7	
<i>Leptodactylon pungens</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	133	0	0	100	-	0	0	100	-/-	
<i>Opuntia sp.</i>										
84	266	0	100	-	-	0	0	0	4/5	
90	532	88	12	-	-	0	0	0	3/6	

WOOD PASS – STUDY NO. 02-2

HERBACEOUS TRENDS--

Management unit 02, Study no: 32

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron smithii	31	-
G	Agropyron spicatum	47	79
G	Oryzopsis hymenoides	8	17
G	Poa secunda	145	206
G	Sitanion hystrix	36	9
G	Stipa comata	7	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		274	316
Total for Grasses		274	316
F	Antennaria sp.	-	4
F	Arenaria sp.	1	-
F	Astragalus convallarius	8	-
F	Astragalus utahensis	29	14
F	Calochortus nuttallii	4	-
F	Chaenactis douglasii	7	-
F	Comandra pallida	6	5
F	Crepis acuminata	11	2
F	Cryptantha sp.	25	-
F	Haplopappus acaulis	-	4
F	Ipomopsis aggregata	5	-
F	Penstemon humilis	49	36
F	Phlox hoodii	115	133
F	Phlox longifolia	11	6
F	Senecio multilobatus	21	-
F	Trifolium sp.	45	6
Total for Annual Forbs		0	0
Total for Perennial Forbs		337	210
Total for Forbs		337	210

WILDLIFE MANAGEMENT UNIT 02

BASIC COVER--

Management unit 02, Study no: 32

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.75	6.00
Rock	2.00	3.25
Pavement	14.75	18.00
Litter	55.50	41.00
Cryptogams	3.00	8.75
Bare Ground	23.00	23.00

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 32

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
84	1199	11	39	50	-	78	0	0	9/16	
90	1532	9	26	65	66	39	0	26	10/13	
<i>Artemisia tridentata wyomingensis</i>										
84	4666	14	30	56	200	71	6	14	18/24	
90	4532	38	21	41	-	53	15	15	18/20	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	466	0	71	29	-	0	0	0	10/12	
90	1399	29	71	0	-	38	24	0	7/11	
<i>Juniperus osteosperma</i>										
84	266	50	50	-	-	0	0	0	69/43	
90	399	33	67	-	-	33	33	0	84/49	
<i>Leptodactylon pungens</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	66	0	100	-	266	0	0	0	2/3	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia</i> sp.										
84	0	0	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	0	0	0	3/9	
<i>Tetradymia canescens</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	132	50	0	50	-	50	50	0	-/-	

BRAIZER CANYON – STUDY NO. 02-33

HERBACEOUS TRENDS--

Management unit 02, Study no: 33

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	208	119
G	<i>Koeleria cristata</i>	23	11
G	<i>Poa fendleriana</i>	8	-
G	<i>Poa secunda</i>	190	302
Total for Annual Grasses		0	0
Total for Perennial Grasses		429	432
Total for Grasses		429	432
F	<i>Antennaria sp.</i>	10	6
F	<i>Arabis holboellii</i>	1	-
F	<i>Arenaria fendleri</i>	46	44
F	<i>Astragalus convallarius</i>	43	4
F	<i>Astragalus sp.</i>	115	13
F	<i>Astragalus utahensis</i>	1	3
F	<i>Balsamorhiza sagittata</i>	8	5
F	<i>Calochortus nuttallii</i>	1	4
F	<i>Chaenactis douglasii</i>	3	-
F	<i>Crepis acuminata</i>	28	23
F	<i>Cryptantha sp.</i>	39	-
F	<i>Erigeron divergens</i>	-	34
F	<i>Hackelia patens</i>	-	9
F	<i>Haplopappus acaulis</i>	4	-
F	<i>Penstemon humilis</i>	10	2
F	<i>Phacelia sp.</i>	6	-
F	<i>Phlox hoodii</i>	32	34
F	<i>Phlox longifolia</i>	29	83
F	<i>Senecio multilobatus</i>	3	-
F	<i>Solidago sp.</i>	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		382	264
Total for Forbs		382	264

BASIC COVER--

Management unit 02, Study no: 33

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	14.75
Rock	15.50	6.00
Pavement	16.00	24.50
Litter	49.25	32.50
Cryptogams	6.75	4.75
Bare Ground	9.50	17.50

BROWSE CHARACTERISTICS--

Management unit 02, Study no: 33

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	133	100	0	-	-	0	0	0	-/-	
<i>Artemisia nova</i>										
84	14132	4	39	57	333	25	.47	2	7/13	
90	11665	9	46	46	200	63	2	4	10/11	
<i>Artemisia tridentata wyomingensis</i>										
84	865	8	62	31	-	54	15	0	12/12	
90	1532	9	70	22	66	22	26	9	33/26	
<i>Ceratoides lanata</i>										
84	399	17	83	0	-	67	0	0	6/7	
90	465	57	29	14	-	29	14	0	6/5	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	2399	8	53	39	-	0	0	0	15/12	
90	2732	24	59	17	66	0	2	0	13/11	

WILDLIFE MANAGEMENT UNIT 02

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Eriogonum microthecum</i>										
84	1399	29	71	-	400	0	0	0	9/8	
90	1466	55	45	-	66	5	0	0	5/7	
<i>Juniperus osteosperma</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	66	100	0	-	66	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
84	599	44	56	-	-	0	0	0	16/6	
90	1799	4	96	-	-	19	4	15	22/12	

OTTER CREEK – STUDY NO. 02-34

HERBACEOUS TRENDS--

Management unit 02, Study no: 34

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron cristatum	341	309
G	Carex sp.	-	4
G	Poa secunda	147	208
G	Stipa comata	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		488	524
Total for Grasses		488	524
F	Astragalus utahensis	2	6
F	Lomatium sp.	-	1
F	Phlox hoodii	38	81
F	Phlox longifolia	-	50
F	Trifolium sp.	29	4
F	Unknown forb-perennial	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		70	142
Total for Forbs		70	142

BASIC COVER--

Management unit 02, Study no: 34

Cover Type	Average Cover %	
	'84	'90
Vegetation	13.50	5.00
Rock	0	0
Pavement	0	0
Litter	40.25	40.50
Cryptogams	0	.50
Bare Ground	46.25	54.00

WILDLIFE MANAGEMENT UNIT 02

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 34

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	9565	55	36	9	700	51	8	0	17/28	
90	7665	28	37	35	166	42	0	10	15/14	
<i>Atriplex gardneri falcata</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	100	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	332	50	50	0	-	10	0	0	11/25	
90	699	0	5	95	-	0	0	86	8/15	
<i>Opuntia sp.</i>										
84	33	0	100	-	-	0	0	0	7/17	
90	33	0	100	-	-	0	0	0	6/17	

HIGGINS CANYON – STUDY NO. 02-35

HERBACEOUS TRENDS--

Management unit 02, Study no: 35

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron smithii	-	105
G	Agropyron spicatum	217	14
G	Carex sp.	29	55
G	Poa secunda	263	304
G	Sitanion hystrix	91	69
Total for Annual Grasses		0	0
Total for Perennial Grasses		600	547
Total for Grasses		600	547
F	Agoseris glauca	4	-
F	Antennaria sp.	-	8
F	Arabis sp.	2	13
F	Astragalus convallarius	2	2
F	Calochortus nuttallii	3	4
F	Cryptantha sp.	13	-
F	Erigeron divergens	14	14
F	Erigeron pumilus	12	-
F	Lomatium triternatum	-	9
F	Penstemon humilis	5	1
F	Phlox hoodii	5	7
F	Phlox longifolia	57	160
F	Trifolium sp.	25	12
F	Zigadenus paniculatus	-	11
Total for Annual Forbs		0	0
Total for Perennial Forbs		142	241
Total for Forbs		142	241

BASIC COVER--

Management unit 02, Study no: 35

Cover Type	Average Cover %	
	'84	'90
Vegetation	7.75	7.75
Rock	0	0
Pavement	.75	.25
Litter	76.00	54.25
Cryptogams	2.75	14.25
Bare Ground	12.75	23.50

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 35

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	6866	23	34	43	4266	44	17	3	17/21	
90	6798	33	22	45	1400	34	10	8	23/21	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	5531	16	66	18	-	0	0	0	9/13	
90	4999	4	5	91	200	4	0	52	8/12	
<i>Eriogonum microthecum</i>										
84	266	0	100	-	-	0	0	0	4/4	
90	133	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
84	400	0	100	-	-	0	0	0	5/7	
90	200	0	100	-	66	0	0	0	5/1	
<i>Tetradymia canescens</i>										
84	332	20	80	0	-	80	0	0	5/4	
90	266	25	0	75	200	0	75	75	-/-	

WOODRUFF CO-OP – STUDY NO. 02-36

HERBACEOUS TRENDS--

Management unit 02, Study no: 36

Type	Species	Nested Frequency '90
G	Agropyron cristatum	348
G	Oryzopsis hymenoides	5
G	Poa secunda	89
G	Stipa comata	11
Total for Annual Grasses		0
Total for Perennial Grasses		453
Total for Grasses		453
F	Astragalus utahensis	7
F	Phlox hoodii	83
F	Phlox longifolia	81
F	Trifolium sp.	11
Total for Annual Forbs		0
Total for Perennial Forbs		182
Total for Forbs		182

BASIC COVER--

Management unit 02, Study no: 36

Cover Type	Average Cover % '90
Vegetation	16.75
Rock	1.75
Pavement	1.25
Litter	36.50
Cryptogams	.50
Bare Ground	43.25

BROWSE CHARACTERISTICS--
Management unit 02, Study no: 36

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
90	966	10	59	31	-	62	3	0	10/16	
<i>Atriplex gardneri falcata</i>										
90	33	0	100	-	-	0	0	0	5/5	
<i>Ceratoides lanata</i>										
90	333	30	70	-	-	40	0	0	7/5	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
90	1498	24	60	16	-	53	0	0	4/6	
<i>Opuntia polyacantha</i>										
90	266	25	75	-	-	0	0	13	4/6	

WILDLIFE MANAGEMENT UNIT 03

EAST MANTUA – STUDY NO. 03-1

HERBACEOUS TRENDS--

Management unit 03, Study no: 1

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	59	58
G	Poa secunda	-	38
Total for Annual Grasses		0	0
Total for Perennial Grasses		59	96
Total for Grasses		59	96
F	Isatis tinctoria	-	51
F	Lactuca serriola (a)	-	1
F	Lomatium grayi	-	2
F	Tragopogon dubius (a)	25	4
Total for Annual Forbs		25	5
Total for Perennial Forbs		0	53
Total for Forbs		25	58

BASIC COVER--

Management unit 03, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	0	3.50
Rock	31.00	36.00
Pavement	8.50	9.00
Litter	52.50	35.25
Cryptogams	4.75	5.00
Bare Ground	3.25	11.25

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	233	0	0	100	33	0	100	57	-/-	
90	0	0	0	0	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	66	100	0	-	-	50	0	0	-/-	
<i>Purshia tridentata</i>										
84	99	33	0	67	-	0	100	0	-/-	
90	166	0	80	20	-	0	100	0	18/35	

NE MANTUA RESERVOIR – STUDY NO. 03-2

HERBACEOUS TRENDS--

Management unit 03, Study no: 2

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	140	204
G	Melica bulbosa	7	3
G	Poa bulbosa	5	41
G	Poa fendleriana	4	-
G	Poa secunda	20	113
Total for Annual Grasses		0	0
Total for Perennial Grasses		176	361
Total for Grasses		176	361
F	Achillea millefolium	119	47
F	Agoseris glauca	-	3
F	Allium acuminatum	2	-
F	Artemisia ludoviciana	1	5
F	Astragalus sp.	32	30
F	Balsamorhiza sagittata	17	20
F	Calochortus nuttallii	5	-
F	Hackelia patens	3	35
F	Isatis tinctoria	3	9
F	Lactuca serriola (a)	-	3
F	Lithospermum ruderale	2	-
F	Microsteris gracilis (a)	54	-
F	Tragopogon dubius (a)	122	74
F	Unknown forb-perennial	-	5
F	Wyethia amplexicaulis	14	-
Total for Annual Forbs		176	77
Total for Perennial Forbs		198	154
Total for Forbs		374	231

BASIC COVER--

Management unit 03, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.25	10.25
Rock	6.75	4.75
Pavement	6.50	11.75
Litter	66.00	57.25
Cryptogams	0	0
Bare Ground	17.50	16.00

CLAY VALLEY – STUDY NO. 03-3

HERBACEOUS TRENDS--

Management unit 03, Study no: 3

T y P e	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	28	87
G	Agropyron trachycaulum	2	2
G	Bromus carinatus	-	3
G	Koeleria cristata	1	-
G	Melica bulbosa	44	36
G	Poa bulbosa	18	63
G	Poa pratensis	79	97
G	Poa secunda	20	129
Total for Annual Grasses		0	0
Total for Perennial Grasses		192	417
Total for Grasses		192	417
F	Achillea millefolium	99	87
F	Agoseris glauca	50	37
F	Allium acuminatum	44	14
F	Aster sp.	1	-
F	Astragalus sp.	20	28
F	Calochortus nuttallii	5	6
F	Cirsium undulatum	3	23
F	Crepis acuminata	3	-
F	Geranium sp.	3	-
F	Grindelia squarrosa	-	2
F	Helianthus annuus (a)	-	5
F	Isatis tinctoria	9	109
F	Lactuca serriola (a)	-	75
F	Lupinus argenteus	23	33
F	Madia glomerata (a)	-	11
F	Microsteris gracilis (a)	9	-
F	Phlox longifolia	-	2
F	Senecio multilobatus	53	7
F	Taraxacum officinale	3	13
F	Tragopogon dubius (a)	11	117
F	Unknown forb-perennial	-	25
F	Viola sp.	-	19
Total for Annual Forbs		20	208
Total for Perennial Forbs		316	405
Total for Forbs		336	613

BASIC COVER--

Management unit 03, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	14.25
Rock	3.75	1.75
Pavement	3.50	10.75
Litter	76.25	61.50
Cryptogams	.50	0
Bare Ground	13.00	11.75

ANDERSON RANCH – STUDY NO. 03-4

HERBACEOUS TRENDS--

Management unit 03, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	271	276
G	Hordeum jubatum	4	5
G	Koeleria cristata	52	53
G	Poa secunda	202	267
Total for Annual Grasses		0	0
Total for Perennial Grasses		529	601
Total for Grasses		529	601
F	Achillea millefolium	191	84
F	Agoseris glauca	-	126
F	Allium acuminatum	23	4
F	Arabis drummondi	-	1
F	Aster chilensis	-	1
F	Astragalus convallarius	-	17
F	Calochortus nuttallii	3	-
F	Cirsium undulatum	12	12
F	Crepis acuminata	-	10
F	Cryptantha sp.	-	6
F	Eriogonum umbellatum	-	3
F	Lupinus argenteus	9	7
F	Phlox longifolia	-	5
F	Taraxacum officinale	-	9
F	Tragopogon dubius (a)	21	3
F	Unknown forb-perennial	-	2
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		21	3
Total for Perennial Forbs		238	290
Total for Forbs		259	293

BASIC COVER--

Management unit 03, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	6.25	19.75
Rock	1.00	.75
Pavement	1.25	0
Litter	70.75	50.75
Cryptogams	5.50	7.00
Bare Ground	15.25	21.75

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	399	0	33	67	-	0	100	0	28/35	
90	999	27	53	20	-	20	0	0	28/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	2465	19	81	0	-	0	0	0	12/13	
90	3399	20	76	4	-	6	0	2	13/17	
<i>Juniperus scopulorum</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	0	0	0	134/81	
<i>Purshia tridentata</i>										
84	866	0	8	92	-	8	92	8	32/37	
90	999	20	13	67	-	33	33	13	15/26	

MATHIAS CANYON – STUDY NO. 03-5

HERBACEOUS TRENDS--

Management unit 03, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	202	172
G	Poa bulbosa	-	15
G	Poa secunda	69	79
Total for Annual Grasses		0	0
Total for Perennial Grasses		271	266
Total for Grasses		271	266
F	Achillea millefolium	4	-
F	Agoseris glauca	4	2
F	Allium acuminatum	9	12
F	Ambrosia psilostachya	36	32
F	Apocynum androsaemifolium pumilum	1	-
F	Artemisia ludoviciana	-	1
F	Asclepias hallii	10	9
F	Crepis acuminata	-	4
F	Hackelia patens	23	-
F	Isatis tinctoria	48	81
F	Lactuca serriola (a)	-	26
F	Lomatium sp.	-	131
F	Microseris nutans	4	-
F	Phlox longifolia	-	7
F	Tragopogon dubius (a)	12	43
Total for Annual Forbs		12	69
Total for Perennial Forbs		139	279
Total for Forbs		151	348

BASIC COVER--

Management unit 03, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.25	8.50
Rock	52.00	43.00
Pavement	5.50	13.75
Litter	34.75	30.50
Cryptogams	0	.25
Bare Ground	6.50	4.00

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	266	0	100	-	-	0	100	0	26/30	
90	332	20	80	-	-	0	0	0	31/51	
<i>Gutierrezia sarothrae</i>										
84	200	0	100	0	-	0	0	0	12/9	
90	332	0	80	20	-	0	0	20	9/17	
<i>Prunus virginiana</i>										
84	3399	39	61	-	-	37	24	6	13/7	
90	2732	98	2	-	66	2	0	37	34/53	
<i>Rhus glabra cismontana</i>										
84	3398	31	59	10	200	0	69	0	22/18	
90	3399	29	71	0	-	53	0	0	23/20	

WHITE'S ORCHARD – STUDY NO. 03-6

HERBACEOUS TRENDS--

Management unit 03, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	6	1
G	Agropyron intermedium	222	248
G	Poa bulbosa	270	146
Total for Annual Grasses		0	0
Total for Perennial Grasses		498	395
Total for Grasses		498	395
F	Helianthus annuus (a)	-	3
F	Tragopogon dubius (a)	1	-
Total for Annual Forbs		1	3
Total for Perennial Forbs		0	0
Total for Forbs		1	3

BASIC COVER--

Management unit 03, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	15.50
Rock	0	.50
Pavement	17.25	7.00
Litter	80.50	56.75
Cryptogams	0	5.50
Bare Ground	1.25	14.75

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
84	3065	11	41	48	-	0	100	15	29/20	
90	4199	32	38	30	10400	22	0	11	30/38	
<i>Gutierrezia sarothrae</i>										
84	200	100	0	-	-	0	0	0	-/-	
90	0	0	0	-	-	0	0	0	-/-	

MOUTH OF PEARSON'S CANYON – STUDY NO. 03-7

HERBACEOUS TRENDS--

Management unit 03, Study no: 7

Type	Species	Nesting Frequency	
		'84	'90
G	Aristida purpurea	161	212
G	Poa bulbosa	-	1
G	Poa pratensis	-	2
G	Poa secunda	5	10
G	Sporobolus cryptandrus	35	50
Total for Annual Grasses		0	0
Total for Perennial Grasses		201	275
Total for Grasses		201	275
F	Ambrosia artemisiifolia	226	61
F	Artemisia ludoviciana	19	15
F	Astragalus utahensis	14	6
F	Heterotheca villosa	70	206
F	Isatis tinctoria	-	63
F	Lactuca serriola (a)	-	7
Total for Annual Forbs		0	7
Total for Perennial Forbs		329	351
Total for Forbs		329	358

BASIC COVER--

Management unit 03, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	9.50	14.00
Rock	7.00	8.00
Pavement	16.00	13.00
Litter	54.00	46.25
Cryptogams	0	0
Bare Ground	13.50	18.75

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	66	50	50	-	-	50	0	0	24/39	
90	466	36	64	-	166	0	0	7	26/20	
<i>Opuntia fragilis</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	99	67	33	-	-	0	0	33	5/9	
<i>Quercus gambelii</i>										
84	33	0	100	-	-	100	0	0	69/61	
90	33	0	100	-	-	0	0	0	98/106	

FACER CANYON – STUDY NO. 03-8

HERBACEOUS TRENDS--

Management unit 03, Study no: 8

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	-	12
G	Poa bulbosa	-	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	17
Total for Grasses		0	17
F	Achillea millefolium	1	3
F	Agoseris glauca	-	7
F	Ambrosia psilostachya	42	49
F	Isatis tinctoria	13	134
F	Lactuca serriola (a)	-	2
F	Lithospermum ruderales	-	1
F	Microsteris gracilis (a)	3	-
F	Taraxacum officinale	1	-
F	Tragopogon dubius (a)	34	25
Total for Annual Forbs		37	27
Total for Perennial Forbs		57	194
Total for Forbs		94	221

BASIC COVER--

Management unit 03, Study no: 8

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	5.25
Rock	.50	0
Pavement	3.25	6.25
Litter	95.00	85.75
Cryptogams	0	0
Bare Ground	.25	2.75

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
84	2132	16	50	34	6133	41	50	6	48/55	
90	4198	48	35	17	-	10	0	10	39/29	
<i>Artemisia tridentata vaseyana</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	2866	26	60	14	1533	0	0	0	24/20	
<i>Chrysothamnus nauseosus</i>										
84	200	0	100	0	-	0	0	0	31/21	
90	465	29	14	57	-	0	0	14	37/26	
<i>Gutierrezia sarothrae</i>										
84	3133	30	70	0	333	0	0	0	16/14	
90	1400	0	57	43	-	0	0	5	13/10	

COOK CANYON – STUDY NO. 03-9

HERBACEOUS TRENDS--

Management unit 03, Study no: 9

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	18	37
G	Aristida purpurea	208	184
G	Poa bulbosa	2	-
G	Poa secunda	27	130
G	Sporobolus cryptandrus	7	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		262	356
Total for Grasses		262	356
F	Artemisia ludoviciana	6	15
F	Helianthus annuus (a)	-	5
F	Isatis tinctoria	-	13
F	Phlox longifolia	-	11
F	Tragopogon dubius (a)	7	-
Total for Annual Forbs		7	5
Total for Perennial Forbs		6	39
Total for Forbs		13	44

BASIC COVER--

Management unit 03, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	17.00
Rock	20.50	14.25
Pavement	8.50	5.50
Litter	66.50	56.25
Cryptogams	.25	.50
Bare Ground	2.00	6.50

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	66	0	100	-	-	0	0	0	21/22	
90	66	0	100	-	-	0	0	0	25/31	
<i>Gutierrezia sarothrae</i>										
84	2133	0	100	-	333	0	0	0	15/14	
90	800	0	100	-	-	0	0	0	10/11	

HYRUM CANYON – STUDY NO. 03-10

HERBACEOUS TRENDS--

Management unit 03, Study no: 10

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron intermedium	-	12
G	Agropyron spicatum	11	7
G	Agropyron trachycaulum	-	2
G	Poa bulbosa	-	24
G	Poa pratensis	104	130
G	Poa secunda	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		115	185
Total for Grasses		115	185
F	Achillea millefolium	60	71
F	Agoseris glauca	6	13
F	Artemisia ludoviciana	17	17
F	Cirsium sp.	-	3
F	Grindelia squarrosa	98	125
F	Hackelia patens	20	39
F	Ipomopsis aggregata	-	6
F	Lupinus caudatus	-	1
F	Taraxacum officinale	-	4
F	Tragopogon dubius (a)	40	42
F	Unknown forb-perennial	-	8
F	Viola sp.	-	11
Total for Annual Forbs		40	42
Total for Perennial Forbs		201	298
Total for Forbs		241	340

BASIC COVER--

Management unit 03, Study no: 10

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	35.50
Rock	0	0
Pavement	1.00	.75
Litter	82.50	55.25
Cryptogams	.25	0
Bare Ground	14.00	8.50

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
84	66	0	100	-	-	0	100	0	34/26	
90	66	100	0	-	-	0	100	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	2999	4	51	44	-	38	53	0	19/17	
90	3332	26	68	6	14466	12	4	4	22/24	

PORCUPINE DAM – STUDY NO. 03-11

HERBACEOUS TRENDS--

Management unit 03, Study no: 11

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	189	170
G	Poa secunda	26	37
Total for Annual Grasses		0	0
Total for Perennial Grasses		215	207
Total for Grasses		215	207
F	Achillea millefolium	2	1
F	Agoseris glauca	-	21
F	Allium acuminatum	47	60
F	Calochortus nuttallii	-	1
F	Cirsium sp.	3	4
F	Comandra pallida	8	-
F	Hackelia patens	10	15
F	Isatis tinctoria	12	55
F	Lactuca serriola (a)	-	112
F	Linum lewisii	1	-
F	Lomatium grayi	2	15
F	Lomatium sp.	-	9
F	Phacelia hastata	3	-
F	Tragopogon dubius (a)	38	33
Total for Annual Forbs		38	145
Total for Perennial Forbs		88	181
Total for Forbs		126	326

BASIC COVER--

Management unit 03, Study no: 11

Cover Type	Average Cover %	
	'84	'90
Vegetation	.75	3.25
Rock	53.00	47.00
Pavement	12.00	14.75
Litter	21.75	22.25
Cryptogams	.50	0
Bare Ground	12.00	12.75

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 11

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Amelanchier alnifolia</i>									
84	33	0	0	100	-	0	100	0	-/-
90	33	0	0	100	-	0	100	100	-/-
<i>Artemisia tridentata tridentata</i>									
84	233	0	14	86	-	0	100	29	30/32
90	33	0	0	100	-	0	100	0	-/-
<i>Purshia tridentata</i>									
84	33	0	0	100	-	0	100	0	-/-
90	33	0	100	0	-	100	0	0	31/35

THREE MILE CANYON – STUDY NO. 03-12

HERBACEOUS TRENDS--

Management unit 03, Study no: 12

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron spicatum	220	164
G	Elymus cinereus	-	1
G	Poa bulbosa	-	18
G	Poa secunda	-	32
Total for Annual Grasses		0	0
Total for Perennial Grasses		220	215
Total for Grasses		220	215
F	Agoseris glauca	34	19
F	Allium acuminatum	17	-
F	Artemisia ludoviciana	25	30
F	Balsamorhiza sagittata	14	16
F	Calochortus nuttallii	-	8
F	Cirsium sp.	1	29
F	Crepis acuminata	-	29
F	Isatis tinctoria	-	4
F	Lactuca serriola (a)	-	43
F	Lomatium grayi	-	1
F	Senecio multilobatus	41	-
F	Tragopogon dubius (a)	32	185
Total for Annual Forbs		32	228
Total for Perennial Forbs		132	136
Total for Forbs		164	364

BASIC COVER--

Management unit 03, Study no: 12

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	9.00
Rock	15.25	12.75
Pavement	10.25	17.00
Litter	49.75	40.50
Cryptogams	.75	0
Bare Ground	20.50	20.75

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	999	0	57	43	-	13	87	0	26/32	
90	332	0	50	50	-	70	10	30	21/17	
<i>Purshia tridentata</i>										
84	599	0	56	44	-	0	100	0	30/48	
90	466	0	57	43	-	21	36	7	25/48	
<i>Rosa woodsii</i>										
84	332	50	50	-	-	0	0	0	7/4	
90	1100	100	0	-	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
84	233	43	43	14	-	14	29	0	18/43	
90	100	100	0	0	-	33	0	0	-/-	

PERRY BASIN – STUDY NO. 03-13

HERBACEOUS TRENDS--

Management unit 03, Study no: 13

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	3	4
G	<i>Aristida purpurea</i>	7	3
G	<i>Poa secunda</i>	20	225
G	<i>Sporobolus cryptandrus</i>	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		30	235
Total for Grasses		30	235
F	<i>Achillea millefolium</i>	10	15
F	<i>Agoseris glauca</i>	1	16
F	<i>Ambrosia artemisiifolia</i>	50	20
F	<i>Artemisia ludoviciana</i>	1	4
F	<i>Astragalus sp.</i>	-	5
F	<i>Calochortus nuttallii</i>	-	31
F	<i>Crepis acuminata</i>	-	18
F	<i>Helianthus annuus (a)</i>	-	1
F	<i>Heterotheca villosa</i>	1	1
F	<i>Isatis tinctoria</i>	153	235
F	<i>Lactuca serriola (a)</i>	44	4
F	<i>Lithospermum ruderale</i>	2	3
F	<i>Lupinus argenteus</i>	1	-
F	<i>Lygodesmia grandiflora</i>	1	2
F	<i>Machaeranthera canescens</i>	-	15
F	<i>Microsteris gracilis (a)</i>	5	-
F	<i>Oenothera pallida</i>	6	-
F	<i>Phacelia sp.</i>	3	-
F	<i>Phlox longifolia</i>	8	14
F	<i>Tragopogon dubius (a)</i>	146	122
Total for Annual Forbs		195	127
Total for Perennial Forbs		237	379
Total for Forbs		432	506

BASIC COVER--

Management unit 03, Study no: 13

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	15.75
Rock	.25	0
Pavement	26.00	25.25
Litter	72.00	55.75
Cryptogams	.50	0
Bare Ground	.25	3.25

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 13

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	3465	15	42	42	200	25	50	17	33/31	
90	2733	7	34	59	266	17	0	15	30/29	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	799	0	58	42	-	0	0	0	10/11	

UINTAH JUNCTION – STUDY NO. 03-14

HERBACEOUS TRENDS--

Management unit 03, Study no: 14

Type	Species	Nested Frequency	
		'85	'90
G	Agropyron intermedium	13	-
G	Agropyron spicatum	115	111
G	Bromus sp.	3	-
G	Poa bulbosa	298	226
G	Poa pratensis	5	13
G	Poa secunda	3	17
G	Sporobolus cryptandrus	1	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		438	371
Total for Grasses		438	371
F	Agoseris glauca	1	-
F	Allium sp.	-	3
F	Ambrosia psilostachya	11	-
F	Arenaria sp.	14	-
F	Artemisia ludoviciana	30	11
F	Aster sp.	3	-
F	Astragalus convallarius	3	5
F	Calochortus nuttallii	3	-
F	Cirsium vulgare	2	-
F	Comandra pallida	69	18
F	Crepis acuminata	15	17
F	Cryptantha sp.	-	3
F	Erodium cicutarium (a)	3	-
F	Hedysarum boreale	25	10
F	Helianthus sp.	2	-
F	Lithospermum ruderae	-	2
F	Lomatium sp.	-	8
F	Lygodesmia grandiflora	40	-
F	Medicago sativa	6	1
F	Oenothera caespitosa	2	-
F	Penstemon sp.	3	-
F	Phlox longifolia	3	71
F	Sphaeralcea coccinea	56	49
F	Tragopogon dubius (a)	89	45
F	Unknown forb-perennial	-	10
F	Zigadenus paniculatus	15	3
Total for Annual Forbs		92	45
Total for Perennial Forbs		303	211

Type	Species	Nested Frequency	
		'85	'90
Total for Forbs		395	256

BASIC COVER--

Management unit 03, Study no: 14

Cover Type	Average Cover %	
	'85	'90
Vegetation	18.00	6.50
Rock	0	.25
Pavement	0	.25
Litter	63.25	78.75
Cryptogams	0	.75
Bare Ground	18.75	13.50

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 14

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata</i>									
85	1465	18	50	32	-	36	0	5	22/17
90	732	18	36	45	-	36	0	9	22/26
<i>Gutierrezia sarothrae</i>									
85	1532	26	65	9	-	0	0	4	9/10
90	732	0	36	64	-	0	0	55	14/13
<i>Opuntia</i> sp.									
85	466	14	86	-	-	0	0	0	8/9
90	866	38	62	-	-	0	0	8	6/11
<i>Quercus gambelii</i>									
85	9733	36	58	6	1200	57	0	0	32/21
90	8265	52	24	23	400	33	3	9	44/30

OGDEN CANYON – STUDY NO. 03-15

HERBACEOUS TRENDS--

Management unit 03, Study no: 15

Type	Species	Nestled Frequency	
		'85	'90
G	Agropyron spicatum	72	59
G	Aristida purpurea	91	55
G	Poa bulbosa	34	87
G	Poa secunda	120	50
G	Sporobolus cryptandrus	111	93
Total for Annual Grasses		0	0
Total for Perennial Grasses		428	344
Total for Grasses		428	344
F	Allium sp.	2	17
F	Ambrosia psilostachya	36	-
F	Artemisia ludoviciana	63	35
F	Erigeron sp.	37	-
F	Erodium cicutarium (a)	18	-
F	Hedysarum boreale	25	10
F	Heterotheca villosa	-	20
F	Isatis tinctoria	3	33
F	Lactuca serriola (a)	-	1
F	Oenothera caespitosa	2	-
F	Tragopogon dubius (a)	11	-
F	Unknown forb-perennial	42	-
Total for Annual Forbs		29	1
Total for Perennial Forbs		210	115
Total for Forbs		239	116

BASIC COVER--

Management unit 03, Study no: 15

Cover Type	Average Cover %	
	'85	'90
Vegetation	14.25	5.75
Rock	6.00	9.25
Pavement	2.00	14.50
Litter	54.25	66.00
Cryptogams	0	.25
Bare Ground	23.50	4.25

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 15

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
85	66	0	100	-	-	0	100	0	69/157	
90	66	0	100	-	-	0	100	0	108/197	
<i>Artemisia tridentata tridentata</i>										
85	266	75	0	25	66	0	0	0	-/-	
90	266	25	75	0	-	75	0	0	12/14	
<i>Chrysothamnus nauseosus albicaulis</i>										
85	666	0	100	0	-	0	0	0	23/31	
90	465	14	57	29	-	0	0	0	30/41	
<i>Gutierrezia sarothrae</i>										
85	3266	18	67	14	133	0	0	6	8/6	
90	666	20	60	20	-	0	0	10	13/16	
<i>Opuntia sp.</i>										
85	1599	33	33	33	-	4	0	21	7/7	
90	1200	17	33	50	-	0	0	39	5/9	

MAPLE CANYON – STUDY NO. 03-16

HERBACEOUS TRENDS--

Management unit 03, Study no: 16

Type	Species	Nestled Frequency	
		'85	'90
G	Agropyron smithii	2	-
G	Agropyron spicatum	23	33
G	Poa fendleriana	84	62
Total for Annual Grasses		0	0
Total for Perennial Grasses		109	95
Total for Grasses		109	95
F	Achillea millefolium	5	5
F	Agoseris glauca	-	8
F	Allium sp.	15	-
F	Artemisia ludoviciana	89	66
F	Balsamorhiza sagittata	84	70
F	Cirsium sp.	-	3
F	Isatis tinctoria	-	11
F	Lactuca serriola (a)	-	2
F	Lupinus argenteus	6	1
F	Phlox longifolia	14	3
F	Rumex sp.	3	-
F	Sisymbrium altissimum (a)	44	2
F	Stanleya viridiflora	4	3
F	Tragopogon dubius (a)	11	27
F	Unknown forb-perennial	17	3
Total for Annual Forbs		55	31
Total for Perennial Forbs		237	173
Total for Forbs		292	204

BASIC COVER--

Management unit 03, Study no: 16

Cover Type	Average Cover %	
	'85	'90
Vegetation	6.50	6.25
Rock	20.75	23.75
Pavement	1.00	1.00
Litter	54.25	57.00
Cryptogams	.50	0
Bare Ground	17.00	12.00

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	2266	29	62	9	66	12	0	0	19/19	
90	2532	18	63	18	133	87	0	3	22/26	
<i>Purshia tridentata</i>										
85	399	0	67	33	-	33	67	17	28/48	
90	399	0	33	67	-	33	67	0	35/46	

MIDDLE FORK – STUDY NO. 03-17

HERBACEOUS TRENDS--

Management unit 03, Study no: 17

Type	Species	Nest Frequency	
		'85	'90
G	Agropyron spicatum	233	254
G	Melica bulbosa	42	26
G	Poa bulbosa	4	30
G	Poa secunda	155	239
G	Stipa lettermani	1	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		435	550
Total for Grasses		435	550
F	Achillea millefolium	9	3
F	Agoseris glauca	20	33
F	Allium sp.	38	-
F	Artemisia ludoviciana	71	45
F	Aster chilensis	69	70
F	Balsamorhiza sagittata	18	6
F	Borago officinalis	8	-
F	Calochortus nuttallii	5	2
F	Castilleja sp.	-	4
F	Cirsium sp.	10	10
F	Comandra pallida	7	4
F	Crepis acuminata	3	-
F	Hackelia patens	-	26
F	Lactuca serriola (a)	-	9
F	Lomatium dissectum	-	2
F	Lupinus argenteus	1	5
F	Senecio integerrimus	3	3
F	Tragopogon dubius (a)	4	11
F	Unknown forb-perennial	29	-
F	Wyethia amplexicaulis	14	10
Total for Annual Forbs		4	20
Total for Perennial Forbs		305	223
Total for Forbs		309	243

BASIC COVER--

Management unit 03, Study no: 17

Cover Type	Average Cover %	
	'85	'90
Vegetation	9.25	12.00
Rock	14.50	15.75
Pavement	2.75	9.50
Litter	55.50	56.50
Cryptogams	1.00	.50
Bare Ground	17.00	5.75

BROWSE CHARACTERISTICS--

Management unit 03, Study no: 17

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
85	999	93	7	-	200	0	0	0	14/10	
90	666	100	0	-	-	0	0	0	-/-	
<i>Amelanchier utahensis</i>										
85	599	78	0	22	-	44	56	11	-/-	
90	799	67	0	33	-	92	0	8	-/-	
<i>Artemisia arbuscula</i>										
85	6865	16	75	10	66	0	0	14	10/14	
90	7198	1	46	53	133	47	6	20	12/18	
<i>Artemisia tridentata vaseyana</i>										
85	533	0	75	25	-	0	0	0	26/19	
90	466	0	57	43	-	14	0	14	29/41	
<i>Gutierrezia sarothrae</i>										
85	133	0	100	-	-	0	0	0	12/9	
90	66	0	100	-	-	0	0	0	9/11	

WILDLIFE MANAGEMENT UNIT 03

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
85	132	0	50	50	-	0	100	0	8/24	
90	332	40	20	40	-	40	0	20	11/31	

GEERTSEN CANYON – STUDY NO. 03-18

HERBACEOUS TRENDS--

Management unit 03, Study no: 18

Type	Species	Nested Frequency	
		'85	'90
G	Agropyron dasystachyum	3	-
G	Agropyron spicatum	-	11
G	Poa bulbosa	366	355
G	Poa secunda	5	14
Total for Annual Grasses		0	0
Total for Perennial Grasses		374	380
Total for Grasses		374	380
F	Achillea millefolium	12	13
F	Agoseris glauca	1	5
F	Allium sp.	12	-
F	Ambrosia psilostachya	97	11
F	Artemisia ludoviciana	39	24
F	Aster chilensis	171	121
F	Erigeron strigosus	10	-
F	Eriogonum umbellatum	-	1
F	Erodium cicutarium (a)	19	-
F	Grindelia squarrosa	-	1
F	Lomatium ambiguum	-	5
F	Tragopogon dubius (a)	26	5
F	Unknown forb-annual (a)	166	-
F	Verbascum blattaria	3	-
Total for Annual Forbs		211	5
Total for Perennial Forbs		345	181
Total for Forbs		556	186

BASIC COVER--

Management unit 03, Study no: 18

Cover Type	Average Cover %	
	'85	'90
Vegetation	16.75	7.75
Rock	11.25	10.25
Pavement	4.25	4.25
Litter	48.50	65.50
Cryptogams	1.00	.25
Bare Ground	18.25	12.00

BROWSE CHARACTERISTICS--
 Management unit 03, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
85	1999	27	63	10	66	3	0	3	19/22	
90	1132	12	12	77	-	24	0	71	12/16	

BRIGHAM FACE – STUDY NO. 03-19

HERBACEOUS TRENDS--

Management unit 03, Study no: 19

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	3	19
G	Agropyron intermedium	326	265
G	Poa bulbosa	6	31
G	Poa pratensis	-	4
G	Poa secunda	22	80
Total for Annual Grasses		0	0
Total for Perennial Grasses		357	399
Total for Grasses		357	399
F	Agoseris glauca	-	2
F	Helianthus annuus (a)	-	7
F	Isatis tinctoria	-	42
F	Lactuca serriola (a)	-	9
F	Taraxacum officinale	1	-
F	Tragopogon dubius (a)	2	20
F	Unknown forb-perennial	-	1
Total for Annual Forbs		2	36
Total for Perennial Forbs		1	45
Total for Forbs		3	81

BASIC COVER--

Management unit 03, Study no: 19

Cover Type	Average Cover %	
	'84	'90
Vegetation	.75	10.50
Rock	1.50	3.25
Pavement	7.00	9.75
Litter	88.75	73.00
Cryptogams	0	0
Bare Ground	2.00	3.50

WILDLIFE MANAGEMENT UNIT 03

BROWSE CHARACTERISTICS--
Management unit 03, Study no: 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	199	17	33	50	-	50	33	50	15/10	
90	299	89	11	0	-	0	0	0	30/31	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	366	100	0	-	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
84	66	0	100	-	-	0	100	0	69/94	
90	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	166	0	100	-	-	40	60	0	58/68	
90	799	38	62	-	533	0	0	0	61/72	

WILDLIFE MANAGEMENT UNIT 04

HEINER'S CREEK – STUDY NO. 04-1

HERBACEOUS TRENDS--

Management unit 04, Study no: 1

T y P e	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron dasystachyum</i>	41	2
G	<i>Agropyron spicatum</i>	169	69
G	<i>Elymus cinereus</i>	3	1
G	<i>Koeleria cristata</i>	1	3
G	<i>Poa fendleriana</i>	14	152
G	<i>Poa pratensis</i>	6	7
G	<i>Poa secunda</i>	82	208
G	<i>Sitanion hystrix</i>	14	3
G	<i>Stipa comata</i>	9	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		339	457
Total for Grasses		339	457
F	<i>Achillea millefolium</i>	137	40
F	<i>Allium acuminatum</i>	54	-
F	<i>Antennaria sp.</i>	4	2
F	<i>Arabis sp.</i>	5	2
F	<i>Artemisia ludoviciana</i>	3	4
F	<i>Aster chilensis</i>	87	67
F	<i>Astragalus convallarius</i>	12	7
F	<i>Astragalus lentiginosus</i>	-	2
F	<i>Cirsium sp.</i>	13	31
F	<i>Comandra pallida</i>	68	51
F	<i>Eriogonum umbellatum</i>	19	14
F	<i>Helianthella uniflora</i>	28	32
F	<i>Lupinus argenteus</i>	3	3
F	<i>Phlox longifolia</i>	-	33
Total for Annual Forbs		0	0
Total for Perennial Forbs		433	288
Total for Forbs		433	288

BASIC COVER--

Management unit 04, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	6.75	10.25
Rock	0	0
Pavement	3.00	1.25
Litter	58.75	51.75
Cryptogams	.75	.75
Bare Ground	30.75	36.00

BROWSE CHARACTERISTICS--

Management unit 04, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	0	0	0	14/20	
<i>Artemisia tridentata vaseyana</i>										
84	333	40	60	0	-	0	0	0	19/17	
90	299	0	89	11	-	22	33	0	24/23	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	33	0	100	0	-	0	0	0	20/31	
90	33	0	0	100	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	6899	15	77	8	66	0	0	0	15/24	
90	5565	20	63	17	-	7	0	0	11/15	
<i>Purshia tridentata</i>										
84	66	0	100	-	-	100	0	0	8/21	
90	33	0	100	-	-	0	100	0	13/39	

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Rosa woodsii</i>									
84	7499	98	2	0	766	0	0	0	14/11
90	8565	94	3	3	-	0	0	0	12/8
<i>Symphoricarpos oreophilus</i>									
84	399	8	92	-	-	50	8	0	14/29
90	200	0	100	-	-	17	33	0	17/27

ECHO CANYON – STUDY NO. 04-2

HERBACEOUS TRENDS--

Management unit 04, Study no: 2

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	125	179
G	Poa pratensis	7	17
G	Poa secunda	20	22
Total for Annual Grasses		0	0
Total for Perennial Grasses		152	218
Total for Grasses		152	218
F	Achillea millefolium	-	2
F	Agoseris glauca	6	9
F	Allium acuminatum	145	6
F	Artemisia ludoviciana	45	65
F	Astragalus cibarius	163	-
F	Astragalus utahensis	6	5
F	Calochortus nuttallii	1	-
F	Cirsium undulatum	6	17
F	Heterotheca villosa	-	1
F	Lomatium sp.	-	3
F	Lupinus argenteus	1	3
F	Penstemon sp.	19	-
F	Tragopogon dubius (a)	-	35
F	Vicia americana	-	10
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	35
Total for Perennial Forbs		392	122
Total for Forbs		392	157

BASIC COVER--

Management unit 04, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.50	10.50
Rock	23.00	13.50
Pavement	13.25	9.25
Litter	49.75	63.00
Cryptogams	0	0
Bare Ground	11.50	3.75

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	5999	1	70	29	266	23	76	0	26/35	
90	2932	0	36	64	1933	66	23	7	26/35	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	66	0	100	-	-	0	0	0	7/9	
90	66	0	100	-	-	0	0	100	9/20	

TANK CANYON – STUDY NO. 04-3

HERBACEOUS TRENDS--

Management unit 04, Study no: 3

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	2	231
G	Agropyron intermedium	-	96
G	Agropyron spicatum	15	3
G	Bromus inermis	-	50
G	Oryzopsis hymenoides	1	-
G	Poa bulbosa	-	228
G	Poa fendleriana	-	1
G	Poa pratensis	12	-
G	Poa secunda	253	58
Total for Annual Grasses		0	0
Total for Perennial Grasses		283	667
Total for Grasses		283	667
F	Achillea millefolium	3	-
F	Astragalus sp.	13	1
F	Medicago sativa	-	123
F	Sanguisorba minor	-	24
F	Tragopogon dubius (a)	-	5
Total for Annual Forbs		0	5
Total for Perennial Forbs		16	148
Total for Forbs		16	153

BASIC COVER--

Management unit 04, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.25	10.75
Rock	2.25	3.75
Pavement	11.75	18.25
Litter	73.25	44.50
Cryptogams	.25	0
Bare Ground	9.25	22.75

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	133	0	100	0	-	0	100	0	18/11
90	199	33	0	67	-	0	0	33	-/-
<i>Artemisia tridentata vaseyana</i>									
84	9865	28	45	27	1533	51	9	0	28/32
90	4599	25	38	38	600	28	9	10	26/34
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	3932	0	53	47	-	0	0	0	11/12
90	9599	31	49	19	-	20	14	15	9/11
<i>Symphoricarpos oreophilus</i>									
84	66	0	100	-	-	0	0	0	22/13
90	66	100	0	-	-	0	0	0	-/-

OWEN'S CANYON – STUDY NO. 04-4

HERBACEOUS TRENDS--

Management unit 04, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	70	132
G	Agropyron intermedium	1	8
G	Agropyron spicatum	3	-
G	Bromus inermis	50	83
G	Oryzopsis hymenoides	-	2
G	Poa pratensis	-	2
G	Poa secunda	-	1
G	Sitanion hystrix	9	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		133	230
Total for Grasses		133	230
F	Arabis sp.	2	13
F	Cirsium undulatum	-	2
F	Grindelia squarrosa	8	-
F	Oenothera caespitosa	3	-
F	Tragopogon dubius (a)	6	6
F	Vicia americana	-	4
Total for Annual Forbs		6	6
Total for Perennial Forbs		13	19
Total for Forbs		19	25

BASIC COVER--

Management unit 04, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	.50	8.50
Rock	12.75	7.00
Pavement	11.50	11.75
Litter	68.75	61.50
Cryptogams	0	0
Bare Ground	6.50	11.25

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	3965	25	58	17	133	61	11	3	23/32	
90	4098	21	36	43	1066	56	20	17	14/17	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	33	0	100	0	-	0	0	0	9/6	
90	99	33	0	67	33	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	33	0	0	100	-	0	0	0	-/-	
90	33	0	100	0	-	100	0	100	6/8	
<i>Gutierrezia sarothrae</i>										
84	1133	0	97	3	-	0	0	0	12/6	
90	33	0	100	0	33	0	0	0	5/6	

OWEN'S CANYON BENCH – STUDY NO. 04-5

HERBACEOUS TRENDS--

Management unit 04, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	47	24
G	Oryzopsis hymenoides	116	87
G	Poa secunda	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		163	112
Total for Grasses		163	112
F	Aster chilensis	2	-
F	Astragalus sp.	-	3
F	Astragalus utahensis	6	5
F	Calochortus nuttallii	-	1
F	Cirsium sp.	7	12
F	Tragopogon dubius (a)	3	8
F	Unknown forb-perennial	-	3
Total for Annual Forbs		3	8
Total for Perennial Forbs		15	24
Total for Forbs		18	32

BASIC COVER--

Management unit 04, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.25	6.25
Rock	8.75	6.50
Pavement	10.50	11.75
Litter	56.50	47.25
Cryptogams	0	0
Bare Ground	21.00	28.25

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	1066	22	3	75	933	44	56	28	13/12	
90	365	18	9	73	33	64	0	45	16/15	
<i>Chrysothamnus nauseosus</i>										
84	100	0	0	100	-	33	67	0	-/-	
90	266	0	38	62	-	38	0	38	18/24	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	133	0	75	25	-	50	50	0	10/13	
90	0	0	0	0	33	0	0	0	-/-	
<i>Opuntia fragilis</i>										
84	266	0	100	0	-	0	0	0	7/15	
90	298	22	22	56	-	0	0	56	5/6	

HARRIS CANYON – STUDY NO. 04-6

HERBACEOUS TRENDS--

Management unit 04, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron intermedium	3	2
G	Agropyron spicatum	218	231
G	Oryzopsis hymenoides	4	16
G	Poa pratensis	17	5
G	Poa secunda	-	26
Total for Annual Grasses		0	0
Total for Perennial Grasses		242	280
Total for Grasses		242	280
F	Achillea millefolium	7	-
F	Agoseris glauca	-	1
F	Artemisia ludoviciana	24	23
F	Aster chilensis	15	2
F	Astragalus sp.	31	-
F	Astragalus utahensis	2	1
F	Cirsium undulatum	23	27
F	Cryptantha sp.	10	-
F	Cymopterus sp.	-	8
F	Hedysarum boreale	-	7
F	Helianthus annuus (a)	-	1
F	Lithospermum ruderales	6	6
F	Oenothera caespitosa	6	-
F	Penstemon sp.	5	-
F	Streptanthus cordatus	-	2
F	Tragopogon dubius (a)	134	37
Total for Annual Forbs		134	38
Total for Perennial Forbs		129	77
Total for Forbs		263	115

BASIC COVER--

Management unit 04, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	10.00
Rock	19.00	16.50
Pavement	5.25	5.00
Litter	55.00	38.50
Cryptogams	0	0
Bare Ground	18.50	30.00

BROWSE CHARACTERISTICS--

Management unit 04, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
84	33	0	0	100	-	0	100	100	-/-	
90	33	0	0	100	-	0	100	100	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	632	26	10	63	-	11	63	0	6/6	
90	698	24	24	52	133	10	81	24	26/31	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	232	14	57	28	-	0	100	0	36/27	
90	932	82	7	11	-	4	0	0	40/52	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	33	0	0	100	-	100	0	100	-/-	
90	765	22	30	48	-	13	65	35	6/8	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	1132	12	85	3	-	0	0	0	7/12	

WILDLIFE MANAGEMENT UNIT 04

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
84	132	0	50	50	-	0	100	0	15/15	
90	166	20	20	60	-	20	80	60	11/28	

CROYDEN ACCESS ROAD – STUDY NO. 04-7

HERBACEOUS TRENDS--

Management unit 04, Study no: 7

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	324	292
Total for Annual Grasses		0	0
Total for Perennial Grasses		324	292
Total for Grasses		324	292
F	Aster chilensis	1	-
F	Cirsium sp.	1	-
F	Erigeron pumilus	63	-
F	Sphaeralcea coccinea	-	2
F	Tragopogon dubius (a)	41	3
Total for Annual Forbs		41	3
Total for Perennial Forbs		65	2
Total for Forbs		106	5

BASIC COVER--

Management unit 04, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.75	5.00
Rock	3.00	2.50
Pavement	1.50	6.75
Litter	55.25	56.00
Cryptogams	9.25	2.75
Bare Ground	27.25	27.00

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	8932	90	9	1	1033	50	3	0	31/36	
90	7865	35	62	3	100	4	.42	.84	21/26	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	33	0	100	0	-	0	0	0	28/38	
90	33	0	0	100	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	66	0	100	0	-	100	0	0	10/13	
90	432	15	8	77	-	62	0	62	8/12	
<i>Gutierrezia sarothrae</i>										
84	7632	43	55	2	933	68	20	0	12/11	
90	3232	33	45	22	4333	1	1	9	7/7	

SHELL HOLLOW – STUDY NO. 04-8

HERBACEOUS TRENDS--

Management unit 04, Study no: 8

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	-	4
G	Elymus cinereus	3	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		3	5
Total for Grasses		3	5
F	Achillea millefolium	-	5
F	Allium acuminatum	1	4
F	Aster chilensis	-	3
F	Astragalus beckwithii	3	-
F	Cirsium undulatum	8	4
F	Hackelia patens	-	15
F	Helianthus annuus (a)	-	1
F	Phlox longifolia	-	117
F	Tragopogon dubius (a)	1	3
F	Vicia americana	-	31
Total for Annual Forbs		1	4
Total for Perennial Forbs		12	179
Total for Forbs		13	183

BASIC COVER--

Management unit 04, Study no: 8

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	5.75
Rock	2.50	1.50
Pavement	10.75	13.50
Litter	58.00	47.75
Cryptogams	0	0
Bare Ground	27.25	31.50

BROWSE CHARACTERISTICS--

Management unit 04, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	4800	8	58	33	-	74	24	3	30/34	
90	3798	7	39	54	533	60	2	19	29/37	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	132	50	50	0	-	50	0	0	21/27	
90	266	0	0	100	-	50	0	50	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	1799	4	89	7	-	56	0	0	14/17	
90	3532	6	57	38	-	21	2	30	10/12	

SCOTT REES RANCH – STUDY NO. 04-9

HERBACEOUS TRENDS--

Management unit 04, Study no: 9

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	201	227
G	Poa pratensis	24	-
G	Poa secunda	7	31
Total for Annual Grasses		0	0
Total for Perennial Grasses		232	258
Total for Grasses		232	258
F	Achillea millefolium	6	2
F	Agoseris glauca	-	3
F	Artemisia ludoviciana	109	38
F	Astragalus utahensis	2	-
F	Balsamorhiza sagittata	8	5
F	Calochortus nuttallii	4	-
F	Cirsium undulatum	19	27
F	Comandra pallida	55	3
F	Cryptantha sp.	-	3
F	Erigeron pumilus	13	6
F	Hackelia patens	3	-
F	Helianthella uniflora	1	-
F	Lactuca serriola (a)	-	3
F	Tragopogon dubius (a)	18	74
F	Zigadenus paniculatus	-	2
Total for Annual Forbs		18	77
Total for Perennial Forbs		220	89
Total for Forbs		238	166

BASIC COVER--

Management unit 04, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	2.75
Rock	31.25	30.75
Pavement	1.50	.75
Litter	52.50	59.75
Cryptogams	2.25	0
Bare Ground	10.25	6.00

BROWSE CHARACTERISTICS--

Management unit 04, Study no: 9

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	0	0	0	-	-	0	0	0	-/-
90	66	0	100	-	-	100	0	0	28/33
<i>Chrysothamnus nauseosus albicaulis</i>									
84	66	0	100	-	-	0	0	0	31/31
90	66	0	100	-	-	100	0	0	35/41
<i>Gutierrezia sarothrae</i>									
84	132	0	50	50	-	50	0	0	12/7
90	0	0	0	0	-	0	0	0	-/-
<i>Quercus gambelii</i>									
84	27532	44	43	13	-	8	45	0	21/11
90	15998	59	17	24	-	62	1	6	21/22

BIG HOLLOW – STUDY NO. 04-10

HERBACEOUS TRENDS--

Management unit 04, Study no: 10

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	4	2
G	Agropyron spicatum	187	131
G	Poa secunda	10	58
Total for Annual Grasses		0	0
Total for Perennial Grasses		201	191
Total for Grasses		201	191
F	Agoseris glauca	-	8
F	Ambrosia psilostachya	39	5
F	Artemisia ludoviciana	23	25
F	Calochortus nuttallii	1	-
F	Cirsium sp.	16	59
F	Cymopterus sp.	-	11
F	Delphinium sp.	-	1
F	Hackelia floribunda	-	24
F	Lappula sp. (a)	-	8
F	Lithospermum ruderales	20	8
F	Oenothera caespitosa	30	-
F	Sphaeralcea grossulariifolia	36	7
F	Tragopogon dubius (a)	224	74
Total for Annual Forbs		224	82
Total for Perennial Forbs		165	148
Total for Forbs		389	230

BASIC COVER--

Management unit 04, Study no: 10

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	5.75
Rock	8.25	10.00
Pavement	10.25	14.25
Litter	74.75	46.50
Cryptogams	0	0
Bare Ground	3.25	23.50

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	999	13	47	40	-	53	47	33	40/51	
90	732	5	23	73	-	55	14	45	19/21	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	132	0	50	50	-	50	0	100	7/8	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	233	0	100	-	-	0	0	71	11/15	

BENNETT CREEK – STUDY NO. 04-12

HERBACEOUS TRENDS--

Management unit 04, Study no: 12

Type	Species	Nested Frequency '90
G	Agropyron spicatum	9
G	Poa bulbosa	326
G	Poa secunda	72
Total for Annual Grasses		0
Total for Perennial Grasses		407
Total for Grasses		407
F	Grindelia squarrosa	28
F	Helianthus annuus (a)	14
F	Lactuca serriola (a)	8
F	Tragopogon dubius (a)	20
Total for Annual Forbs		42
Total for Perennial Forbs		28
Total for Forbs		70

BASIC COVER--

Management unit 04, Study no: 12

Cover Type	Average Cover % '90
Vegetation	5.50
Rock	16.75
Pavement	9.75
Litter	59.25
Cryptogams	.50
Bare Ground	8.25

WILDLIFE MANAGEMENT UNIT 04

BROWSE CHARACTERISTICS--
 Management unit 04, Study no: 12

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia arbuscula</i>									
90	11265	34	47	18	4200	34	21	8	12/21
<i>Artemisia tridentata vaseyana</i>									
90	66	0	100	-	-	100	0	0	20/30

WHEATGRASS HOLLOW – STUDY NO. 04-13

HERBACEOUS TRENDS--

Management unit 04, Study no: 13

Type	Species	Nested Frequency '90
G	Agropyron spicatum	71
G	Carex sp.	1
G	Oryzopsis hymenoides	7
G	Poa secunda	307
G	Sitanion hystrix	23
G	Stipa comata	16
Total for Annual Grasses		0
Total for Perennial Grasses		425
Total for Grasses		425
F	Antennaria sp.	17
F	Arabis sp.	4
F	Erigeron pumilus	13
F	Phlox hoodii	90
F	Phlox longifolia	43
Total for Annual Forbs		0
Total for Perennial Forbs		167
Total for Forbs		167

BASIC COVER--

Management unit 04, Study no: 13

Cover Type	Average Cover % '90
Vegetation	8.00
Rock	5.50
Pavement	27.00
Litter	34.50
Cryptogams	8.50
Bare Ground	16.50

WILDLIFE MANAGEMENT UNIT 04

BROWSE CHARACTERISTICS--
 Management unit 04, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
90	6598	25	20	55	266	24	19	19	19/23	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
90	66	0	100	-	66	100	0	0	6/8	
<i>Opuntia sp.</i>										
90	333	40	60	-	66	0	0	0	3/2	

CHAPMAN CANAL – STUDY NO. 04-14

HERBACEOUS TRENDS--

Management unit 04, Study no: 14

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron smithii	206	220
G	Agropyron spicatum	30	13
G	Oryzopsis hymenoides	4	11
G	Poa secunda	205	178
G	Sitanion hystrix	15	1
G	Stipa comata	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		460	426
Total for Grasses		460	426
F	Antennaria sp.	38	38
F	Arenaria sp.	3	-
F	Astragalus convallarius	-	5
F	Astragalus sp.	7	7
F	Astragalus utahensis	-	1
F	Cryptantha sp.	11	14
F	Erigeron pumilus	-	5
F	Haplopappus acaulis	1	4
F	Phlox hoodii	71	108
F	Phlox longifolia	16	6
F	Trifolium sp.	5	7
F	Unknown forb-perennial	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		152	197
Total for Forbs		152	197

BASIC COVER--

Management unit 04, Study no: 14

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	8.50
Rock	0	.25
Pavement	0	.75
Litter	43.25	31.00
Cryptogams	10.00	18.25
Bare Ground	44.75	41.25

WILDLIFE MANAGEMENT UNIT 04

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
84	6799	22	31	47	933	29	60	18	13/19	
90	6865	31	26	43	-	50	16	4	15/18	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	4199	17	75	8	-	6	0	0	10/11	
90	4599	19	55	26	-	43	4	3	5/7	
<i>Opuntia sp.</i>										
84	266	0	100	-	-	0	0	0	4/9	
90	466	71	29	-	-	0	0	29	5/3	
<i>Tetradymia canescens</i>										
84	133	0	100	-	-	100	0	0	7/14	
90	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 05

GEARY HOLLOW – STUDY NO. 05-1

HERBACEOUS TRENDS--

Management unit 05, Study no: 1

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	12	20
G	Poa secunda	-	11
Total for Annual Grasses		0	0
Total for Perennial Grasses		12	31
Total for Grasses		12	31
F	Achillea millefolium	1	1
F	Agoseris glauca	-	3
F	Artemisia ludoviciana	90	30
F	Astragalus sp.	8	-
F	Balsamorhiza sagittata	-	3
F	Cirsium undulatum	1	12
F	Cryptantha sp.	2	-
F	Hackelia patens	-	3
F	Lactuca serriola (a)	-	3
F	Lathyrus brachycalyx	-	1
F	Tragopogon dubius (a)	75	100
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		75	103
Total for Perennial Forbs		102	54
Total for Forbs		177	157

BASIC COVER--

Management unit 05, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	6.75
Rock	19.50	20.75
Pavement	4.75	7.75
Litter	65.75	58.25
Cryptogams	0	0
Bare Ground	8.50	6.50

BROWSE CHARACTERISTICS--
Management unit 05, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	399	0	33	67	-	0	100	67	10/7	
90	266	0	0	100	-	25	75	100	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	1332	35	55	10	-	70	30	0	18/15	
90	1665	16	76	8	-	24	0	0	24/26	
<i>Gutierrezia sarothrae</i>										
84	666	40	60	0	-	20	0	0	15/12	
90	3666	53	44	4	-	0	0	2	9/10	
<i>Quercus gambelii</i>										
84	11398	20	73	8	-	70	27	0	23/9	
90	6865	66	7	27	-	43	5	13	32/23	
<i>Symphoricarpos oreophilus</i>										
84	133	0	0	100	-	0	100	100	-/-	
90	132	0	50	50	-	50	50	50	22/23	

TUCSON HOLLOW – STUDY NO. 05-2

HERBACEOUS TRENDS--

Management unit 05, Study no: 2

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	32	78
G	<i>Bromus inermis</i>	-	1
G	<i>Elymus cinereus</i>	5	3
G	<i>Koeleria cristata</i>	5	-
G	<i>Poa pratensis</i>	118	144
G	<i>Poa secunda</i>	13	30
Total for Annual Grasses		0	0
Total for Perennial Grasses		173	256
Total for Grasses		173	256
F	<i>Achillea millefolium</i>	136	30
F	<i>Agoseris glauca</i>	-	6
F	<i>Allium acuminatum</i>	8	1
F	<i>Artemisia ludoviciana</i>	13	9
F	<i>Aster chilensis</i>	29	46
F	<i>Astragalus convallarius</i>	2	-
F	<i>Balsamorhiza macrophylla</i>	21	20
F	<i>Cirsium undulatum</i>	2	-
F	<i>Comandra pallida</i>	24	8
F	<i>Crepis acuminata</i>	-	4
F	<i>Lactuca serriola</i> (a)	-	1
F	<i>Lathyrus brachycalyx</i>	-	2
F	<i>Lupinus argenteus</i>	9	1
F	<i>Tragopogon dubius</i> (a)	25	3
F	Unknown forb-perennial	1	-
F	<i>Viguiera multiflora</i>	-	18
F	<i>Wyethia amplexicaulis</i>	61	12
F	<i>Zigadenus paniculatus</i>	1	-
Total for Annual Forbs		25	4
Total for Perennial Forbs		307	157
Total for Forbs		332	161

BASIC COVER--

Management unit 05, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	9.75
Rock	.75	0
Pavement	.25	0
Litter	89.50	86.00
Cryptogams	0	0
Bare Ground	7.25	4.25

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
84	265	25	50	25	-	0	75	25	13/8	
90	265	25	50	25	-	25	0	25	13/11	
<i>Gutierrezia sarothrae</i>										
84	1733	0	100	0	-	0	0	0	11/11	
90	1132	0	77	23	-	0	0	0	11/11	
<i>Mahonia repens</i>										
84	2133	0	100	-	-	0	0	0	6/4	
90	2999	64	36	-	-	0	0	16	6/6	
<i>Quercus gambelii</i>										
84	31866	52	48	0	3999	3	48	0	45/16	
90	23132	70	25	5	-	0	0	.28	68/28	
<i>Symphoricarpos oreophilus</i>										
84	666	0	100	0	-	0	0	0	15/9	
90	333	0	60	40	-	20	0	20	15/16	

EAST CANYON RESERVOIR – STUDY NO. 05-3

HERBACEOUS TRENDS--

Management unit 05, Study no: 3

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron intermedium	7	10
G	Agropyron spicatum	3	18
G	Poa bulbosa	-	41
G	Poa pratensis	19	3
G	Poa secunda	21	59
Total for Annual Grasses		0	0
Total for Perennial Grasses		50	131
Total for Grasses		50	131
F	Achillea millefolium	26	35
F	Artemisia ludoviciana	51	45
F	Aster chilensis	38	36
F	Astragalus sp.	5	-
F	Cirsium undulatum	17	27
F	Cruciferae	-	4
F	Erigeron pumilus	54	51
F	Lactuca serriola (a)	-	1
F	Lithospermum ruderales	24	31
F	Oenothera caespitosa	3	2
F	Sphaeralcea munroana	16	13
F	Tragopogon dubius (a)	19	18
F	Viguiera multiflora	-	17
Total for Annual Forbs		19	19
Total for Perennial Forbs		234	261
Total for Forbs		253	280

BASIC COVER--

Management unit 05, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	6.00
Rock	5.25	6.75
Pavement	.50	2.00
Litter	79.50	71.00
Cryptogams	.50	0
Bare Ground	10.75	14.25

BROWSE CHARACTERISTICS--
Management unit 05, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	1998	3	28	68	-	42	58	3	25/24	
90	1732	4	31	65	400	44	25	15	29/38	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	33	0	0	100	-	0	100	0	-/-	
90	33	0	100	0	-	100	0	0	26/28	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	33	0	0	100	-	0	0	100	-/-	
90	33	0	100	0	-	100	0	100	14/15	
<i>Opuntia sp.</i>										
84	66	0	100	0	-	0	0	0	10/13	
90	66	0	0	100	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	199	0	33	67	-	17	83	0	20/9	
90	266	38	38	25	-	25	75	0	35/47	

WANSHIP – STUDY NO. 05-4

HERBACEOUS TRENDS--

Management unit 05, Study no: 4

Type	Species	Nest Frequency	
		'84	'90
G	Agropyron spicatum	25	27
G	Poa secunda	187	307
G	Sitanion hystrix	15	21
Total for Annual Grasses		0	0
Total for Perennial Grasses		227	355
Total for Grasses		227	355
F	Allium acuminatum	25	5
F	Antennaria sp.	6	5
F	Arabis sp.	-	3
F	Astragalus utahensis	7	1
F	Crepis acuminata	-	2
F	Cryptantha sp.	6	-
F	Cymopterus longipes	-	10
F	Erigeron pumilus	2	3
F	Penstemon sp.	3	-
F	Tragopogon dubius (a)	4	-
Total for Annual Forbs		4	0
Total for Perennial Forbs		49	29
Total for Forbs		53	29

BASIC COVER--

Management unit 05, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	15.75
Rock	9.00	9.00
Pavement	16.25	14.75
Litter	64.00	41.00
Cryptogams	.25	5.25
Bare Ground	7.50	14.25

WILDLIFE MANAGEMENT UNIT 05

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
84	3532	8	42	50	833	36	61	10	33/43	
90	3065	8	30	62	133	53	25	25	26/36	
Chrysothamnus viscidiflorus viscidiflorus										
84	599	56	44	0	-	0	0	0	13/12	
90	1065	3	72	25	-	16	3	63	11/12	
Opuntia sp.										
84	33	100	0	0	-	0	0	0	-/-	
90	365	18	45	36	-	0	0	36	3/10	
Purshia tridentata										
84	133	0	100	0	-	0	100	0	29/40	
90	33	0	0	100	-	0	100	100	-/-	

UPPER FRANKLIN CANYON – STUDY NO. 05-5

HERBACEOUS TRENDS--

Management unit 05, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	266	233
G	Oryzopsis hymenoides	12	11
G	Poa secunda	104	183
Total for Annual Grasses		0	0
Total for Perennial Grasses		382	427
Total for Grasses		382	427
F	Arabis sp.	-	3
F	Chaenactis douglasii	3	9
F	Cirsium sp.	78	79
F	Comandra pallida	2	3
F	Crepis acuminata	-	2
F	Cruciferae	-	3
F	Cryptantha sp.	76	9
F	Cymopterus sp.	-	1
F	Erigeron pumilus	2	3
F	Eriogonum brevicaule	10	6
F	Hackelia patens	-	66
F	Haplopappus acaulis	4	2
F	Lactuca serriola (a)	-	4
F	Penstemon humilis	22	17
F	Phlox hoodii	6	9
F	Taraxacum officinale	-	1
F	Tragopogon dubius (a)	16	7
F	Unknown forb-perennial	-	1
Total for Annual Forbs		16	11
Total for Perennial Forbs		203	214
Total for Forbs		219	225

BASIC COVER--

Management unit 05, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.50	8.00
Rock	17.50	17.25
Pavement	5.50	6.25
Litter	54.75	38.00
Cryptogams	1.25	.75
Bare Ground	16.50	29.75

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	866	23	27	50	100	8	85	4	33/17	
<i>Artemisia tridentata vaseyana</i>										
84	765	4	22	74	-	17	83	22	24/24	
90	233	0	0	100	-	14	71	14	-/-	
<i>Cercocarpus montanus</i>										
84	3965	19	66	14	533	6	94	0	64/27	
90	332	40	40	20	33	20	70	0	56/38	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	899	7	93	0	66	0	0	0	12/13	
90	2032	16	75	8	33	26	13	8	13/17	
<i>Eriogonum microthecum</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	100	0	0	2/13	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	499	33	60	7	66	0	0	0	5/5	
<i>Mahonia repens</i>										
84	5265	30	70	0	-	0	0	0	4/5	
90	11099	100	0	0	3133	0	0	.60	-/-	
<i>Symphoricarpos oreophilus</i>										
84	1199	56	44	0	-	97	0	0	22/12	
90	499	20	73	7	-	13	0	0	22/20	

FRANKLIN CANYON – STUDY NO. 05-6

HERBACEOUS TRENDS--

Management unit 05, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	12	4
G	Oryzopsis hymenoides	2	-
G	Poa secunda	7	227
Total for Annual Grasses		0	0
Total for Perennial Grasses		21	231
Total for Grasses		21	231
F	Artemisia ludoviciana	9	13
F	Astragalus utahensis	5	5
F	Cirsium sp.	-	8
F	Erigeron pumilus	1	-
F	Lomatium sp.	-	4
F	Lupinus sericeus	43	73
F	Tragopogon dubius (a)	29	13
Total for Annual Forbs		29	13
Total for Perennial Forbs		58	103
Total for Forbs		87	116

BASIC COVER--

Management unit 05, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	2.50
Rock	.50	1.25
Pavement	4.75	11.50
Litter	92.50	76.50
Cryptogams	.25	.25
Bare Ground	1.00	8.00

BROWSE CHARACTERISTICS--
Management unit 05, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	66	0	0	100	-	100	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	1732	19	27	54	-	8	73	15	29/35	
90	2466	32	11	57	4600	62	8	43	22/23	
<i>Chrysothamnus nauseosus albicaulis</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	266	100	0	-	66	25	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	800	0	0	100	-	25	75	0	-/-	
90	1332	0	20	80	66	55	5	70	11/14	
<i>Gutierrezia sarothrae</i>										
84	1266	16	26	58	-	37	58	0	11/16	
90	466	43	57	0	66	0	0	0	9/8	
<i>Opuntia sp.</i>										
84	66	0	100	0	-	100	0	0	7/6	
90	132	50	0	50	-	0	0	50	-/-	

BASKIN SPRING – STUDY NO. 05-7

HERBACEOUS TRENDS--

Management unit 05, Study no: 7

Type	Species	Nested Frequency '90
G	<i>Agropyron spicatum</i>	20
G	<i>Aristida purpurea</i>	72
G	<i>Poa bulbosa</i>	172
G	<i>Poa fendleriana</i>	85
G	<i>Poa pratensis</i>	14
G	<i>Sporobolus cryptandrus</i>	33
Total for Annual Grasses		0
Total for Perennial Grasses		396
Total for Grasses		396
F	<i>Ambrosia psilostachya</i>	86
F	<i>Artemisia ludoviciana</i>	45
F	<i>Aster chilensis</i>	14
F	<i>Calochortus nuttallii</i>	7
F	<i>Centaurea solstitialis</i>	48
F	<i>Cirsium vulgare</i>	14
F	<i>Crepis acuminata</i>	2
F	<i>Cymopterus sp.</i>	40
F	<i>Grindelia squarrosa</i>	4
F	<i>Heterotheca villosa</i>	115
F	<i>Lithospermum ruderales</i>	25
F	<i>Oenothera caespitosa</i>	1
F	<i>Tragopogon dubius (a)</i>	16
F	Unknown forb-perennial	4
Total for Annual Forbs		16
Total for Perennial Forbs		405
Total for Forbs		421

BASIC COVER--

Management unit 05, Study no: 7

Cover Type	Average Cover % '90
Vegetation	17.75
Rock	9.00
Pavement	11.75
Litter	45.75
Cryptogams	1.25
Bare Ground	14.50

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Gutierrezia sarothrae										
90	13398	34	52	13	400	0	0	51	6/8	
Opuntia sp.										
90	66	100	0	-	-	0	0	0	-/-	
Quercus gambelii										
90	66	100	0	-	-	100	0	0	-/-	

BARNARD CREEK – STUDY NO. 05-8

HERBACEOUS TRENDS--

Management unit 05, Study no: 8

Type	Species	Nesting Frequency	
		'85	'90
G	<i>Agropyron spicatum</i>	8	3
G	<i>Aristida purpurea</i>	-	2
G	<i>Poa bulbosa</i>	3	-
G	<i>Poa fendleriana</i>	3	3
G	<i>Sporobolus cryptandrus</i>	-	12
G	<i>Stipa comata</i>	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		14	22
Total for Grasses		14	22
F	<i>Allium</i> sp.	11	-
F	<i>Artemisia ludoviciana</i>	49	21
F	<i>Aster chilensis</i>	63	-
F	<i>Chenopodium album</i> (a)	-	6
F	<i>Epilobium brachycarpum</i> (a)	24	-
F	<i>Erigeron</i> sp.	5	3
F	<i>Erodium cicutarium</i> (a)	18	-
F	<i>Helianthus annuus</i> (a)	-	6
F	<i>Heterotheca villosa</i>	40	46
F	<i>Lactuca serriola</i> (a)	-	28
F	<i>Portulaca oleracea</i> (a)	-	3
F	<i>Salsola iberica</i> (a)	-	8
F	<i>Tragopogon dubius</i> (a)	-	1
F	Unknown forb-perennial	3	-
Total for Annual Forbs		42	52
Total for Perennial Forbs		171	70
Total for Forbs		213	122

BASIC COVER--

Management unit 05, Study no: 8

Cover Type	Average Cover %	
	'85	'90
Vegetation	7.25	4.75
Rock	5.00	6.50
Pavement	12.50	13.25
Litter	38.00	61.25
Cryptogams	0	0
Bare Ground	37.25	14.25

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	1332	5	80	15	200	65	10	10	26/40	
90	865	54	15	31	-	23	0	0	13/22	
<i>Opuntia sp.</i>										
85	66	0	100	-	-	0	0	0	7/17	
90	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
85	66	0	100	-	-	0	100	0	36/51	
90	399	17	83	-	-	50	0	0	50/66	

DAVIS COUNTY RIFLE RANGE – STUDY NO. 05-9

HERBACEOUS TRENDS--

Management unit 05, Study no: 9

Type	Species	Nested Frequency	
		'85	'90
G	Agropyron spicatum	28	38
G	Poa bulbosa	58	136
G	Poa secunda	202	118
Total for Annual Grasses		0	0
Total for Perennial Grasses		288	292
Total for Grasses		288	292
F	Agoseris glauca	25	-
F	Allium sp.	35	-
F	Astragalus sp.	5	-
F	Cirsium undulatum	3	5
F	Crepis acuminata	10	2
F	Cymopterus longipes	33	16
F	Epilobium brachycarpum (a)	112	-
F	Erigeron sp.	3	-
F	Erodium cicutarium (a)	10	-
F	Tragopogon dubius (a)	146	51
F	Unknown forb-perennial	3	-
Total for Annual Forbs		268	51
Total for Perennial Forbs		117	23
Total for Forbs		385	74

BASIC COVER--

Management unit 05, Study no: 9

Cover Type	Average Cover %	
	'85	'90
Vegetation	9.50	4.75
Rock	3.25	1.75
Pavement	11.75	12.00
Litter	53.50	73.25
Cryptogams	0	.50
Bare Ground	22.00	7.75

BROWSE CHARACTERISTICS--
Management unit 05, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	1132	18	41	41	-	41	24	18	24/26	
90	798	33	33	33	66	0	0	0	16/26	
<i>Eriogonum heracleoides</i>										
85	266	50	50	-	-	0	0	0	10/13	
90	266	25	75	-	-	0	0	0	7/17	
<i>Gutierrezia sarothrae</i>										
85	2132	34	63	3	66	0	0	3	11/13	
90	1466	50	50	0	666	0	0	0	12/20	
<i>Opuntia polyacantha</i>										
85	200	0	100	-	-	0	0	0	8/10	
90	133	0	100	-	-	0	0	0	7/10	
<i>Purshia tridentata</i>										
85	1532	22	65	13	-	13	83	13	43/24	
90	866	38	46	15	-	38	15	0	45/43	

JUNCTION 89-193 – STUDY NO. 05-10

HERBACEOUS TRENDS--

Management unit 05, Study no: 10

Type	Species	Nestled Frequency	
		'85	'90
G	<i>Agropyron spicatum</i>	63	57
G	<i>Agropyron trachycaulum</i>	-	1
G	<i>Bromus breviaristatus</i>	26	-
G	<i>Melica bulbosa</i>	5	2
G	<i>Poa bulbosa</i>	36	95
G	<i>Poa secunda</i>	201	195
Total for Annual Grasses		0	0
Total for Perennial Grasses		331	350
Total for Grasses		331	350
F	<i>Agoseris glauca</i>	73	18
F	<i>Allium sp.</i>	12	-
F	<i>Ambrosia psilostachya</i>	134	48
F	<i>Artemisia ludoviciana</i>	65	50
F	<i>Aster chilensis</i>	29	24
F	<i>Cirsium sp.</i>	-	1
F	<i>Crepis acuminata</i>	12	4
F	<i>Cymopterus sp.</i>	13	3
F	<i>Epilobium brachycarpum (a)</i>	47	-
F	<i>Hackelia patens</i>	54	56
F	<i>Isatis tinctoria</i>	-	7
F	<i>Lactuca serriola (a)</i>	-	36
F	<i>Madia glomerata (a)</i>	26	-
F	<i>Oenothera sp.</i>	3	-
F	<i>Scutellaria antirrhinoides</i>	32	-
F	<i>Senecio integerrimus</i>	1	-
F	<i>Streptanthus sp.</i>	141	-
F	<i>Tragopogon dubius (a)</i>	156	110
F	Unknown forb-perennial	-	24
Total for Annual Forbs		229	146
Total for Perennial Forbs		569	235
Total for Forbs		798	381

BASIC COVER--

Management unit 05, Study no: 10

Cover Type	Average Cover %	
	'85	'90
Vegetation	11.00	3.25
Rock	5.25	10.75
Pavement	16.25	21.25
Litter	50.00	51.00
Cryptogams	.25	.25
Bare Ground	17.25	13.50

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
85	199	0	67	33	-	0	33	0	27/34	
90	66	0	100	0	-	100	0	0	26/57	
<i>Gutierrezia sarothrae</i>										
85	2266	41	41	18	266	0	0	0	10/13	
90	1532	30	52	17	-	0	0	22	7/12	

MOUNTAIN DELL RESERVOIR – STUDY NO. 05-11

HERBACEOUS TRENDS--

Management unit 05, Study no: 11

Type	Species	Nested Frequency	
		'83	'90
G	Agropyron dasystachyum	-	7
G	Agropyron spicatum	-	93
G	Carex sp.	46	-
G	Elymus cinereus	24	3
G	Elymus sp.	16	3
G	Poa pratensis	347	230
G	Unknown grass - perennial	4	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		437	336
Total for Grasses		437	336
F	Achillea millefolium	155	151
F	Agoseris glauca	33	-
F	Allium sp.	24	32
F	Artemisia dracunculus	8	16
F	Artemisia ludoviciana	4	2
F	Aster chilensis	177	161
F	Astragalus convallarius	1	3
F	Balsamorhiza macrophylla	26	6
F	Brodiaea douglasii	19	-
F	Calochortus nuttallii	4	-
F	Cirsium sp.	-	4
F	Crepis acuminata	-	9
F	Cynoglossum officinale	-	27
F	Eriogonum sp.	2	-
F	Eriogonum umbellatum	35	26
F	Galium aparine (a)	2	-
F	Geranium sp.	12	7
F	Hackelia patens	1	-
F	Helianthella uniflora	37	60
F	Lactuca serriola (a)	-	39
F	Lathyrus brachycalyx	85	29
F	Lathyrus pauciflorus	101	-
F	Lithophragma parviflora	28	-
F	Lithospermum ruderae	16	23
F	Lupinus sericeus	43	29
F	Mertensia brevistyla	14	-
F	Rumex sp.	-	2
F	Senecio integerrimus	4	-

Type	Species	Nested Frequency	
		'83	'90
F	Taraxacum officinale	3	7
F	Tragopogon dubius (a)	17	47
F	Unknown forb-perennial	6	-
F	Vicia americana	120	7
F	Viguiera multiflora	20	74
Total for Annual Forbs		19	86
Total for Perennial Forbs		978	675
Total for Forbs		997	761

BASIC COVER--

Management unit 05, Study no: 11

Cover Type	Average Cover %	
	'83	'90
Vegetation	9.25	13.00
Rock	0	0
Pavement	0	0
Litter	89.75	86.00
Cryptogams	0	0
Bare Ground	1.00	1.00

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 11

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata vaseyana									
83	1999	10	82	8	-	40	2	13	33/42
90	2599	21	46	33	3499	6	0	9	34/44
Chrysothamnus viscidiflorus viscidiflorus									
83	0	0	0	-	-	0	0	0	-/-
90	33	0	100	-	-	0	0	0	15/6

WILDLIFE MANAGEMENT UNIT 05

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
83	0	0	0	-	-	0	0	0	-/-	
90	33	100	0	-	-	0	0	0	-/-	

FORT DOUGLAS – STUDY NO. 05-12

HERBACEOUS TRENDS--

Management unit 05, Study no: 12

Type	Species	Nested Frequency '83
G	<i>Agropyron spicatum</i>	2
G	<i>Poa fendleriana</i>	1
Total for Annual Grasses		0
Total for Perennial Grasses		3
Total for Grasses		3
F	<i>Ambrosia psilostachya</i>	182
F	<i>Artemisia ludoviciana</i>	148
F	<i>Balsamorhiza sagittata</i>	2
F	<i>Brodiaea douglasii</i>	3
F	<i>Camelina microcarpa</i> (a)	104
F	<i>Collomia linearis</i> (a)	98
F	<i>Comandra pallida</i>	15
F	<i>Crepis acuminata</i>	47
F	<i>Eriogonum umbellatum</i>	54
F	<i>Erodium cicutarium</i> (a)	2
F	<i>Euphorbia</i> sp.	38
F	<i>Hedysarum boreale</i>	17
F	<i>Lactuca serriola</i> (a)	226
F	<i>Linaria vulgaris</i>	36
F	<i>Lithospermum ruderales</i>	2
F	<i>Lomatium triternatum</i>	2
F	<i>Phlox longifolia</i>	4
F	<i>Sisymbrium altissimum</i> (a)	13
F	<i>Sphaeralcea coccinea</i>	24
F	<i>Tragopogon dubius</i> (a)	258
F	Unknown forb-perennial	102
F	<i>Viola</i> sp.	1
F	<i>Zigadenus paniculatus</i>	1
Total for Annual Forbs		701
Total for Perennial Forbs		678
Total for Forbs		1379

BASIC COVER--

Management unit 05, Study no: 12

Cover Type	Average Cover % '83
Vegetation	10.25
Rock	.50
Pavement	0
Litter	82.50
Cryptogams	0
Bare Ground	6.75

CITY CREEK CANYON – STUDY NO. 05-13

HERBACEOUS TRENDS--

Management unit 05, Study no: 13

Type	Species	Nested Frequency '83
G	Agropyron spicatum	110
Total for Annual Grasses		0
Total for Perennial Grasses		110
Total for Grasses		110
F	Ambrosia artemisiifolia	241
F	Artemisia ludoviciana	27
F	Aster sp.	1
F	Balsamorhiza sagittata	72
F	Calochortus nuttallii	1
F	Cirsium vulgare	11
F	Crepis acuminata	19
F	Cymopterus longipes	20
F	Hackelia patens	2
F	Lathyrus brachycalyx	25
F	Lithospermum ruderales	5
F	Lomatium dissectum	7
F	Melilotus officinalis	44
F	Tragopogon dubius (a)	77
Total for Annual Forbs		77
Total for Perennial Forbs		475
Total for Forbs		552

BASIC COVER--

Management unit 05, Study no: 13

Cover Type	Average Cover % '83
Vegetation	1.50
Rock	22.50
Pavement	9.00
Litter	59.50
Cryptogams	.25
Bare Ground	7.25

RED BUTTE CANYON – STUDY NO. 05-14

HERBACEOUS TRENDS--

Management unit 05, Study no: 14

Type	Species	Nested Frequency '83
G	<i>Agropyron spicatum</i>	45
G	<i>Elymus cinereus</i>	17
G	<i>Melica bulbosa</i>	17
G	<i>Poa pratensis</i>	15
G	<i>Poa secunda</i>	32
Total for Annual Grasses		0
Total for Perennial Grasses		126
Total for Grasses		126
F	<i>Achillea millefolium</i>	53
F	<i>Agoseris glauca</i>	5
F	<i>Allium sp.</i>	31
F	<i>Artemisia ludoviciana</i>	7
F	<i>Balsamorhiza sagittata</i>	34
F	<i>Brodiaea douglasii</i>	3
F	<i>Collomia linearis (a)</i>	2
F	<i>Crepis acuminata</i>	42
F	<i>Eriogonum umbellatum</i>	7
F	<i>Hedysarum boreale</i>	1
F	<i>Hydrophyllum capitatum</i>	135
F	<i>Lathyrus pauciflorus</i>	92
F	<i>Lithophragma parviflora</i>	16
F	<i>Lomatium dissectum</i>	31
F	<i>Lomatium triternatum</i>	4
F	<i>Lupinus caudatus</i>	39
F	<i>Melilotus officinalis</i>	8
F	<i>Montia perfoliata (a)</i>	10
F	<i>Phlox longifolia</i>	70
F	<i>Senecio integerrimus</i>	55
F	<i>Solidago sp.</i>	180
F	<i>Tragopogon dubius (a)</i>	8
F	Unknown forb-perennial	6
F	<i>Wyethia amplexicaulis</i>	2
Total for Annual Forbs		20
Total for Perennial Forbs		821
Total for Forbs		841

BASIC COVER--

Management unit 05, Study no: 14

Cover Type	Average Cover % '83
Vegetation	3.50
Rock	3.25
Pavement	0
Litter	89.50
Cryptogams	0
Bare Ground	3.75

BROWSE CHARACTERISTICS--

Management unit 05, Study no: 14

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Quercus gambelii										
83	25332	88	9	3	5066	0	0	2	55/38	

WILDLIFE MANAGEMENT UNIT 06

ANSHUTZ RANCH – STUDY NO. 06-1

HERBACEOUS TRENDS--

Management unit 06, Study no: 1

T y P e	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	72	71
G	Agropyron spicatum	4	12
G	Oryzopsis hymenoides	3	-
G	Poa pratensis	3	8
G	Poa secunda	76	230
G	Sitanion hystrix	118	162
G	Stipa comata	17	9
G	Stipa lettermani	5	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		298	515
Total for Grasses		298	515
F	Achillea millefolium	4	13
F	Agoseris glauca	4	3
F	Allium acuminatum	44	-
F	Antennaria sp.	35	82
F	Arabis sp.	-	22
F	Astragalus convallarius	11	5
F	Calochortus nuttallii	8	2
F	Cirsium undulatum	15	40
F	Erigeron pumilus	47	74
F	Eriogonum umbellatum	-	1
F	Machaeranthera canescens	-	9
F	Phlox austromontana	-	2
F	Phlox longifolia	40	164
F	Sphaeralcea coccinea	1	2
F	Taraxacum officinale	-	9
F	Unknown forb-perennial	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		212	428
Total for Forbs		212	428

BASIC COVER--

Management unit 06, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	12.25
Rock	2.25	1.25
Pavement	0	2.00
Litter	71.25	60.25
Cryptogams	.50	.50
Bare Ground	23.75	23.75

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 1

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia arbuscula</i>									
84	7866	3	47	50	-	84	3	5	12/17
90	8532	10	35	55	533	.78	0	13	9/15
<i>Artemisia tridentata tridentata</i>									
84	8599	54	26	20	2466	38	3	2	27/35
90	6465	51	22	28	400	21	2	5	28/29
<i>Ceratoides lanata</i>									
84	66	0	100	-	-	0	0	0	7/3
90	0	0	0	-	-	0	0	0	-/-
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	16132	0	48	52	-	0	0	2	9/11
90	15064	12	35	53	-	2	0	28	9/13
<i>Gutierrezia sarothrae</i>									
84	9000	0	91	9	-	0	0	0	7/6
90	8465	12	79	9	66	0	0	2	5/7

WILDLIFE MANAGEMENT UNIT 06

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
84	132	50	50	-	-	0	0	0	8/3	
90	66	0	100	-	-	100	0	0	4/5	

ECHO CANYON REST AREA – STUDY NO. 06-2

HERBACEOUS TRENDS--

Management unit 06, Study no: 2

Type	Species	Nestled Frequency	
		'84	'90
G	Agropyron cristatum	-	2
G	Agropyron spicatum	29	22
G	Oryzopsis hymenoides	84	98
G	Poa secunda	-	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		113	128
Total for Grasses		113	128
F	Achillea millefolium	-	4
F	Artemisia ludoviciana	3	-
F	Chaenactis douglasii	15	34
F	Cirsium undulatum	11	2
F	Comandra pallida	1	-
F	Oenothera caespitosa	14	-
F	Verbascum thapsus	2	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		46	40
Total for Forbs		46	40

BASIC COVER--

Management unit 06, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.75	9.00
Rock	25.75	20.00
Pavement	18.25	12.50
Litter	35.50	38.50
Cryptogams	0	.25
Bare Ground	17.75	19.75

BROWSE CHARACTERISTICS--
Management unit 06, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	199	33	67	-	-	33	33	0	31/29	
<i>Artemisia tridentata vaseyana</i>										
84	798	8	33	58	-	17	75	25	32/43	
90	333	40	0	60	-	40	0	0	-/-	
<i>Cercocarpus montanus</i>										
84	9598	28	69	3	-	29	71	0	52/26	
90	1532	30	52	17	-	4	83	4	36/23	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	333	0	100	-	-	0	0	0	20/28	
90	266	0	100	-	-	0	0	75	14/19	
<i>Gutierrezia sarothrae</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	266	50	50	-	-	0	0	0	6/7	
<i>Quercus gambelii</i>										
84	3866	84	16	0	-	66	9	0	68/48	
90	2532	50	37	13	-	24	0	0	40/23	

SPRING HOLLOW BURN – STUDY NO. 06-3

HERBACEOUS TRENDS--

Management unit 06, Study no: 3

Type	Species	Nestled Frequency	
		'84	'90
G	<i>Agropyron cristatum</i>	312	348
G	<i>Agropyron dasystachyum</i>	10	-
G	<i>Agropyron intermedium</i>	-	9
G	<i>Agropyron spicatum</i>	5	7
G	<i>Koeleria cristata</i>	14	2
G	<i>Poa fendleriana</i>	-	5
G	<i>Poa pratensis</i>	1	-
G	<i>Poa secunda</i>	77	214
G	<i>Stipa sp.</i>	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		419	588
Total for Grasses		419	588
F	<i>Achillea millefolium</i>	3	4
F	<i>Arabis sp.</i>	-	4
F	<i>Artemisia ludoviciana</i>	4	8
F	<i>Aster chilensis</i>	7	8
F	<i>Cirsium undulatum</i>	5	3
F	<i>Erigeron divergens</i>	124	56
F	<i>Lithospermum ruderale</i>	45	42
F	<i>Oenothera pallida</i>	40	32
F	<i>Sphaeralcea coccinea</i>	-	4
F	<i>Tragopogon dubius (a)</i>	8	12
F	<i>Viguiera multiflora</i>	-	1
Total for Annual Forbs		8	12
Total for Perennial Forbs		228	162
Total for Forbs		236	174

BASIC COVER--

Management unit 06, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	15.50
Rock	7.00	3.25
Pavement	11.50	15.75
Litter	49.50	43.25
Cryptogams	11.25	2.00
Bare Ground	17.25	20.25

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
84	966	7	72	21	66	59	34	0	17/23	
90	699	0	52	48	-	62	38	5	23/36	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	66	0	50	50	-	0	0	50	11/17	
90	333	30	10	60	-	10	0	20	12/11	
<i>Gutierrezia sarothrae</i>										
84	20332	20	80	0	1433	0	0	0	7/6	
90	16998	47	48	5	966	.78	0	3	7/7	
<i>Opuntia sp.</i>										
84	399	8	92	0	-	0	0	0	3/3	
90	299	67	22	11	66	0	0	11	5/10	
<i>Symphoricarpos oreophilus</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	33	0	0	100	-	0	0	0	-/-	

ECHO RESERVOIR – STUDY NO. 06-4

HERBACEOUS TRENDS--

Management unit 06, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	13	21
G	Agropyron spicatum	81	130
G	Oryzopsis hymenoides	71	79
G	Poa secunda	10	143
G	Sporobolus cryptandrus	2	1
G	Stipa comata	32	47
Total for Annual Grasses		0	0
Total for Perennial Grasses		209	421
Total for Grasses		209	421
F	Agoseris glauca	-	1
F	Antennaria sp.	24	20
F	Astragalus utahensis	79	17
F	Cirsium undulatum	8	2
F	Erigeron pumilus	-	5
F	Eriogonum brevicaulle	6	2
F	Penstemon humilis	1	-
F	Phlox austromontana	22	21
F	Phlox longifolia	-	1
F	Sphaeralcea coccinea	30	29
F	Tragopogon dubius (a)	15	1
Total for Annual Forbs		15	1
Total for Perennial Forbs		170	98
Total for Forbs		185	99

BASIC COVER--

Management unit 06, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	6.50	7.25
Rock	1.25	1.50
Pavement	2.25	4.50
Litter	61.00	46.50
Cryptogams	.75	7.75
Bare Ground	28.25	32.50

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 4

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	866	8	46	46	-	8	92	0	42/14
90	0	0	0	0	-	0	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
84	66	0	0	100	-	50	50	50	-/-
90	33	0	0	100	-	100	0	100	-/-
<i>Chrysothamnus nauseosus albicaulis</i>									
84	33	0	100	0	-	0	100	0	19/18
90	33	0	0	100	-	0	100	100	-/-
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	5132	1	40	58	-	14	0	0	12/18
90	2332	3	74	23	-	9	11	69	10/14
<i>Gutierrezia sarothrae</i>									
84	1432	5	93	2	-	0	0	0	13/14
90	2366	51	44	6	566	0	0	10	8/7
<i>Juniperus osteosperma</i>									
84	66	50	50	-	-	0	50	50	69/47
90	33	100	0	-	33	100	0	0	-/-
<i>Opuntia sp.</i>									
84	999	37	63	0	-	0	0	0	6/16
90	1199	28	69	3	-	0	0	22	4/16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
84	1266	26	63	11	-	32	0	0	27/25	
90	0	0	0	0	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
84	66	0	0	100	-	100	0	0	-/-	
90	66	0	0	100	-	100	0	50	-/-	

SPRING CANYON – STUDY NO. 06-5

HERBACEOUS TRENDS--

Management unit 06, Study no: 5

T y p e	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	59	32
G	Oryzopsis hymenoides	68	66
G	Poa pratensis	3	-
G	Poa secunda	13	56
G	Sitanion hystrix	1	34
G	Stipa comata	13	27
Total for Annual Grasses		0	0
Total for Perennial Grasses		157	215
Total for Grasses		157	215
F	Antennaria sp.	-	6
F	Arabis sp.	-	3
F	Astragalus convallarius	4	-
F	Astragalus utahensis	1	-
F	Chaenactis douglasii	2	-
F	Cirsium undulatum	2	-
F	Cryptantha sp.	30	13
F	Cymopterus longipes	-	2
F	Eriogonum umbellatum	7	2
F	Hackelia patens	-	11
F	Hedysarum boreale	8	-
F	Penstemon humilis	1	5
F	Penstemon sp.	17	-
F	Phlox austromontana	27	20
Total for Annual Forbs		0	0
Total for Perennial Forbs		99	62
Total for Forbs		99	62

BASIC COVER--

Management unit 06, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	.50	1.00
Rock	1.75	6.25
Pavement	9.25	12.50
Litter	56.25	48.50
Cryptogams	2.75	5.25
Bare Ground	29.50	26.50

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	33	100	0	-	-	100	0	100	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	66	50	0	50	-	50	0	0	-/-	
90	0	0	0	0	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
84	366	18	82	-	-	36	36	0	67/157	
90	299	11	89	-	-	0	33	0	186/153	
<i>Opuntia sp.</i>										
84	66	50	50	0	-	0	0	0	7/14	
90	165	40	40	20	-	0	0	20	5/10	

HIXON CANYON – STUDY NO. 06-6

HERBACEOUS TRENDS--

Management unit 06, Study no: 6

Type	Species	Nest Frequency	
		'84	'90
G	Agropyron spicatum	29	27
G	Oryzopsis hymenoides	86	116
G	Poa secunda	18	58
Total for Annual Grasses		0	0
Total for Perennial Grasses		133	201
Total for Grasses		133	201
F	Artemisia ludoviciana	21	17
F	Calochortus nuttallii	-	5
F	Chaenactis douglasii	9	53
F	Cirsium undulatum	9	17
F	Comandra pallida	6	1
F	Cryptantha sp.	6	16
F	Cynoglossum officinale	1	-
F	Hackelia patens	6	12
F	Machaeranthera canescens	1	2
F	Oenothera caespitosa	8	13
F	Phlox longifolia	-	2
F	Tragopogon dubius (a)	2	1
Total for Annual Forbs		2	1
Total for Perennial Forbs		67	138
Total for Forbs		69	139

BASIC COVER--

Management unit 06, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.75	7.00
Rock	21.00	23.00
Pavement	4.00	18.25
Litter	33.25	20.50
Cryptogams	0	0
Bare Ground	39.00	31.25

BROWSE CHARACTERISTICS--
Management unit 06, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	99	0	67	33	-	0	100	0	30/30	
90	66	0	100	0	-	0	100	0	39/31	
<i>Artemisia tridentata vaseyana</i>										
84	766	0	30	70	-	9	91	9	21/28	
90	166	20	20	60	33	20	20	40	14/43	
<i>Cercocarpus montanus</i>										
84	499	7	0	93	-	0	93	0	-/-	
90	498	13	13	73	-	7	93	60	22/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	299	0	78	22	-	0	56	0	20/18	
90	366	0	91	9	-	0	0	45	19/27	
<i>Gutierrezia sarothrae</i>										
84	15333	21	79	0	-	0	0	0	9/9	
90	22332	66	32	1	366	.14	0	.74	9/10	
<i>Juniperus osteosperma</i>										
84	133	0	100	-	-	0	0	0	60/48	
90	100	0	100	-	-	0	0	0	71/56	
<i>Opuntia sp.</i>										
84	632	21	79	0	-	0	0	0	6/7	
90	499	47	47	7	33	0	0	13	4/8	

WILDLIFE MANAGEMENT UNIT 06

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
84	66	0	50	50	-	50	50	0	19/17	
90	266	0	88	12	-	0	0	100	23/24	

CRANDALL CANYON – STUDY NO. 06-7

HERBACEOUS TRENDS--

Management unit 06, Study no: 7

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	26	268
G	Agropyron spicatum	244	21
G	Carex sp.	19	12
G	Oryzopsis hymenoides	53	53
G	Poa secunda	4	6
G	Sitanion hystrix	-	3
G	Stipa comata	1	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		347	373
Total for Grasses		347	373
F	Astragalus sp.	-	3
F	Balsamorhiza sagittata	3	3
F	Chaenactis douglasii	4	11
F	Cirsium undulatum	9	5
F	Comandra pallida	28	12
F	Cryptantha sp.	19	34
F	Eriogonum umbellatum	-	3
F	Hackelia patens	32	10
F	Penstemon humilis	11	6
F	Tragopogon dubius (a)	2	-
F	Unknown forb-perennial	3	-
Total for Annual Forbs		2	0
Total for Perennial Forbs		109	87
Total for Forbs		111	87

BASIC COVER--

Management unit 06, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.50	9.50
Rock	2.75	4.75
Pavement	11.25	7.25
Litter	46.50	37.00
Cryptogams	.25	0
Bare Ground	34.75	41.50

BROWSE CHARACTERISTICS--
Management unit 06, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	1133	47	0	53	-	24	18	29	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	866	8	46	46	-	62	31	0	20/23	
90	1133	0	29	71	66	12	59	41	19/23	
<i>Cercocarpus montanus</i>										
84	1333	10	45	45	-	15	85	0	17/18	
90	1065	6	6	88	-	13	81	31	6/10	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	6266	22	50	28	-	16	0	43	9/7	
<i>Gutierrezia sarothrae</i>										
84	4599	0	97	3	-	1	0	0	11/13	
90	7999	36	54	10	2333	0	0	3	8/7	
<i>Opuntia sp.</i>										
84	399	33	50	17	-	0	0	0	10/7	
90	199	33	67	0	-	0	0	0	6/6	
<i>Quercus gambelii</i>										
84	1999	37	63	0	-	27	47	0	30/19	
90	4400	73	0	27	666	26	6	18	-/-	

Symphoricarpos oreophilus									
8									
4	0	0	0	0	-	0	0	0	-/-
9									
0	866	15	0	85	-	54	8	62	-/-

SOUTH FORK CHALK CREEK – STUDY NO. 06-8

HERBACEOUS TRENDS--

Management unit 06, Study no: 8

Type	Species	Nested Frequency '90
G	Agropyron spicatum	137
G	Carex sp.	29
G	Poa fendleriana	104
G	Poa pratensis	2
G	Poa secunda	301
G	Sitanion hystrix	12
G	Stipa columbiana	4
Total for Annual Grasses		0
Total for Perennial Grasses		589
Total for Grasses		589
F	Achillea millefolium	63
F	Agoseris glauca	8
F	Allium sp.	2
F	Antennaria sp.	33
F	Arabis sp.	5
F	Astragalus convallarius	17
F	Astragalus utahensis	6
F	Calochortus nuttallii	1
F	Castilleja linariaefolia	11
F	Crepis acuminata	24
F	Cruciferae	3
F	Cymopterus sp.	1
F	Erigeron pumilus	38
F	Eriogonum racemosum	34
F	Eriogonum umbellatum	12
F	Hackelia patens	5
F	Heuchera parvifolia	1
F	Lupinus argenteus	3
F	Machaeranthera canescens	3
F	Phlox longifolia	24
F	Ranunculus sp.	2
F	Senecio integerrimus	1
F	Senecio multilobatus	3
F	Unknown forb-perennial	27
Total for Annual Forbs		0
Total for Perennial Forbs		327
Total for Forbs		327

BASIC COVER--

Management unit 06, Study no: 8

Cover Type	Average Cover % '90
Vegetation	13.75
Rock	10.00
Pavement	13.50
Litter	42.50
Cryptogams	7.50
Bare Ground	12.75

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
90	66	0	100	-	-	0	100	0	13/19	
<i>Artemisia tridentata vaseyana</i>										
90	5332	39	20	41	866	44	23	23	18/31	
<i>Cercocarpus montanus</i>										
90	332	20	40	40	133	0	80	20	13/19	
<i>Chrysothamnus nauseosus albicaulis</i>										
90	66	100	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
90	4266	33	33	34	-	8	0	27	10/14	
<i>Gutierrezia sarothrae</i>										
90	1133	29	71	-	200	6	0	0	6/8	
<i>Symphoricarpos oreophilus</i>										
90	600	0	0	100	-	33	11	33	-/-	

NORTH OAKLEY BENCH – STUDY NO. 06-9

HERBACEOUS TRENDS--

Management unit 06, Study no: 9

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron cristatum</i>	132	216
G	<i>Agropyron dasystachyum</i>	80	17
G	<i>Agropyron spicatum</i>	47	14
G	<i>Bromus inermis</i>	-	13
G	<i>Poa fendleriana</i>	-	4
G	<i>Poa pratensis</i>	116	182
G	<i>Poa secunda</i>	10	25
G	<i>Stipa columbiana</i>	133	221
Total for Annual Grasses		0	0
Total for Perennial Grasses		518	692
Total for Grasses		518	692
F	<i>Achillea millefolium</i>	52	46
F	<i>Allium acuminatum</i>	29	6
F	<i>Arabis</i> sp.	-	13
F	<i>Aster chilensis</i>	9	34
F	<i>Astragalus convallarius</i>	13	12
F	<i>Calochortus nuttallii</i>	3	11
F	<i>Cirsium undulatum</i>	137	73
F	<i>Comandra pallida</i>	15	22
F	<i>Crepis acuminata</i>	6	-
F	Cruciferae	-	2
F	<i>Cryptantha</i> sp.	4	-
F	<i>Cynoglossum officinale</i>	-	2
F	<i>Erigeron pumilus</i>	2	34
F	<i>Eriogonum racemosum</i>	4	15
F	<i>Ipomopsis aggregata</i>	-	2
F	<i>Lactuca serriola</i> (a)	-	3
F	<i>Lithospermum ruderae</i>	-	2
F	<i>Lupinus argenteus</i>	2	4
F	<i>Machaeranthera canescens</i>	70	128
F	<i>Penstemon</i> sp.	-	2
F	<i>Phlox longifolia</i>	-	22
F	<i>Senecio multilobatus</i>	3	-
F	<i>Sphaeralcea coccinea</i>	4	18
F	<i>Taraxacum officinale</i>	6	34
F	<i>Tragopogon dubius</i> (a)	7	56
F	<i>Verbascum thapsus</i>	11	9
F	<i>Vicia americana</i>	-	15

Type	Species	Nest Frequency	
		'84	'90
F	Viguiera multiflora	1	-
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		7	59
Total for Perennial Forbs		371	509
Total for Forbs		378	568

BASIC COVER--

Management unit 06, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	7.75	12.00
Rock	2.00	1.50
Pavement	.25	1.50
Litter	60.50	47.00
Cryptogams	1.25	4.25
Bare Ground	28.25	33.75

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier alnifolia										
84	66	0	0	100	-	100	0	0	-/-	
90	199	67	33	0	66	67	33	33	25/31	
Artemisia tridentata vaseyana										
84	3665	27	38	35	66	56	18	5	13/7	
90	1533	35	52	13	2466	30	4	4	14/17	
Chrysothamnus viscidiflorus viscidiflorus										
84	6932	0	74	26	-	0	0	0	16/15	
90	9932	17	66	17	1133	27	5	21	9/10	

WILDLIFE MANAGEMENT UNIT 06

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Mahonia repens</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	1933	69	31	-	-	14	0	0	3/4	
<i>Opuntia sp.</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	0	0	0	-	66	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	266	25	75	-	-	50	25	0	30/34	
90	266	25	75	-	-	0	100	0	22/41	
<i>Symphoricarpos oreophilus</i>										
84	266	0	75	25	-	75	0	0	11/15	
90	465	29	57	14	-	57	14	14	12/14	
<i>Tetradymia canescens</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	66	0	100	-	-	100	0	0	13/14	

MAHOGANY HILLS – STUDY NO. 06-10

HERBACEOUS TRENDS--

Management unit 06, Study no: 10

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron cristatum</i>	11	7
G	<i>Agropyron dasystachyum</i>	13	8
G	<i>Agropyron spicatum</i>	97	120
G	<i>Bromus inermis</i>	159	217
G	<i>Dactylis glomerata</i>	1	-
G	<i>Phleum pratense</i>	2	-
G	<i>Poa bulbosa</i>	-	8
G	<i>Poa fendleriana</i>	55	35
G	<i>Poa pratensis</i>	80	76
G	<i>Poa secunda</i>	129	133
G	<i>Stipa columbiana</i>	40	25
G	<i>Stipa comata</i>	8	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		595	641
Total for Grasses		595	641
F	<i>Achillea millefolium</i>	7	2
F	<i>Allium</i> sp.	-	28
F	<i>Antennaria</i> sp.	1	-
F	<i>Arabis</i> sp.	8	1
F	<i>Arenaria</i> sp.	-	4
F	<i>Astragalus convallarius</i>	4	32
F	<i>Balsamorhiza sagittata</i>	10	4
F	<i>Calochortus nuttallii</i>	-	5
F	<i>Castilleja linariaefolia</i>	6	3
F	<i>Cirsium undulatum</i>	3	4
F	<i>Comandra pallida</i>	-	2
F	<i>Crepis acuminata</i>	-	97
F	<i>Erigeron pumilus</i>	3	4
F	<i>Eriogonum racemosum</i>	7	11
F	<i>Hackelia patens</i>	88	38
F	<i>Lithospermum ruderales</i>	3	-
F	<i>Penstemon humilis</i>	11	13
F	<i>Phlox longifolia</i>	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		151	251
Total for Forbs		151	251

BASIC COVER--

Management unit 06, Study no: 10

Cover Type	Average Cover %	
	'84	'90
Vegetation	5.00	16.50
Rock	.50	0
Pavement	.50	0
Litter	80.50	76.00
Cryptogams	.50	.75
Bare Ground	13.00	6.75

BROWSE CHARACTERISTICS--

Management unit 06, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	399	17	0	83	-	0	100	67	-/-	
90	266	25	0	75	-	75	25	25	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	4132	0	18	82	-	34	61	27	32/41	
90	3265	2	53	45	-	76	4	16	27/30	
<i>Cercocarpus montanus</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	132	50	0	50	-	0	50	50	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	398	17	17	67	-	0	0	0	10/13	
90	66	0	100	0	-	0	0	0	13/3	
<i>Purshia tridentata</i>										
84	466	0	100	-	-	0	100	43	23/39	
90	266	0	100	-	-	75	0	0	25/40	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
84	1265	5	90	5	-	5	0	0	20/30	
90	1266	26	32	42	-	26	5	26	22/37	

WILDLIFE MANAGEMENT UNIT 07

STEVENS HOLLOW – STUDY NO. 07-1

HERBACEOUS TRENDS--

Management unit 07, Study no: 1

T y P e	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	38	49
G	Oryzopsis hymenoides	43	27
G	Poa fendleriana	2	4
G	Poa secunda	32	65
Total for Annual Grasses		0	0
Total for Perennial Grasses		115	145
Total for Grasses		115	145
F	Allium acuminatum	2	13
F	Chaenactis douglasii	14	17
F	Cirsium sp.	67	71
F	Comandra pallida	97	18
F	Crepis acuminata	-	2
F	Cryptantha sp.	72	20
F	Cymopterus sp.	-	1
F	Hackelia patens	-	73
F	Hedysarum boreale	7	-
F	Lithospermum ruderales	3	-
F	Penstemon sp.	23	17
F	Phlox longifolia	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		285	235
Total for Forbs		285	235

BASIC COVER--

Management unit 07, Study no: 1

Cover Type	Average Cover %	
	'84	'90
Vegetation	4.25	11.50
Rock	11.00	11.00
Pavement	4.50	3.00
Litter	62.75	51.00
Cryptogams	0	.25
Bare Ground	17.50	23.25

BROWSE CHARACTERISTICS--

Management unit 07, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	266	0	25	75	-	50	50	25	28/24	
90	398	17	17	67	-	33	33	17	12/6	
<i>Artemisia tridentata vaseyana</i>										
84	1399	0	48	52	-	19	76	10	25/31	
90	1399	14	19	67	333	33	33	29	19/32	
<i>Cercocarpus montanus</i>										
84	1132	23	59	18	-	18	76	12	53/43	
90	800	25	25	50	-	8	83	0	35/35	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	3732	2	64	34	-	4	0	7	14/14	
90	3799	14	58	28	-	0	0	7	11/12	
<i>Gutierrezia sarothrae</i>										
84	333	0	100	0	-	0	0	0	16/17	
90	1999	70	27	3	133	0	0	3	6/5	
<i>Mahonia repens</i>										
84	25400	0	100	-	-	0	0	0	4/4	
90	12866	45	55	-	-	0	0	0	3/4	
<i>Opuntia sp.</i>										
84	333	0	100	0	-	0	0	0	6/13	
90	265	50	25	25	-	0	0	25	7/10	

WILDLIFE MANAGEMENT UNIT 07

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
84	333	0	100	-	-	40	20	0	23/23	
90	400	0	100	-	-	17	0	0	15/9	
<i>Tetradymia canescens</i>										
84	266	0	100	-	-	0	0	0	6/15	
90	666	0	100	-	-	100	0	0	12/22	

PINYON CANYON – STUDY NO. 07-2

HERBACEOUS TRENDS--

Management unit 07, Study no: 2

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron dasystachyum	5	-
G	Agropyron spicatum	275	266
G	Poa fendleriana	107	65
G	Poa secunda	93	172
Total for Annual Grasses		0	0
Total for Perennial Grasses		480	503
Total for Grasses		480	503
F	Allium acuminatum	34	37
F	Astragalus sp.	-	1
F	Balsamorhiza sagittata	3	-
F	Calochortus nuttallii	6	3
F	Chaenactis douglasii	6	28
F	Cirsium undulatum	41	40
F	Comandra pallida	24	21
F	Crepis acuminata	-	3
F	Penstemon humilis	14	22
F	Petradoria pumila	41	61
F	Streptanthus cordatus	-	3
F	Tragopogon dubius (a)	4	-
F	Unknown forb-perennial	-	2
F	Viguiera multiflora	2	3
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		4	0
Total for Perennial Forbs		171	225
Total for Forbs		175	225

BASIC COVER--

Management unit 07, Study no: 2

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.50	9.50
Rock	23.00	25.25
Pavement	8.25	4.00
Litter	45.75	40.00
Cryptogams	1.75	0
Bare Ground	17.75	21.25

BROWSE CHARACTERISTICS--
Management unit 07, Study no: 2

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	1133	18	18	65	66	6	88	65	27/21
90	1266	42	47	11	-	21	26	0	22/22
<i>Artemisia tridentata vaseyana</i>									
84	132	0	50	50	-	0	100	0	24/20
90	66	0	0	100	-	100	0	0	-/-
<i>Cercocarpus montanus</i>									
84	1066	44	38	19	-	0	56	0	46/28
90	932	36	29	36	-	14	64	0	42/27
<i>Mahonia repens</i>									
84	8600	100	0	-	-	0	0	0	-/-
90	10466	46	54	-	-	0	0	0	4/4
<i>Quercus gambelii</i>									
84	2200	18	64	18	-	15	61	0	47/19
90	1933	62	38	0	-	66	0	0	43/29
<i>Symphoricarpos oreophilus</i>									
84	1532	13	65	22	-	65	13	0	22/23
90	2199	18	52	30	-	42	0	3	21/26

FOOTHILL DRIVE – STUDY NO. 07-3

HERBACEOUS TRENDS--

Management unit 07, Study no: 3

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	14	17
G	Poa pratensis	138	91
G	Poa secunda	48	41
Total for Annual Grasses		0	0
Total for Perennial Grasses		200	149
Total for Grasses		200	149
F	Antennaria sp.	-	3
F	Artemisia ludoviciana	10	28
F	Aster sp.	5	-
F	Astragalus sp.	9	-
F	Cirsium undulatum	51	94
F	Comandra pallida	3	-
F	Crepis acuminata	1	-
F	Cryptantha sp.	10	3
F	Erigeron pumilus	-	37
F	Eriogonum racemosum	9	6
F	Erodium cicutarium (a)	18	-
F	Heterotheca villosa	-	15
F	Lactuca serriola (a)	-	7
F	Lupinus argenteus	15	12
F	Machaeranthera canescens	2	-
F	Tragopogon dubius (a)	3	2
F	Viguiera multiflora	3	63
Total for Annual Forbs		21	9
Total for Perennial Forbs		118	261
Total for Forbs		139	270

BASIC COVER--

Management unit 07, Study no: 3

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.00	5.50
Rock	29.00	34.25
Pavement	1.00	2.50
Litter	52.50	50.50
Cryptogams	.75	.75
Bare Ground	13.75	6.50

BROWSE CHARACTERISTICS--
Management unit 07, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
84	33	0	0	100	-	0	100	0	-/-
90	33	100	0	0	-	100	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
84	1632	0	10	90	100	16	84	33	15/13
90	1932	10	45	45	833	50	7	7	27/28
<i>Gutierrezia sarothrae</i>									
84	1100	0	100	-	-	0	0	0	9/12
90	10599	35	65	-	-	0	0	0	9/13
<i>Mahonia repens</i>									
84	933	100	0	-	-	0	0	0	-/-
90	1266	89	11	-	33	0	0	0	4/3
<i>Opuntia sp.</i>									
84	366	27	73	0	-	0	0	0	4/6
90	166	0	80	20	66	0	0	20	4/9

ABOVE SAMAK – STUDY NO. 07-4

HERBACEOUS TRENDS--

Management unit 07, Study no: 4

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron cristatum</i>	117	100
G	<i>Agropyron intermedium</i>	55	47
G	<i>Agropyron spicatum</i>	26	20
G	<i>Bromus inermis</i>	243	267
G	<i>Poa fendleriana</i>	-	20
G	<i>Poa pratensis</i>	-	4
G	<i>Poa secunda</i>	3	8
G	<i>Stipa lettermani</i>	-	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		444	473
Total for Grasses		444	473
F	<i>Achillea millefolium</i>	5	4
F	<i>Allium acuminatum</i>	10	18
F	<i>Arabis</i> sp.	-	4
F	<i>Astragalus convallarius</i>	3	2
F	<i>Cirsium</i> sp.	1	6
F	<i>Cryptantha</i> sp.	20	-
F	<i>Erigeron pumilus</i>	15	10
F	<i>Machaeranthera canescens</i>	35	6
F	<i>Medicago sativa</i>	42	40
F	<i>Penstemon humilis</i>	55	55
F	<i>Phlox longifolia</i>	-	8
F	<i>Senecio integerrimus</i>	-	2
F	<i>Zigadenus paniculatus</i>	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		186	157
Total for Forbs		186	157

BASIC COVER--

Management unit 07, Study no: 4

Cover Type	Average Cover %	
	'84	'90
Vegetation	5.00	11.00
Rock	12.50	13.25
Pavement	9.25	15.00
Litter	54.75	40.50
Cryptogams	0	.75
Bare Ground	18.50	19.50

BROWSE CHARACTERISTICS--

Management unit 07, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	466	14	86	0	-	29	71	0	40/37	
90	332	40	40	20	133	20	60	0	34/30	
<i>Artemisia tridentata vaseyana</i>										
84	2399	28	58	14	200	61	39	0	20/29	
90	1665	8	64	28	-	52	8	12	19/23	
<i>Mahonia repens</i>										
84	15799	0	100	-	-	0	0	0	4/6	
90	5000	84	16	-	-	0	0	0	4/5	
<i>Quercus gambelii</i>										
84	12600	79	21	0	3066	75	8	0	47/37	
90	10799	78	8	14	4200	15	0	3	58/29	
<i>Symphoricarpos oreophilus</i>										
84	1066	12	88	0	-	100	0	0	18/29	
90	1999	7	67	27	66	20	7	33	14/15	

KAMAS WATER TANKS – STUDY NO. 07-5

HERBACEOUS TRENDS--

Management unit 07, Study no: 5

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron cristatum</i>	-	1
G	<i>Agropyron dasystachyum</i>	7	13
G	<i>Agropyron trachycaulum</i>	6	12
G	<i>Bromus carinatus</i>	3	-
G	<i>Carex sp.</i>	-	11
G	<i>Poa fendleriana</i>	-	1
G	<i>Poa pratensis</i>	215	248
G	<i>Poa secunda</i>	8	8
G	<i>Sitanion hystrix</i>	4	5
G	<i>Stipa columbiana</i>	2	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		245	307
Total for Grasses		245	307
F	<i>Achillea millefolium</i>	5	19
F	<i>Agoseris glauca</i>	-	1
F	<i>Aster chilensis</i>	-	3
F	<i>Calochortus nuttallii</i>	4	3
F	<i>Crepis acuminata</i>	-	12
F	<i>Cryptantha sp.</i>	1	-
F	<i>Eriogonum racemosum</i>	-	1
F	<i>Hackelia patens</i>	-	2
F	<i>Lupinus argenteus</i>	-	2
F	<i>Machaeranthera canescens</i>	-	3
F	<i>Melilotus officinalis</i>	-	1
F	<i>Penstemon humilis</i>	2	-
F	<i>Plantago major</i>	5	-
F	<i>Senecio integerrimus</i>	-	2
F	<i>Senecio multilobatus</i>	-	1
F	<i>Tragopogon dubius (a)</i>	3	8
F	<i>Viguiera multiflora</i>	1	7
F	<i>Zigadenus paniculatus</i>	-	9
Total for Annual Forbs		3	8
Total for Perennial Forbs		18	66
Total for Forbs		21	74

BASIC COVER--

Management unit 07, Study no: 5

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.25	10.75
Rock	5.25	5.25
Pavement	10.00	12.50
Litter	60.75	60.00
Cryptogams	0	0
Bare Ground	21.75	11.50

BROWSE CHARACTERISTICS--

Management unit 07, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	66	100	0	-	-	0	0	0	-/-	
90	66	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	11199	10	41	49	400	23	36	10	23/19	
90	8865	17	39	44	600	51	10	8	31/37	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
84	599	0	78	22	-	0	0	0	15/9	
90	0	0	0	0	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	0	0	0	0	-	0	0	0	-/-	
90	999	20	73	7	-	0	0	0	11/12	
<i>Mahonia repens</i>										
84	0	0	0	-	-	0	0	0	-/-	
90	133	100	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
84	400	0	100	-	66	0	0	0	20/32	
90	1266	26	74	-	-	47	0	0	17/20	

CEDAR HOLLOW – STUDY NO. 07-6

HERBACEOUS TRENDS--

Management unit 07, Study no: 6

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	152	151
G	<i>Bromus carinatus</i>	-	6
G	<i>Bromus inermis</i>	-	12
G	<i>Carex sp.</i>	73	92
G	<i>Poa bulbosa</i>	-	79
G	<i>Poa fendleriana</i>	97	130
G	<i>Poa pratensis</i>	46	83
G	<i>Poa secunda</i>	31	19
G	<i>Stipa lettermani</i>	9	28
Total for Annual Grasses		0	0
Total for Perennial Grasses		408	600
Total for Grasses		408	600
F	<i>Agoseris glauca</i>	-	4
F	<i>Aster chilensis</i>	105	121
F	<i>Balsamorhiza sagittata</i>	7	16
F	<i>Calochortus nuttallii</i>	-	2
F	<i>Castilleja linariaefolia</i>	3	1
F	<i>Cirsium undulatum</i>	14	17
F	<i>Comandra pallida</i>	80	83
F	<i>Crepis acuminata</i>	-	1
F	<i>Eriogonum racemosum</i>	1	8
F	<i>Eriogonum umbellatum</i>	-	4
F	<i>Hackelia patens</i>	10	-
F	<i>Ligusticum sp.</i>	-	5
F	<i>Lupinus argenteus</i>	-	8
F	<i>Machaeranthera canescens</i>	30	6
F	<i>Penstemon leonardi</i>	-	17
F	<i>Phlox longifolia</i>	-	32
F	<i>Senecio integerrimus</i>	-	1
F	<i>Solidago sp.</i>	41	-
F	<i>Streptanthus cordatus</i>	1	2
F	<i>Zigadenus paniculatus</i>	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		292	331
Total for Forbs		292	331

BASIC COVER--

Management unit 07, Study no: 6

Cover Type	Average Cover %	
	'84	'90
Vegetation	3.75	16.50
Rock	12.00	12.25
Pavement	7.00	11.75
Litter	60.00	46.75
Cryptogams	.25	0
Bare Ground	17.00	12.75

BROWSE CHARACTERISTICS--

Management unit 07, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	66	0	0	100	-	0	100	0	-/-	
90	732	82	9	9	333	9	18	18	89/71	
<i>Artemisia tridentata vaseyana</i>										
84	1332	0	25	75	66	45	55	15	23/35	
90	1132	12	47	41	-	29	0	18	26/28	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
84	200	0	0	100	-	67	0	0	-/-	
90	799	8	50	42	-	8	0	33	12/9	
<i>Eriogonum microthecum</i>										
84	666	30	70	-	-	10	0	0	5/6	
90	0	0	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
84	20599	96	4	-	-	0	0	0	6/4	
90	61799	54	46	-	3533	.10	0	0	6/4	

WILDLIFE MANAGEMENT UNIT 07

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Quercus gambelii</i>										
84	466	71	29	0	-	0	14	0	67/57	
90	2465	43	51	5	333	3	0	0	72/23	
<i>Rosa woodsii</i>										
84	333	60	40	-	-	0	40	20	25/5	
90	266	50	50	-	-	0	0	0	18/7	
<i>Symphoricarpos oreophilus</i>										
84	2933	48	41	11	-	39	5	5	23/36	
90	7133	31	64	6	533	31	.93	18	18/24	

PROVO RIVER CANYON – STUDY NO. 07-7

HERBACEOUS TRENDS--

Management unit 07, Study no: 7

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron cristatum	8	13
G	Agropyron dasystachyum	87	34
G	Agropyron spicatum	25	79
G	Poa secunda	38	141
G	Sitanion hystrix	13	25
Total for Annual Grasses		0	0
Total for Perennial Grasses		171	292
Total for Grasses		171	292
F	Agoseris glauca	-	9
F	Allium acuminatum	3	-
F	Arabis sp.	-	1
F	Astragalus convallarius	8	6
F	Astragalus sp.	2	-
F	Calochortus nuttallii	1	-
F	Crepis acuminata	8	13
F	Erigeron pumilus	7	3
F	Phlox longifolia	-	23
F	Unknown forb-perennial	16	-
F	Vicia americana	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		45	59
Total for Forbs		45	59

BASIC COVER--

Management unit 07, Study no: 7

Cover Type	Average Cover %	
	'84	'90
Vegetation	2.00	6.50
Rock	.25	1.25
Pavement	1.75	3.75
Litter	69.50	66.25
Cryptogams	13.25	14.00
Bare Ground	13.25	8.25

BROWSE CHARACTERISTICS--
Management unit 07, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
84	6332	5	62	33	200	40	36	12	33/28
90	6065	14	29	57	66	45	19	30	30/27
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
84	332	20	40	40	-	0	0	0	11/10
90	266	0	75	25	-	0	0	50	12/14
<i>Opuntia sp.</i>									
84	66	0	100	-	-	0	0	0	6/21
90	133	0	100	-	-	0	0	0	6/7
<i>Purshia tridentata</i>									
84	866	0	23	77	-	0	92	38	33/34
90	532	12	0	88	-	25	63	75	-/-

HAILSTONE – STUDY NO. 07-8

HERBACEOUS TRENDS--

Management unit 07, Study no: 8

Type	Species	Nested Frequency	
		'84	'90
G	Agropyron spicatum	-	1
G	Poa pratensis	4	10
G	Sitanion hystrix	-	2
G	Stipa lettermani	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		4	15
Total for Grasses		4	15
F	Artemisia ludoviciana	6	-
F	Astragalus convallarius	5	3
F	Cirsium undulatum	10	4
F	Comandra pallida	4	-
F	Eriogonum racemosum	14	14
F	Hedysarum boreale	6	-
F	Lithospermum ruderalis	-	3
F	Lupinus argenteus	75	15
F	Phlox longifolia	-	4
F	Verbascum thapsus	6	3
F	Vicia americana	-	4
F	Viguiera multiflora	19	51
Total for Annual Forbs		0	0
Total for Perennial Forbs		145	101
Total for Forbs		145	101

BASIC COVER--

Management unit 07, Study no: 8

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.50	5.00
Rock	11.00	5.50
Pavement	8.75	15.50
Litter	70.25	66.75
Cryptogams	0	0
Bare Ground	8.50	7.25

BROWSE CHARACTERISTICS--
Management unit 07, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier alnifolia										
84	133	0	100	0	-	0	0	0	19/14	
90	66	0	0	100	-	0	0	100	-/-	
Artemisia tridentata vaseyana										
84	7999	19	24	57	666	23	0	.83	23/25	
90	6799	22	32	46	4200	39	18	18	28/35	
Chrysothamnus viscidiflorus viscidiflorus										
84	199	33	67	-	-	0	0	0	9/4	
90	133	100	0	-	-	0	0	0	-/-	
Opuntia sp.										
84	600	0	100	0	-	0	0	0	4/5	
90	799	75	17	8	-	0	0	0	6/13	
Purshia tridentata										
84	798	8	33	58	133	42	42	0	14/18	
90	599	33	44	22	-	22	44	11	7/23	
Quercus gambelii										
84	399	83	17	-	-	17	0	0	43/25	
90	266	75	25	-	66	100	0	0	57/19	
Symphoricarpos oreophilus										
84	199	33	67	0	2400	0	0	0	14/16	
90	332	60	20	20	-	0	0	20	5/4	

ABOVE WOODLAND – STUDY NO. 07-9

HERBACEOUS TRENDS--

Management unit 07, Study no: 9

Type	Species	Nested Frequency	
		'84	'90
G	<i>Agropyron spicatum</i>	22	4
G	<i>Agropyron trichoporum</i>	1	-
G	<i>Bromus inermis</i>	-	19
G	<i>Poa fendleriana</i>	9	20
G	<i>Poa pratensis</i>	65	87
G	<i>Poa secunda</i>	40	17
G	<i>Stipa comata</i>	-	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		137	155
Total for Grasses		137	155
F	<i>Achillea millefolium</i>	-	15
F	<i>Agoseris glauca</i>	-	1
F	<i>Allium sp.</i>	-	27
F	<i>Ambrosia psilostachya</i>	-	11
F	<i>Arabis sp.</i>	-	6
F	<i>Artemisia ludoviciana</i>	17	13
F	<i>Aster chilensis</i>	-	31
F	<i>Balsamorhiza sagittata</i>	-	56
F	<i>Cirsium sp.</i>	3	3
F	<i>Crepis acuminata</i>	-	9
F	<i>Eriogonum umbellatum</i>	-	1
F	<i>Lathyrus brachycalyx</i>	-	1
F	<i>Lathyrus pauciflorus</i>	-	18
F	<i>Linaria dalmatica</i>	-	11
F	<i>Lithospermum ruderales</i>	-	11
F	<i>Lomatium sp.</i>	-	6
F	<i>Phlox longifolia</i>	-	15
F	<i>Solidago sparsiflora</i>	-	49
F	<i>Taraxacum officinale</i>	-	2
F	<i>Tragopogon dubius (a)</i>	1	8
F	<i>Viguiera multiflora</i>	20	-
F	<i>Wyethia amplexicaulis</i>	-	14
Total for Annual Forbs		1	8
Total for Perennial Forbs		40	300
Total for Forbs		41	308

WILDLIFE MANAGEMENT UNIT 07

BASIC COVER--

Management unit 07, Study no: 9

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	6.25
Rock	26.25	5.50
Pavement	8.25	25.75
Litter	58.50	46.50
Cryptogams	3.00	0
Bare Ground	3.00	16.00

BROWSE CHARACTERISTICS--

Management unit 07, Study no: 9

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
84	199	0	33	67	-	0	100	67	24/26	
90	0	0	0	0	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
84	1066	12	38	50	-	31	38	13	22/27	
90	0	0	0	0	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
84	132	50	50	-	-	0	0	0	6/7	
90	533	38	62	-	-	0	0	13	9/11	
<i>Mahonia repens</i>										
84	9533	27	73	-	333	0	0	0	3/2	
90	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
84	66	0	100	-	-	0	0	0	2/8	
90	0	0	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Pachistima myrsinites</i>										
84	1066	0	100	-	-	0	0	0	4/13	
90	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
84	266	0	75	25	-	50	50	0	16/43	
90	0	0	0	0	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
84	4932	66	34	0	-	41	15	0	30/15	
90	16665	66	19	15	4133	24	0	9	24/17	
<i>Symphoricarpos oreophilus</i>										
84	266	50	50	-	-	25	0	0	18/20	
90	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 08

WIDDOP MOUNTAIN SOUTH SLOPE – STUDY NO. 08A-1

HERBACEOUS TRENDS--

Management unit 08A, Study no: 1

Type	Species	Nested Frequency '88
G	Agropyron spicatum	233
G	Carex sp.	188
G	Koeleria cristata	60
G	Leucopoa kingii	23
G	Oryzopsis hymenoides	65
G	Stipa comata	40
Total for Annual Grasses		0
Total for Perennial Grasses		609
Total for Grasses		609
F	Aster chilensis	10
F	Astragalus sp.	3
F	Cirsium sp.	59
F	Comandra pallida	1
F	Cryptantha sp.	42
F	Descurainia pinnata (a)	14
F	Hymenoxys acaulis	2
F	Lesquerella alpina	40
F	Leucelene ericoides	21
F	Linum lewisii	2
F	Lithospermum ruderales	8
F	Machaeranthera grindelioides	4
F	Penstemon humilis	96
F	Phlox hoodii	51
F	Senecio multilobatus	30
F	Zigadenus paniculatus	4
Total for Annual Forbs		14
Total for Perennial Forbs		373
Total for Forbs		387

BASIC COVER--

Management unit 08A, Study no: 1

Cover Type	Average Cover % '88
Vegetation	8.00
Rock	3.75
Pavement	18.50
Litter	57.00
Cryptogams	0
Bare Ground	12.75

BROWSE CHARACTERISTICS--

Management unit 08A, Study no: 1

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
88	333	40	60	-	-	0	0	0	9/15
<i>Ceratoides lanata</i>									
88	66	0	100	-	-	100	0	0	5/4
<i>Cercocarpus montanus</i>									
88	6732	56	38	6	400	32	39	2	26/38
<i>Chrysothamnus viscidiflorus lanceolatus</i>									
88	398	17	67	17	-	17	0	17	10/11
<i>Gutierrezia sarothrae</i>									
88	9465	8	92	1	-	0	0	.70	7/5
<i>Tetradymia canescens</i>									
88	866	46	54	-	66	23	0	8	7/7

WIDDOP MOUNTAIN NORTH SLOPE – STUDY NO. 08A-2

HERBACEOUS TRENDS--

Management unit 08A, Study no: 2

Type	Species	Nested Frequency '88
G	Agropyron spicatum	151
G	Carex sp.	59
G	Leucopoa kingii	26
G	Poa fendleriana	104
G	Stipa comata	174
Total for Annual Grasses		0
Total for Perennial Grasses		514
Total for Grasses		514
F	Antennaria sp.	17
F	Arabis sp.	33
F	Arenaria sp.	96
F	Astragalus sp.	17
F	Castilleja flava	21
F	Crepis acuminata	5
F	Cruciferae	2
F	Cryptantha sp.	4
F	Erigeron eatonii	90
F	Eriogonum umbellatum	24
F	Heuchera parvifolia	8
F	Lesquerella alpina	46
F	Linum lewisii	2
F	Lupinus sp.	21
F	Penstemon humilis	92
F	Petradoria pumila	3
F	Phlox hoodii	144
F	Phlox longifolia	143
F	Zigadenus paniculatus	36
Total for Annual Forbs		0
Total for Perennial Forbs		804
Total for Forbs		804

BASIC COVER--

Management unit 08A, Study no: 2

Cover Type	Average Cover % '88
Vegetation	12.75
Rock	2.75
Pavement	15.25
Litter	57.25
Cryptogams	0
Bare Ground	12.00

BROWSE CHARACTERISTICS--

Management unit 08A, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	598	78	11	11	133	11	22	11	39/31	
<i>Artemisia frigida</i>										
88	266	0	100	-	-	0	0	25	5/4	
<i>Artemisia nova</i>										
88	5332	35	49	16	1266	5	0	5	10/7	
<i>Cercocarpus montanus</i>										
88	24332	89	8	2	6599	20	12	.82	25/18	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
88	4065	54	44	2	-	2	0	7	11/9	
<i>Eriogonum microthecum</i>										
88	10466	40	59	1	333	1	0	17	6/7	
<i>Gutierrezia sarothrae</i>										
88	4733	34	63	3	400	0	0	1	5/3	
<i>Symphoricarpos oreophilus</i>										
88	5933	37	44	19	400	10	3	6	11/10	
<i>Tetradymia canescens</i>										
88	2999	58	38	4	-	9	0	0	11/6	

BALD RANGE SOUTH – STUDY NO. 08A-3

HERBACEOUS TRENDS--

Management unit 08A, Study no: 3

Type	Species	Nested Frequency '88
G	Agropyron spicatum	271
G	Carex sp.	133
G	Koeleria cristata	20
G	Oryzopsis hymenoides	18
G	Poa fendleriana	50
G	Poa secunda	67
G	Stipa comata	3
Total for Annual Grasses		0
Total for Perennial Grasses		562
Total for Grasses		562
F	Astragalus sp.	3
F	Castilleja sp.	14
F	Cirsium sp.	27
F	Cruciferae	7
F	Cryptantha sp.	1
F	Erigeron eatonii	7
F	Erigeron pumilus	27
F	Hymenoxys acaulis	44
F	Lesquerella alpina	88
F	Penstemon humilis	114
F	Phlox hoodii	55
F	Senecio multilobatus	4
F	Trifolium sp.	45
F	Zigadenus paniculatus	85
Total for Annual Forbs		0
Total for Perennial Forbs		521
Total for Forbs		521

BASIC COVER--

Management unit 08A, Study no: 3

Cover Type	Average Cover % '88
Vegetation	10.50
Rock	17.50
Pavement	18.75
Litter	45.75
Cryptogams	.25
Bare Ground	7.25

BROWSE CHARACTERISTICS--

Management unit 08A, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	132	0	50	50	-	0	0	0	25/27	
<i>Artemisia frigida</i>										
88	199	67	33	-	-	0	0	0	4/7	
<i>Artemisia nova</i>										
88	2932	7	61	32	-	18	0	0	9/11	
<i>Cercocarpus montanus</i>										
88	7066	66	31	3	466	28	37	0	26/26	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
88	799	17	83	-	-	0	0	0	8/8	
<i>Eriogonum microthecum</i>										
88	732	9	91	-	-	9	0	9	6/7	
<i>Gutierrezia sarothrae</i>										
88	1199	17	83	-	-	6	0	0	5/5	
<i>Symphoricarpos oreophilus</i>										
88	66	0	100	-	-	0	0	0	15/15	
<i>Tetradymia canescens</i>										
88	200	100	0	-	-	67	0	0	-/-	

BALD RANGE – STUDY NO. 08A-4

HERBACEOUS TRENDS--

Management unit 08A, Study no: 4

Type	Species	Nested Frequency '88
G	<i>Agropyron dasystachyum</i>	37
G	<i>Agropyron spicatum</i>	158
G	<i>Carex</i> sp.	94
G	<i>Koeleria cristata</i>	54
G	<i>Oryzopsis hymenoides</i>	96
G	<i>Poa secunda</i>	27
G	<i>Stipa comata</i>	49
Total for Annual Grasses		0
Total for Perennial Grasses		515
Total for Grasses		515
F	<i>Antennaria</i> sp.	13
F	<i>Arabis</i> sp.	2
F	<i>Astragalus</i> sp.	5
F	<i>Cirsium</i> sp.	26
F	<i>Haplopappus acaulis</i>	7
F	<i>Ipomopsis aggregata</i>	4
F	<i>Lesquerella alpina</i>	45
F	<i>Machaeranthera grindelioides</i>	6
F	<i>Penstemon humilis</i>	150
F	<i>Phlox hoodii</i>	61
F	<i>Phlox longifolia</i>	77
F	<i>Senecio multilobatus</i>	3
F	<i>Trifolium</i> sp.	37
F	<i>Zigadenus paniculatus</i>	65
Total for Annual Forbs		0
Total for Perennial Forbs		501
Total for Forbs		501

BASIC COVER--

Management unit 08A, Study no: 4

Cover Type	Average Cover % '88
Vegetation	6.75
Rock	2.75
Pavement	27.50
Litter	46.00
Cryptogams	0
Bare Ground	17.00

BROWSE CHARACTERISTICS--

Management unit 08A, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
88	66	0	100	-	-	0	0	0	1/5	
<i>Artemisia nova</i>										
88	866	54	23	23	-	0	0	0	9/8	
<i>Cercocarpus montanus</i>										
88	5598	55	27	18	66	37	45	5	24/27	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
88	666	50	50	-	-	0	0	0	7/10	
<i>Gutierrezia sarothrae</i>										
88	19199	11	89	-	-	0	0	0	6/6	
<i>Symphoricarpos oreophilus</i>										
88	200	0	100	-	-	67	0	0	10/15	
<i>Tetradymia canescens</i>										
88	199	33	67	-	-	0	0	0	9/6	

TELEPHONE HOLLOW – STUDY NO. 08A-5

HERBACEOUS TRENDS--

Management unit 08A, Study no: 5

Type	Species	Nested Frequency '88
G	Agropyron spicatum	200
G	Carex sp.	121
G	Oryzopsis hymenoides	78
G	Stipa comata	44
Total for Annual Grasses		0
Total for Perennial Grasses		443
Total for Grasses		443
F	Cirsium sp.	21
F	Comandra pallida	2
F	Cryptantha sp.	79
F	Hymenoxys acaulis	3
F	Lesquerella alpina	13
F	Lithospermum incisum	19
F	Machaeranthera grindelioides	34
F	Penstemon humilis	63
F	Phlox hoodii	61
F	Townsendia incana	7
F	Trifolium sp.	5
Total for Annual Forbs		0
Total for Perennial Forbs		307
Total for Forbs		307

BASIC COVER--

Management unit 08A, Study no: 5

Cover Type	Average Cover % '88
Vegetation	9.25
Rock	8.00
Pavement	45.50
Litter	32.25
Cryptogams	0
Bare Ground	5.00

BROWSE CHARACTERISTICS--
Management unit 08A, Study no: 5

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
8 8	199	67	33	-	-	67	0	0	20/39	
<i>Artemisia frigida</i>										
8 8	400	0	100	-	-	0	0	0	4/4	
<i>Artemisia nova</i>										
8 8	66	0	100	-	-	0	0	0	7/8	
<i>Ceratoides lanata</i>										
8 8	66	100	0	-	-	0	0	100	-/-	
<i>Cercocarpus montanus</i>										
8 8	7265	55	43	2	66	22	45	.91	25/23	
<i>Gutierrezia sarothrae</i>										
8 8	16931	7	91	2	-	0	0	.78	7/5	
<i>Pinus flexilis</i>										
8 8	66	100	0	-	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
8 8	199	67	33	-	-	0	0	0	4/7	

CEDAR SPRING – STUDY NO. 08B-1

BASIC COVER--

Management unit 08B, Study no: 1

Cover Type	Average Cover % '82
Vegetation	3.75
Rock	2.75
Pavement	12.50
Litter	46.75
Cryptogams	1.75
Bare Ground	32.50

BROWSE CHARACTERISTICS--

Management unit 08B, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
8 2	2365	3	80	17	-	39	58	27	13/20	
<i>Eriogonum microthecum</i>										
8 2	33	0	100	-	-	0	0	0	4/5	
<i>Gutierrezia sarothrae</i>										
8 2	1866	0	100	-	-	0	0	0	8/10	
<i>Juniperus osteosperma</i>										
8 2	33	0	100	-	-	0	0	0	37/43	
<i>Opuntia sp.</i>										
8 2	166	0	100	-	-	0	0	0	4/6	
<i>Pinus edulis</i>										
8 2	366	9	91	-	-	9	0	18	18/15	
<i>Purshia tridentata</i>										
8 2	700	0	57	43	-	10	90	43	10/18	

GREENDALE – STUDY NO. 08B-4

HERBACEOUS TRENDS--

Management unit 08B, Study no: 4

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron dasystachyum</i>	-	37
G	<i>Carex</i> sp.	-	20
G	<i>Koeleria cristata</i>	-	18
G	<i>Poa pratensis</i>	-	303
G	<i>Poa secunda</i>	-	8
G	<i>Sitanion hystrix</i>	-	54
G	<i>Stipa comata</i>	-	36
G	<i>Stipa lettermani</i>	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	477
Total for Grasses		0	477
F	<i>Antennaria</i> sp.	-	6
F	<i>Aster chilensis</i>	-	4
F	<i>Balsamorhiza sagittata</i>	-	8
F	<i>Comandra pallida</i>	-	54
F	<i>Cymopterus longipes</i>	-	8
F	<i>Erigeron divergens</i>	-	28
F	<i>Erigeron eatonii</i>	-	12
F	<i>Eriogonum alatum</i>	-	45
F	<i>Eriogonum umbellatum</i>	-	6
F	<i>Heterotheca villosa</i>	-	110
F	<i>Linum lewisii</i>	-	40
F	<i>Lupinus argenteus</i>	-	1
F	<i>Oenothera pallida</i>	-	26
F	<i>Penstemon humilis</i>	-	2
F	<i>Petradoria pumila</i>	-	40
F	<i>Sedum lanceolatum</i>	-	23
F	<i>Solidago sparsiflora</i>	-	17
F	<i>Tragopogon dubius</i> (a)	-	5
Total for Annual Forbs		0	5
Total for Perennial Forbs		0	430
Total for Forbs		0	435

BASIC COVER--

Management unit 08B, Study no: 4

Cover Type	Average Cover %	
	'82	'88
Vegetation	9.25	10.75
Rock	2.25	4.00
Pavement	0	7.00
Litter	51.25	53.25
Cryptogams	1.25	0
Bare Ground	36.00	25.00

BROWSE CHARACTERISTICS--

Management unit 08B, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	1733	0	81	19	133	12	0	0	24/31	
88	4400	32	55	14	866	38	5	0	26/26	
<i>Ceanothus fendleri</i>										
82	66	100	0	-	-	0	0	0	-/-	
88	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	400	0	100	-	-	0	0	0	10/9	
88	466	0	100	-	-	0	0	0	12/10	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	0	100	-	-	0	0	0	6/10	
<i>Purshia tridentata</i>										
82	1399	5	95	0	-	86	14	0	22/26	
88	2198	21	67	12	-	42	27	12	19/25	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
8 2	66	0	100	-	-	0	0	0	9/17	
8 8	66	0	100	-	-	0	0	0	10/19	

BENNETT RANCH – STUDY NO. 08B-5

HERBACEOUS TRENDS--

Management unit 08B, Study no: 5

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	1
G	Agropyron dasystachyum	-	209
G	Koeleria cristata	-	47
G	Oryzopsis hymenoides	-	24
G	Poa fendleriana	-	177
G	Poa secunda	-	68
G	Sitanion hystrix	-	40
G	Stipa comata	-	111
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	677
Total for Grasses		0	677
F	Arabis sp.	-	4
F	Astragalus sp.	-	3
F	Calochortus nuttallii	-	7
F	Crepis acuminata	-	16
F	Descurainia pinnata (a)	-	13
F	Hymenoxys richardsonii	-	17
F	Leucelene ericoides	-	23
F	Linum lewisii	-	37
F	Machaeranthera canescens	-	1
F	Penstemon humilis	-	7
F	Phlox hoodii	-	146
F	Sphaeralcea coccinea	-	80
F	Townsendia incana	-	7
F	Unknown forb-perennial	-	8
Total for Annual Forbs		0	13
Total for Perennial Forbs		0	356
Total for Forbs		0	369

BASIC COVER--

Management unit 08B, Study no: 5

Cover Type	Average Cover %	
	'82	'88
Vegetation	3.00	6.75
Rock	5.50	9.00
Pavement	11.50	14.25
Litter	45.25	41.25
Cryptogams	.75	5.25
Bare Ground	34.00	23.50

BROWSE CHARACTERISTICS--

Management unit 08B, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	532	12	88	-	-	13	13	0	5/6	
<i>Artemisia nova</i>										
82	1932	7	93	0	-	7	0	0	6/12	
88	5466	20	59	22	800	44	12	5	7/14	
<i>Artemisia tridentata wyomingensis</i>										
82	3932	2	90	8	-	5	88	29	11/17	
88	7132	13	53	34	666	43	31	17	13/16	
<i>Ceratoides lanata</i>										
82	266	0	100	-	-	0	0	0	4/6	
88	466	0	100	-	-	43	57	0	4/5	
<i>Gutierrezia sarothrae</i>										
82	3133	0	100	0	-	0	0	0	5/5	
88	7865	45	54	1	66	0	0	.84	5/4	

WILDLIFE MANAGEMENT UNIT 08

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Opuntia sp.										
8 2	999	0	100	0	-	0	0	0	4/6	
8 8	2132	31	63	6	66	0	0	13	3/5	

DEATH VALLEY – STUDY NO. 08B-6

HERBACEOUS TRENDS--

Management unit 08B, Study no: 6

Type	Species	Nestled Frequency	
		'82	'88
G	Agropyron dasystachyum	-	153
G	Carex sp.	-	42
G	Festuca ovina	-	62
G	Koeleria cristata	-	28
G	Poa secunda	-	221
G	Stipa comata	-	28
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	534
Total for Grasses		0	534
F	Allium sp.	-	70
F	Antennaria sp.	-	15
F	Arabis sp.	-	35
F	Aster sp.	-	72
F	Balsamorhiza sagittata	-	3
F	Comandra pallida	-	19
F	Cryptantha sp.	-	22
F	Erigeron eatonii	-	43
F	Eriogonum umbellatum	-	24
F	Heterotheca villosa	-	17
F	Hymenoxys acaulis	-	19
F	Machaeranthera canescens	-	6
F	Phacelia sericea	-	6
F	Sedum lanceolatum	-	50
F	Senecio multilobatus	-	1
F	Townsendia incana	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	403
Total for Forbs		0	403

WILDLIFE MANAGEMENT UNIT 08

BASIC COVER--

Management unit 08B, Study no: 6

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.00	12.00
Rock	4.00	5.25
Pavement	0	.25
Litter	59.25	58.75
Cryptogams	1.00	9.50
Bare Ground	28.75	14.25

BROWSE CHARACTERISTICS--

Management unit 08B, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	332	20	80	-	-	0	0	0	4/5	
<i>Artemisia tridentata vaseyana</i>										
82	1599	21	50	29	66	54	0	4	14/25	
88	3465	31	42	27	200	44	8	0	11/15	
<i>Cercocarpus montanus</i>										
82	933	0	100	-	-	29	0	0	34/8	
88	533	38	62	-	-	50	13	0	36/44	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	1333	30	70	0	-	0	0	0	7/8	
88	1866	18	75	7	-	0	0	11	10/11	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	599	0	78	22	-	0	0	0	7/7	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Mahonia repens										
82	2133	38	62	-	266	0	0	0	7/2	
88	2066	81	19	-	-	0	0	0	2/2	
Opuntia sp.										
82	532	12	88	-	-	0	0	0	2/7	
88	666	50	50	-	-	0	0	0	3/9	
Rosa woodsii										
82	0	0	0	-	-	0	0	0	-/-	
88	333	100	0	-	-	0	0	0	-/-	
Tetradymia canescens										
82	932	29	71	0	-	0	0	0	8/13	
88	1532	43	22	35	-	13	0	0	9/10	

PHIL PICO MOUNTAIN – STUDY NO. 08B-8

HERBACEOUS TRENDS--

Management unit 08B, Study no: 8

Type	Species	Nested Frequency '88
G	<i>Agropyron spicatum</i>	297
G	<i>Carex</i> sp.	36
G	<i>Koeleria cristata</i>	16
G	<i>Oryzopsis hymenoides</i>	115
G	<i>Poa secunda</i>	45
Total for Annual Grasses		0
Total for Perennial Grasses		509
Total for Grasses		509
F	<i>Aster chilensis</i>	25
F	<i>Astragalus</i> sp.	8
F	<i>Balsamorhiza hookeri</i>	1
F	<i>Castilleja linariaefolia</i>	26
F	<i>Chaenactis douglasii</i>	28
F	<i>Cirsium</i> sp.	12
F	<i>Comandra pallida</i>	6
F	Cruciferae	2
F	<i>Cryptantha</i> sp.	81
F	<i>Delphinium nuttallianum</i>	65
F	<i>Lesquerella</i> sp.	65
F	<i>Leucelene ericoides</i>	10
F	<i>Linum lewisii</i>	6
F	<i>Lithospermum</i> sp.	1
F	<i>Machaeranthera canescens</i>	48
F	<i>Oxytropis sericea</i>	12
F	<i>Penstemon humilis</i>	66
F	<i>Phlox longifolia</i>	46
Total for Annual Forbs		0
Total for Perennial Forbs		508
Total for Forbs		508

BASIC COVER--

Management unit 08B, Study no: 8

Cover Type	Average Cover % '88
Vegetation	11.00
Rock	19.25
Pavement	23.25
Litter	38.00
Cryptogams	.25
Bare Ground	8.25

BROWSE CHARACTERISTICS--

Management unit 08B, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
88	14933	44	56	-	400	3	2	.44	5/4	
<i>Artemisia tridentata vaseyana</i>										
88	1999	17	60	23	133	20	13	0	11/16	
<i>Cercocarpus montanus</i>										
88	4132	37	45	18	200	16	73	5	27/24	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
88	333	0	100	-	-	0	0	40	9/7	
<i>Eriogonum microthecum</i>										
88	5599	19	79	2	-	11	5	0	5/6	
<i>Pediocactus simpsonii</i>										
88	132	50	50	-	-	0	0	0	3/4	
<i>Symphoricarpos oreophilus</i>										
88	399	83	17	-	-	0	0	0	9/15	
<i>Tetradymia canescens</i>										
88	266	0	100	-	-	0	0	0	6/7	

GOSLIN MOUNTAIN – STUDY NO. 08C-2

HERBACEOUS TRENDS--

Management unit 08C, Study no: 2

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron dasystachyum</i>	-	136
G	<i>Carex</i> sp.	-	22
G	<i>Danthonia unispicata</i>	-	14
G	<i>Koeleria cristata</i>	-	11
G	<i>Melica bulbosa</i>	-	86
G	<i>Poa</i> sp.	-	171
G	<i>Sitanion hystrix</i>	-	63
G	<i>Stipa columbiana</i>	-	89
G	<i>Stipa comata</i>	-	118
G	<i>Stipa lettermani</i>	-	54
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	764
Total for Grasses		0	764
F	<i>Achillea millefolium</i>	-	15
F	<i>Allium</i> sp.	-	21
F	<i>Antennaria</i> sp.	-	14
F	<i>Arabis</i> sp.	-	3
F	<i>Arenaria</i> sp.	-	1
F	<i>Aster chilensis</i>	-	16
F	<i>Astragalus argophyllus</i>	-	3
F	<i>Crepis acuminata</i>	-	3
F	<i>Erigeron flagellaris</i>	-	94
F	<i>Eriogonum umbellatum</i>	-	46
F	<i>Lupinus argenteus</i>	-	35
F	<i>Phlox longifolia</i>	-	117
F	<i>Taraxacum officinale</i>	-	4
F	<i>Trifolium gymnocarpon</i>	-	8
F	Unknown forb-perennial	-	33
F	<i>Zigadenus paniculatus</i>	-	8
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	421
Total for Forbs		0	421

BASIC COVER--

Management unit 08C, Study no: 2

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.50	12.00
Rock	2.75	2.00
Pavement	0	3.00
Litter	60.25	57.50
Cryptogams	1.00	.25
Bare Ground	27.50	25.25

BROWSE CHARACTERISTICS--

Management unit 08C, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	2332	6	91	3	-	0	0	0	27/33	
88	4865	21	27	52	733	38	1	4	27/39	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	200	0	100	0	-	0	0	0	9/7	
88	199	0	67	33	-	0	0	0	15/7	
<i>Mahonia repens</i>										
82	600	0	100	-	-	0	0	0	5/4	
88	1933	100	0	-	-	14	0	0	-/-	
<i>Purshia tridentata</i>										
82	533	25	75	-	-	25	63	0	11/21	
88	799	33	67	-	-	42	50	25	14/22	

BEAR TOP MOUNTAIN – STUDY NO. 08C-3

HERBACEOUS TRENDS--

Management unit 08C, Study no: 3

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron spicatum</i>	-	208
G	<i>Carex</i> sp.	-	72
G	<i>Koeleria cristata</i>	-	119
G	<i>Poa fendleriana</i>	-	111
G	<i>Poa secunda</i>	-	166
G	<i>Sitanion hystrix</i>	-	14
G	<i>Stipa comata</i>	-	129
G	<i>Stipa lettermani</i>	-	39
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	858
Total for Grasses		0	858
F	<i>Antennaria</i> sp.	-	124
F	<i>Arabis</i> sp.	-	11
F	<i>Arenaria</i> sp.	-	7
F	<i>Astragalus convallarius</i>	-	7
F	<i>Balsamorhiza sagittata</i>	-	5
F	<i>Erigeron pumilus</i>	-	83
F	<i>Eriogonum umbellatum</i>	-	79
F	<i>Heterotheca villosa</i>	-	31
F	<i>Linum lewisii</i>	-	38
F	<i>Lithospermum ruderales</i>	-	18
F	<i>Lupinus argenteus</i>	-	176
F	<i>Machaeranthera canescens</i>	-	7
F	<i>Penstemon humilis</i>	-	11
F	<i>Petrorhiza pumila</i>	-	7
F	<i>Phlox longifolia</i>	-	59
F	<i>Phlox multiflora</i>	-	66
F	<i>Sedum lanceolatum</i>	-	76
F	<i>Trifolium gymnocarpon</i>	-	18
F	<i>Zigadenus</i> sp.	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	827
Total for Forbs		0	827

BASIC COVER--

Management unit 08C, Study no: 3

Cover Type	Average Cover %	
	'82	'88
Vegetation	12.00	12.00
Rock	1.00	4.75
Pavement	0	0
Litter	58.25	59.75
Cryptogams	2.25	4.50
Bare Ground	26.50	19.00

BROWSE CHARACTERISTICS--

Management unit 08C, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	6266	24	67	9	66	21	1	2	15/24	
88	9065	28	47	25	-	42	1	2	16/18	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	2332	46	37	17	66	0	0	17	8/12	
88	3532	57	32	11	-	8	2	9	9/11	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	0	100	-	-	0	0	0	5/6	
<i>Tetradymia canescens</i>										
82	199	0	33	67	-	0	0	67	17/8	
88	133	0	100	0	-	100	0	0	13/18	

ANTELOPE FLAT – STUDY NO. 08C-7

HERBACEOUS TRENDS--

Management unit 08C, Study no: 7

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	238
G	Agropyron spicatum	18
G	Carex sp.	9
G	Koeleria cristata	55
G	Oryzopsis hymenoides	13
G	Poa fendleriana	5
G	Poa secunda	184
G	Sitanion hystrix	67
G	Stipa comata	87
Total for Annual Grasses		0
Total for Perennial Grasses		676
Total for Grasses		676
F	Allium sp.	4
F	Antennaria sp.	62
F	Arabis sp.	9
F	Astragalus convallarius	31
F	Cymopterus longipes	15
F	Erigeron eatonii	7
F	Penstemon humilis	60
F	Phlox hoodii	139
F	Phlox longifolia	153
F	Sphaeralcea coccinea	40
Total for Annual Forbs		0
Total for Perennial Forbs		520
Total for Forbs		520

BASIC COVER--

Management unit 08C, Study no: 7

Cover Type	Average Cover % '88
Vegetation	10.25
Rock	0
Pavement	1.00
Litter	45.50
Cryptogams	6.00
Bare Ground	37.25

BROWSE CHARACTERISTICS--
Management unit 08C, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
88	7198	14	39	47	533	36	43	6	15/17	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	7199	21	36	43	133	19	9	8	9/8	
<i>Gutierrezia sarothrae</i>										
88	999	7	93	-	133	0	0	7	5/4	
<i>Opuntia sp.</i>										
88	799	33	42	25	133	0	0	8	4/7	

WILDLIFE MANAGEMENT UNIT 09

RED MOUNTAIN ALLOTMENT – STUDY NO. 09-1

HERBACEOUS TRENDS--

Management unit 09, Study no: 1

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	71
G	Oryzopsis hymenoides	-	2
G	Poa fendleriana	-	111
G	Sitanion hystrix	-	50
G	Stipa comata	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	237
Total for Grasses		0	237
F	Allium sp.	-	12
F	Calochortus nuttallii	-	1
F	Cryptantha sp.	-	2
F	Lepidium montanum	-	12
F	Machaeranthera canescens	-	6
F	Orobanche sp.	-	3
F	Phlox longifolia	-	3
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	40
Total for Forbs		0	40

BASIC COVER--

Management unit 09, Study no: 1

Cover Type	Average Cover %	
	'82	'88
Vegetation	.25	3.25
Rock	0	0
Pavement	0	0
Litter	63.50	55.50
Cryptogams	1.00	11.75
Bare Ground	35.25	29.50

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	5132	1	91	8	-	34	52	5	23/26	
88	9665	3	44	53	200	41	17	19	24/21	
<i>Juniperus osteosperma</i>										
82	66	0	100	-	-	100	0	0	36/15	
88	66	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
82	66	0	100	-	-	0	0	0	4/16	
88	399	17	83	-	-	0	0	0	3/6	

TAYLOR MOUNTAIN – STUDY NO. 09-2

HERBACEOUS TRENDS--

Management unit 09, Study no: 2

Type	Species	Nested Frequency	
		'82	'88
G	<i>Festuca ovina</i>	-	3
G	<i>Koeleria cristata</i>	-	46
G	<i>Poa fendleriana</i>	-	173
G	<i>Poa pratensis</i>	-	22
G	<i>Poa secunda</i>	-	77
G	<i>Sitanion hystrix</i>	-	177
G	<i>Stipa comata</i>	-	90
G	<i>Stipa lettermani</i>	-	76
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	664
Total for Grasses		0	664
F	<i>Antennaria</i> sp.	-	107
F	<i>Arabis</i> sp.	-	45
F	<i>Arenaria</i> sp.	-	112
F	<i>Astragalus convallarius</i>	-	15
F	<i>Balsamorhiza hookeri</i>	-	72
F	<i>Castilleja linariaefolia</i>	-	15
F	<i>Comandra pallida</i>	-	3
F	<i>Erigeron eatonii</i>	-	100
F	<i>Eriogonum umbellatum</i>	-	58
F	<i>Ipomopsis aggregata</i>	-	5
F	<i>Lupinus argenteus</i>	-	18
F	<i>Penstemon</i> sp.	-	100
F	<i>Petradoria pumila</i>	-	94
F	<i>Phlox hoodii</i>	-	93
F	<i>Phlox longifolia</i>	-	50
F	<i>Potentilla gracilis</i>	-	12
F	<i>Senecio debilis</i>	-	101
F	<i>Trifolium gymnocarpon</i>	-	14
F	Unknown forb-perennial	-	11
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	1025
Total for Forbs		0	1025

BASIC COVER--

Management unit 09, Study no: 2

Cover Type	Average Cover %	
	'82	'88
Vegetation	11.00	7.25
Rock	.50	.75
Pavement	4.25	3.25
Litter	63.75	77.25
Cryptogams	0	0
Bare Ground	21.00	11.50

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	4666	26	56	19	266	11	0	0	23/29	
88	6531	15	71	13	-	12	1	0	23/26	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	1533	39	61	-	-	0	0	0	17/14	
88	2599	41	59	-	-	3	0	0	10/11	
<i>Purshia tridentata</i>										
82	2065	13	84	3	66	45	19	0	13/27	
88	2266	15	71	15	-	68	15	0	16/24	
<i>Symphoricarpos oreophilus</i>										
82	266	0	100	0	-	0	0	0	19/11	
88	532	25	63	12	-	0	0	13	14/16	

DRY FORK MOUNTAIN – STUDY NO. 09-3

HERBACEOUS TRENDS--

Management unit 09, Study no: 3

Type	Species	Nestled Frequency	
		'82	'88
G	Agropyron spicatum	-	212
G	Carex sp.	-	6
G	Oryzopsis hymenoides	-	1
G	Poa fendleriana	-	9
G	Sitanion hystrix	-	55
G	Stipa comata	-	121
G	Unknown grass - perennial	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	414
Total for Grasses		0	414
F	Calochortus nuttallii	-	8
F	Cryptantha sp.	-	3
F	Eriogonum racemosum	-	2
F	Heterotheca villosa	-	1
F	Penstemon humilis	-	2
F	Sphaeralcea coccinea	-	6
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	22
Total for Forbs		0	22

BASIC COVER--

Management unit 09, Study no: 3

Cover Type	Average Cover %	
	'82	'88
Vegetation	4.00	6.50
Rock	9.50	17.00
Pavement	1.25	.50
Litter	68.75	69.75
Cryptogams	4.25	0
Bare Ground	12.25	6.25

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	1732	4	81	15	-	0	0	0	27/40	
88	2532	8	50	42	-	26	0	0	26/31	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	66	0	100	0	-	0	0	0	16/20	
88	133	0	0	100	-	0	100	0	-/-	
<i>Opuntia fragilis</i>										
82	3599	28	72	-	-	0	0	0	4/10	
88	6332	68	32	-	-	0	0	0	5/12	
<i>Purshia tridentata</i>										
82	800	0	100	0	-	0	0	0	20/36	
88	1399	0	95	5	-	0	100	0	15/25	
<i>Symphoricarpos oreophilus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	0	100	-	-	100	0	0	13/9	

SAWTOOTH FLAT SPRING – STUDY NO. 09-4

HERBACEOUS TRENDS--

Management unit 09, Study no: 4

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	59
G	Carex sp.	-	85
G	Koeleria cristata	-	23
G	Poa fendleriana	-	315
G	Poa pratensis	-	81
G	Poa secunda	-	29
G	Sitanion hystrix	-	10
G	Stipa comata	-	45
G	Stipa lettermani	-	83
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	730
Total for Grasses		0	730
F	Agoseris glauca	-	3
F	Allium sp.	-	2
F	Antennaria sp.	-	5
F	Arabis sp.	-	51
F	Astragalus sp.	-	4
F	Balsamorhiza sagittata	-	152
F	Crepis acuminata	-	2
F	Erigeron eatonii	-	6
F	Erigeron flagellaris	-	8
F	Eriogonum alatum	-	4
F	Eriogonum racemosum	-	9
F	Eriogonum umbellatum	-	1
F	Lomatium sp.	-	18
F	Lupinus argenteus	-	55
F	Lychnis drummondii	-	6
F	Penstemon humilis	-	52
F	Phlox longifolia	-	96
F	Senecio multilobatus	-	1
F	Tragopogon dubius (a)	-	7
F	Unknown forb-perennial	-	5
Total for Annual Forbs		0	7
Total for Perennial Forbs		0	480
Total for Forbs		0	487

BASIC COVER--

Management unit 09, Study no: 4

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.25	12.50
Rock	1.75	1.50
Pavement	0	2.00
Litter	67.75	73.25
Cryptogams	.75	0
Bare Ground	22.50	10.75

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	1466	5	82	14	-	0	0	0	26/30	
88	3932	15	47	37	133	34	5	2	22/20	
<i>Opuntia fragilis</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	732	55	9	36	66	0	0	18	5/4	
<i>Purshia tridentata</i>										
82	1066	0	100	0	-	44	38	0	19/28	
88	1865	14	68	18	-	21	79	0	17/28	
<i>Symphoricarpos oreophilus</i>										
82	266	100	0	-	-	0	0	0	-/-	
88	332	20	80	-	-	40	0	0	18/18	

ISLAND PARK – STUDY NO. 09-5

HERBACEOUS TRENDS--

Management unit 09, Study no: 5

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	62
G	Hilaria jamesii	-	25
G	Oryzopsis hymenoides	-	12
G	Poa secunda	-	2
G	Sitanion hystrix	-	31
G	Stipa comata	-	213
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	345
Total for Grasses		0	345
F	Allium sp.	-	9
F	Astragalus convallarius	-	8
F	Descurainia pinnata (a)	-	1
F	Lesquerella sp.	-	1
F	Machaeranthera grindelioides	-	3
F	Phlox longifolia	-	72
F	Sphaeralcea coccinea	-	3
F	Unknown forb-perennial	-	7
Total for Annual Forbs		0	1
Total for Perennial Forbs		0	103
Total for Forbs		0	104

BASIC COVER--

Management unit 09, Study no: 5

Cover Type	Average Cover %	
	'82	'88
Vegetation	2.75	4.75
Rock	0	0
Pavement	0	0
Litter	45.50	31.00
Cryptogams	1.00	4.50
Bare Ground	50.75	59.75

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	3798	4	53	44	-	54	14	30	17/23	
88	5665	20	29	51	133	42	34	14	20/21	
<i>Eriogonum microthecum</i>										
82	200	0	100	-	-	0	0	0	13/6	
88	733	27	73	-	-	0	0	0	9/5	
<i>Gutierrezia sarothrae</i>										
82	7466	11	89	0	-	0	0	0	12/10	
88	30332	10	81	9	66	0	0	1	8/6	
<i>Opuntia sp.</i>										
82	133	0	100	-	-	0	0	0	3/5	
88	599	44	56	-	-	11	0	0	4/8	

ABOVE STEINAKER DRAW – STUDY NO. 09-6

HERBACEOUS TRENDS--

Management unit 09, Study no: 6

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	136
G	Hilaria jamesii	113
G	Oryzopsis hymenoides	17
G	Poa fendleriana	23
G	Poa secunda	41
G	Sitanion hystrix	3
G	Stipa comata	52
Total for Annual Grasses		0
Total for Perennial Grasses		385
Total for Grasses		385
F	Arabis sp.	1
F	Calochortus nuttallii	5
F	Cryptantha sp.	1
F	Descurainia pinnata (a)	4
F	Lepidium sp. (a)	9
F	Senecio multilobatus	5
F	Sphaeralcea coccinea	1
Total for Annual Forbs		13
Total for Perennial Forbs		13
Total for Forbs		26

BASIC COVER--

Management unit 09, Study no: 6

Cover Type	Average Cover % '88
Vegetation	4.75
Rock	.25
Pavement	0
Litter	55.50
Cryptogams	21.25
Bare Ground	18.25

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
88	2165	12	31	57	66	45	14	3	30/24	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	99	33	33	33	-	0	0	100	18/20	
<i>Ephedra viridis</i>										
88	132	50	25	25	-	25	50	0	15/14	
<i>Grayia spinosa</i>										
88	166	0	40	60	-	40	20	0	22/23	
<i>Juniperus osteosperma</i>										
88	133	75	25	-	-	0	0	0	72/57	
<i>Opuntia sp.</i>										
88	1132	15	85	-	-	0	0	0	3/11	

WARREN DRAW – STUDY NO. 09-7

HERBACEOUS TRENDS--

Management unit 09, Study no: 7

Type	Species	Nested Frequency	
		'82	'88
G	Carex sp.	-	26
G	Festuca ovina	-	20
G	Koeleria cristata	-	51
G	Poa fendleriana	-	41
G	Poa secunda	-	89
G	Sitanion hystrix	-	278
G	Stipa comata	-	57
G	Stipa pinetorum	-	188
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	750
Total for Grasses		0	750
F	Achillea millefolium	-	34
F	Antennaria sp.	-	191
F	Arabis drummondi	-	24
F	Artemisia ludoviciana	-	1
F	Aster sp.	-	15
F	Astragalus aretioides	-	1
F	Descurainia pinnata (a)	-	1
F	Erigeron eatonii	-	136
F	Hymenoxys richardsonii	-	3
F	Lupinus argenteus	-	24
F	Penstemon sp.	-	13
F	Phlox hoodii	-	234
F	Phlox longifolia	-	52
F	Taraxacum officinale	-	18
F	Unknown forb-perennial	-	11
Total for Annual Forbs		0	1
Total for Perennial Forbs		0	757
Total for Forbs		0	758

BASIC COVER--

Management unit 09, Study no: 7

Cover Type	Average Cover %	
	'82	'88
Vegetation	18.25	23.00
Rock	1.25	1.50
Pavement	0	0
Litter	65.50	59.00
Cryptogams	.25	.50
Bare Ground	14.75	16.00

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 7

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata vaseyana									
82	3799	0	93	7	-	30	26	7	18/31
88	10732	13	36	51	3000	63	9	9	21/25

RYE GRASS – STUDY NO. 09-8

HERBACEOUS TRENDS--

Management unit 09, Study no: 8

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	208
G	Agropyron spicatum	-	68
G	Carex sp.	-	9
G	Elymus cinereus	-	4
G	Koeleria cristata	-	111
G	Poa fendleriana	-	156
G	Poa secunda	-	185
G	Sitanion hystrix	-	2
G	Stipa comata	-	190
G	Stipa lettermani	-	36
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	969
Total for Grasses		0	969
F	Antennaria sp.	-	128
F	Arabis sp.	-	19
F	Astragalus convallarius	-	127
F	Balsamorhiza hookeri	-	69
F	Chaenactis douglasii	-	7
F	Comandra pallida	-	33
F	Erigeron flagellaris	-	67
F	Eriogonum umbellatum	-	14
F	Heterotheca villosa	-	8
F	Hymenoxys richardsonii	-	11
F	Ipomopsis aggregata	-	3
F	Lithospermum sp.	-	2
F	Lomatium sp.	-	5
F	Machaeranthera grindelioides	-	3
F	Penstemon humilis	-	92
F	Petradoria pumila	-	30
F	Phlox hoodii	-	118
F	Phlox longifolia	-	8
F	Senecio multilobatus	-	6
F	Sphaeralcea coccinea	-	62
F	Taraxacum officinale	-	3
F	Trifolium gymnocarpon	-	4
F	Valeriana edulis	-	4
Total for Annual Forbs		0	0

Type	Species	Nested Frequency	
		'82	'88
Total for Perennial Forbs		0	823
Total for Forbs		0	823

BASIC COVER--

Management unit 09, Study no: 8

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.25	13.00
Rock	1.75	1.00
Pavement	0	4.50
Litter	67.75	43.25
Cryptogams	.75	.50
Bare Ground	22.50	37.75

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	66	0	100	0	-	100	0	0	10/12	
88	66	0	0	100	-	0	0	100	-/-	
<i>Artemisia nova</i>										
82	1732	27	73	0	-	8	0	0	8/20	
88	7866	4	20	75	5600	42	41	11	5/10	
<i>Artemisia tridentata vaseyana</i>										
82	1399	29	62	10	-	0	0	0	23/39	
88	4198	22	24	54	1400	46	13	6	14/20	
<i>Cercocarpus ledifolius</i>										
82	999	33	67	-	-	0	0	0	13/16	
88	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 09

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	666	60	20	20	266	20	0	0	5/7	
<i>Eriogonum microthecum</i>										
82	1533	13	87	0	-	0	0	0	9/5	
88	1265	53	42	5	66	11	5	0	5/5	
<i>Gutierrezia sarothrae</i>										
82	2665	25	75	-	-	0	0	0	5/6	
88	2599	36	64	-	1200	0	0	0	5/6	
<i>Opuntia sp.</i>										
82	66	0	100	-	-	0	0	0	4/21	
88	0	0	0	-	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	0	100	-	-	50	0	0	5/5	

LITTLE HOLE – STUDY NO. 09-9

HERBACEOUS TRENDS--

Management unit 09, Study no: 9

Type	Species	Nest Frequency	
		'82	'88
G	Agropyron dasystachyum	-	53
G	Agropyron spicatum	-	97
G	Carex sp.	-	2
G	Koeleria cristata	-	61
G	Melica bulbosa	-	27
G	Poa fendleriana	-	28
G	Poa pratensis	-	90
G	Poa secunda	-	150
G	Sitanion hystrix	-	113
G	Stipa comata	-	144
G	Stipa lettermani	-	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	773
Total for Grasses		0	773
F	Antennaria sp.	-	15
F	Arabis sp.	-	3
F	Astragalus convallarius	-	1
F	Astragalus sp.	-	1
F	Chaenactis douglasii	-	13
F	Crepis acuminata	-	8
F	Cystopteris fragilis	-	4
F	Erigeron eatonii	-	15
F	Eriogonum umbellatum	-	2
F	Heterotheca villosa	-	84
F	Ipomopsis aggregata	-	3
F	Lithospermum ruderales	-	4
F	Penstemon sp.	-	3
F	Petrorhiza pumila	-	7
F	Sphaeralcea coccinea	-	24
F	Taraxacum officinale	-	17
F	Tragopogon dubius (a)	-	9
Total for Annual Forbs		0	9
Total for Perennial Forbs		0	204
Total for Forbs		0	213

WILDLIFE MANAGEMENT UNIT 09

BASIC COVER--

Management unit 09, Study no: 9

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.75	12.25
Rock	6.00	12.50
Pavement	.25	.75
Litter	64.50	61.50
Cryptogams	5.00	4.25
Bare Ground	15.50	8.75

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 9

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	33	0	100	-	-	100	0	0	27/22	
88	66	50	50	-	-	0	0	0	26/20	
<i>Artemisia tridentata vaseyana</i>										
82	1999	2	80	18	-	57	2	3	17/23	
88	3566	11	15	74	-	42	3	4	16/20	
<i>Cercocarpus montanus</i>										
82	33	0	100	-	-	100	0	0	28/31	
88	66	50	50	-	100	50	50	0	22/31	
<i>Eriogonum microthecum</i>										
82	200	0	100	0	-	0	0	17	9/8	
88	732	36	50	14	33	0	0	9	7/6	
<i>Gutierrezia sarothrae</i>										
82	266	0	100	-	-	0	0	0	9/6	
88	166	0	100	-	-	0	0	0	7/6	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia sp.</i>										
82	233	0	100	0	-	0	0	0	6/9	
88	333	60	30	10	-	0	0	30	4/6	
<i>Pinus edulis</i>										
82	33	100	0	-	-	0	0	0	-/-	
88	33	100	0	-	66	0	0	0	-/-	
<i>Pinus ponderosa</i>										
82	66	50	50	-	-	0	0	0	41/69	
88	133	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
82	399	17	83	0	-	33	0	0	22/32	
88	1865	70	27	4	400	25	7	4	17/24	

TOLIVER CREEK CHAINING – STUDY NO. 09-10

HERBACEOUS TRENDS--

Management unit 09, Study no: 10

Type	Species	Nested Frequency '88
G	Agropyron cristatum	84
G	Agropyron intermedium	3
G	Bromus tectorum (a)	210
G	Dactylis glomerata	73
G	Oryzopsis hymenoides	17
G	Poa secunda	11
G	Sitanion hystrix	33
G	Sporobolus cryptandrus	2
G	Unknown grass - perennial	39
Total for Annual Grasses		210
Total for Perennial Grasses		262
Total for Grasses		472
F	Chenopodium album (a)	7
F	Chenopodium leptophyllum(a)	22
F	Descurainia pinnata (a)	19
F	Draba reptans (a)	7
F	Leucelene ericoides	37
F	Medicago sativa	24
F	Sanguisorba minor	5
F	Unknown forb-annual (a)	7
F	Unknown forb-perennial	9
Total for Annual Forbs		62
Total for Perennial Forbs		75
Total for Forbs		137

BASIC COVER--

Management unit 09, Study no: 10

Cover Type	Average Cover % '88
Vegetation	3.00
Rock	12.25
Pavement	1.50
Litter	54.75
Cryptogams	0
Bare Ground	28.50

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 10

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
8 8	33	100	0	-	-	0	0	0	-/-	
<i>Atriplex canescens</i>										
8 8	133	100	0	-	133	0	0	0	-/-	
<i>Chrysothamnus nauseosus hololeucus</i>										
8 8	33	0	100	-	-	0	0	0	11/8	
<i>Gutierrezia sarothrae</i>										
8 8	200	0	100	-	-	0	0	0	4/6	
<i>Opuntia sp.</i>										
8 8	1065	50	34	16	66	0	0	13	4/12	

TOLIVER CREEK PJ – STUDY NO. 09-11

HERBACEOUS TRENDS--

Management unit 09, Study no: 11

Type	Species	Nested Frequency '88
G	Sitanion hystrix	10
Total for Annual Grasses		0
Total for Perennial Grasses		10
Total for Grasses		10

BASIC COVER--

Management unit 09, Study no: 11

Cover Type	Average Cover % '88
Vegetation	.75
Rock	27.00
Pavement	.75
Litter	44.75
Cryptogams	2.75
Bare Ground	24.00

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 11

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Gutierrezia sarothrae									
88	99	67	33	-	-	0	0	0	4/5
Juniperus osteosperma									
88	333	10	60	30	-	0	30	0	73/88
Opuntia sp.									
88	499	20	73	7	-	0	7	7	4/12
Pinus edulis									
88	133	75	25	-	-	0	0	0	150/142

BROWNS PARK BURN AND PJ – STUDY NO. 09-12

HERBACEOUS TRENDS--

Management unit 09, Study no: 12

Type	Species	Nested Frequency '88
G	Agropyron cristatum	13
G	Oryzopsis hymenoides	4
Total for Annual Grasses		0
Total for Perennial Grasses		17
Total for Grasses		17
F	Chenopodium album (a)	1
F	Descurainia pinnata (a)	3
F	Melilotus officinalis	3
Total for Annual Forbs		4
Total for Perennial Forbs		3
Total for Forbs		7

BASIC COVER--

Management unit 09, Study no: 12

Cover Type	Average Cover % '88
Vegetation	0
Rock	28.00
Pavement	1.75
Litter	7.00
Cryptogams	0
Bare Ground	63.25

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Pachistima myrsinites										
88	333	40	60	-	-	0	0	0	4/3	

JOHN STAR FLAT – STUDY NO. 09-13

HERBACEOUS TRENDS--

Management unit 09, Study no: 13

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron spicatum</i>	-	125
G	<i>Bouteloua gracilis</i>	-	12
G	<i>Carex</i> sp.	-	93
G	<i>Koeleria cristata</i>	-	5
G	<i>Oryzopsis hymenoides</i>	-	7
G	<i>Poa secunda</i>	-	171
G	<i>Sitanion hystrix</i>	-	59
G	<i>Stipa comata</i>	-	175
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	647
Total for Grasses		0	647
F	<i>Antennaria</i> sp.	-	8
F	<i>Arabis</i> sp.	-	3
F	<i>Artemisia ludoviciana</i>	-	6
F	<i>Astragalus convallarius</i>	-	7
F	<i>Astragalus spatulatus</i>	-	2
F	<i>Balsamorhiza hookeri</i>	-	155
F	<i>Calochortus nuttallii</i>	-	6
F	<i>Comandra pallida</i>	-	43
F	<i>Cryptantha</i> sp.	-	15
F	<i>Cymopterus longipes</i>	-	7
F	<i>Erigeron flagellaris</i>	-	21
F	<i>Erigeron pumilus</i>	-	2
F	<i>Eriogonum umbellatum</i>	-	5
F	<i>Helianthella microcephala</i>	-	58
F	<i>Heuchera parvifolia</i>	-	4
F	<i>Lithospermum ruderales</i>	-	15
F	<i>Lychnis drummondii</i>	-	3
F	<i>Machaeranthera grindelioides</i>	-	14
F	<i>Penstemon caespitosus</i>	-	12
F	<i>Penstemon humilis</i>	-	35
F	<i>Petradoria pumila</i>	-	46
F	<i>Phlox longifolia</i>	-	72
F	<i>Sedum lanceolatum</i>	-	55
F	<i>Senecio multilobatus</i>	-	8
F	<i>Sphaeralcea coccinea</i>	-	12

Type	Species	Nested Frequency	
		'82	'88
F	Tragopogon dubius (a)	-	4
Total for Annual Forbs		0	4
Total for Perennial Forbs		0	614
Total for Forbs		0	618

BASIC COVER--

Management unit 09, Study no: 13

Cover Type	Average Cover %	
	'82	'88
Vegetation	12.50	7.50
Rock	2.00	4.75
Pavement	2.50	2.50
Litter	69.50	68.75
Cryptogams	.75	.75
Bare Ground	12.75	15.75

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 13

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Amelanchier utahensis									
82	333	0	100	-	-	100	0	0	24/24
88	533	62	38	-	-	50	13	0	26/25
Artemisia nova									
82	2066	16	84	0	66	52	0	0	12/17
88	4132	29	40	31	266	18	2	8	14/15
Artemisia tridentata vaseyana									
82	0	0	0	0	-	0	0	0	-/-
88	266	75	0	25	133	0	0	0	-/-

WILDLIFE MANAGEMENT UNIT 09

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Cercocarpus montanus</i>									
82	2866	21	74	5	-	65	7	0	21/27
88	5000	60	32	8	800	43	23	20	30/36
<i>Chrysothamnus depressus</i>									
82	0	0	0	0	-	0	0	0	-/-
88	332	0	80	20	-	0	0	0	4/6
<i>Gutierrezia sarothrae</i>									
82	66	0	100	0	-	0	0	0	9/9
88	799	0	92	8	-	0	0	8	8/6
<i>Juniperus osteosperma</i>									
82	66	0	100	-	-	0	0	0	47/39
88	66	0	100	-	-	0	0	0	53/55
<i>Opuntia fragilis</i>									
82	2333	0	100	0	-	0	0	0	2/7
88	12133	35	49	16	1533	0	0	10	2/6
<i>Pinus edulis</i>									
82	0	0	0	-	-	0	0	0	-/-
88	66	100	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
82	1399	71	29	-	-	0	0	0	7/4
88	1132	77	23	-	-	0	0	29	9/14
<i>Tetradymia canescens</i>									
82	266	0	100	-	-	75	25	25	13/14
88	199	67	33	-	-	33	0	0	7/10

RED PINE CANYON – STUDY NO. 09-14

HERBACEOUS TRENDS--

Management unit 09, Study no: 14

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	169
G	Bouteloua gracilis	-	7
G	Poa fendleriana	-	38
G	Poa pratensis	-	38
G	Poa secunda	-	80
G	Sporobolus cryptandrus	-	11
G	Stipa comata	-	105
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	448
Total for Grasses		0	448
F	Antennaria sp.	-	3
F	Arabis sp.	-	15
F	Artemisia ludoviciana	-	6
F	Chenopodium leptophyllum(a)	-	6
F	Comandra pallida	-	8
F	Cryptantha sp.	-	4
F	Cymopterus sp.	-	2
F	Eriogonum racemosum	-	12
F	Eriogonum umbellatum	-	5
F	Lupinus argenteus	-	10
F	Mirabilis linearis var. linearis	-	13
F	Oenothera pallida	-	42
F	Penstemon sp.	-	22
F	Phlox longifolia	-	3
F	Unknown forb-perennial	-	4
Total for Annual Forbs		0	6
Total for Perennial Forbs		0	149
Total for Forbs		0	155

BASIC COVER--

Management unit 09, Study no: 14

Cover Type	Average Cover %	
	'82	'88
Vegetation	9.00	6.25
Rock	5.25	9.25
Pavement	0	.25
Litter	75.25	74.50
Cryptogams	4.00	1.50
Bare Ground	9.00	8.25

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 14

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	3199	38	54	8	-	2	0	4	27/32	
88	4332	32	52	15	66	6	2	3	31/32	
<i>Cercocarpus montanus</i>										
82	200	0	100	-	-	33	33	0	35/31	
88	199	33	67	-	-	67	33	0	47/39	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	133	0	100	0	-	0	0	0	14/17	
88	199	0	33	67	-	33	0	33	20/7	
<i>Mahonia repens</i>										
82	20799	32	68	-	-	0	0	0	7/2	
88	35199	38	62	-	-	39	0	0	6/4	
<i>Opuntia sp.</i>										
82	533	0	100	-	-	0	0	0	2/5	
88	799	42	58	-	133	0	0	0	4/7	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
82	1466	5	95	0	-	55	9	14	31/38	
88	1598	17	63	21	200	46	38	4	29/35	
<i>Symphoricarpos oreophilus</i>										
82	400	0	100	-	-	50	0	0	14/23	
88	999	73	27	-	400	7	20	7	15/19	

MUD SPRING DRAW – STUDY NO. 09-15

HERBACEOUS TRENDS--

Management unit 09, Study no: 15

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron spicatum</i>	-	263
G	<i>Bouteloua gracilis</i>	-	3
G	<i>Carex</i> sp.	-	54
G	<i>Poa fendleriana</i>	-	256
G	<i>Poa secunda</i>	-	47
G	<i>Sitanion hystrix</i>	-	9
G	<i>Stipa comata</i>	-	50
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	682
Total for Grasses		0	682
F	<i>Arabis</i> sp.	-	6
F	<i>Artemisia ludoviciana</i>	-	23
F	<i>Astragalus convallarius</i>	-	4
F	<i>Balsamorhiza hookeri</i>	-	55
F	<i>Castilleja chromosa</i>	-	11
F	<i>Chaenactis douglasii</i>	-	2
F	<i>Comandra pallida</i>	-	15
F	<i>Eriogonum umbellatum</i>	-	19
F	<i>Lithospermum</i> sp.	-	14
F	<i>Lupinus argenteus</i>	-	25
F	<i>Machaeranthera grindelioides</i>	-	5
F	<i>Penstemon</i> sp.	-	30
F	<i>Petradoria pumila</i>	-	3
F	<i>Phlox longifolia</i>	-	1
F	<i>Sedum</i> sp.	-	35
F	<i>Sphaeralcea coccinea</i>	-	1
F	<i>Tragopogon dubius</i> (a)	-	2
Total for Annual Forbs		0	2
Total for Perennial Forbs		0	249
Total for Forbs		0	251

BASIC COVER--

Management unit 09, Study no: 15

Cover Type	Average Cover %	
	'82	'88
Vegetation	6.75	12.25
Rock	3.50	7.50
Pavement	0	.50
Litter	73.50	71.50
Cryptogams	3.00	1.00
Bare Ground	13.25	7.25

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 15

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	466	0	100	0	-	14	29	0	27/25	
88	666	60	30	10	-	40	30	30	45/53	
<i>Artemisia tridentata vaseyana</i>										
82	266	0	75	25	-	25	0	0	22/29	
88	399	50	17	33	-	50	0	0	22/20	
<i>Cercocarpus montanus</i>										
82	3133	26	74	0	-	28	0	0	33/24	
88	4799	69	28	3	733	63	18	0	43/43	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	1600	0	100	0	-	0	0	0	18/13	
88	1199	6	44	50	-	0	0	33	10/11	
<i>Mahonia repens</i>										
82	3932	0	49	-	-	0	0	0	5/7	
88	31066	8	92	-	-	0	0	.85	4/3	

WILDLIFE MANAGEMENT UNIT 09

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia sp.</i>										
82	999	0	100	-	-	0	0	0	2/5	
88	933	100	0	-	733	0	0	0	-/-	
<i>Purshia tridentata</i>										
82	200	0	100	-	-	33	67	0	17/25	
88	133	0	100	-	-	50	0	0	19/25	
<i>Symphoricarpos oreophilus</i>										
82	999	33	67	-	-	0	0	0	13/15	
88	1199	39	61	-	-	11	0	0	12/16	

MOSBY MOUNTAIN – STUDY NO. 09-16

HERBACEOUS TRENDS--

Management unit 09, Study no: 16

Type	Species	Nestled Frequency	
		'82	'88
G	<i>Agropyron dasystachyum</i>	-	260
G	<i>Poa fendleriana</i>	-	277
G	<i>Poa pratensis</i>	-	4
G	<i>Poa secunda</i>	-	182
G	<i>Sitanion hystrix</i>	-	16
G	<i>Stipa comata</i>	-	21
G	<i>Stipa lettermani</i>	-	53
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	813
Total for Grasses		0	813
F	<i>Allium</i> sp.	-	3
F	<i>Antennaria</i> sp.	-	61
F	<i>Arabis</i> sp.	-	60
F	<i>Aster</i> sp.	-	68
F	<i>Astragalus purshii</i>	-	28
F	<i>Astragalus</i> sp.	-	19
F	<i>Balsamorhiza hookeri</i>	-	157
F	<i>Calochortus nuttallii</i>	-	3
F	<i>Descurainia pinnata</i> (a)	-	23
F	<i>Erigeron flagellaris</i>	-	19
F	<i>Eriogonum alatum</i>	-	122
F	<i>Eriogonum umbellatum</i>	-	6
F	<i>Lithospermum ruderale</i>	-	8
F	<i>Lupinus argenteus</i>	-	17
F	<i>Penstemon</i> sp.	-	15
F	<i>Phlox longifolia</i>	-	24
F	<i>Sedum lanceolatum</i>	-	5
F	<i>Sphaeralcea coccinea</i>	-	13
F	<i>Tragopogon dubius</i> (a)	-	10
Total for Annual Forbs		0	33
Total for Perennial Forbs		0	628
Total for Forbs		0	661

WILDLIFE MANAGEMENT UNIT 09

BASIC COVER--

Management unit 09, Study no: 16

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.00	13.00
Rock	.25	2.50
Pavement	.50	1.00
Litter	72.00	56.50
Cryptogams	.75	5.25
Bare Ground	19.50	21.75

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 16

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	1066	25	75	0	-	38	63	6	23/25	
88	1265	53	26	21	133	21	32	5	35/37	
<i>Artemisia tridentata vaseyana</i>										
82	2933	14	82	5	-	7	0	0	16/21	
88	3598	19	54	28	133	19	0	2	25/29	
<i>Chrysothamnus nauseosus graveolens</i>										
82	66	0	100	-	-	0	0	0	19/15	
88	66	0	100	-	-	0	0	100	29/9	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	399	33	67	-	-	0	0	0	10/14	
88	666	40	60	-	-	0	0	60	7/9	
<i>Eriogonum heracleoides</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	266	25	75	-	-	25	0	0	4/7	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia sp.</i>										
82	133	0	100	-	-	0	0	0	1/12	
88	666	40	60	-	66	0	0	20	4/9	
<i>Purshia tridentata</i>										
82	333	0	100	-	-	60	40	0	7/19	
88	599	44	56	-	66	33	33	0	10/19	
<i>Symphoricarpos oreophilus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	0	100	-	-	0	0	0	16/14	

FARM CREEK – STUDY NO. 09-17

HERBACEOUS TRENDS--

Management unit 09, Study no: 17

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron spicatum	-	72
G	Carex sp.	-	51
G	Oryzopsis hymenoides	-	8
G	Sitanion hystrix	-	12
G	Sporobolus cryptandrus	-	5
G	Stipa comata	-	42
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	190
Total for Grasses		0	190
F	Arabis sp.	-	3
F	Artemisia ludoviciana	-	1
F	Balsamorhiza hookeri	-	12
F	Cryptantha sp.	-	2
F	Eriogonum alatum	-	1
F	Eriogonum umbellatum	-	5
F	Heterotheca villosa	-	148
F	Linum lewisii	-	5
F	Machaeranthera grindelioides	-	5
F	Penstemon sp.	-	4
F	Petradoria pumila	-	14
F	Sedum sp.	-	110
F	Sphaeralcea coccinea	-	6
F	Unknown forb-perennial	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	320
Total for Forbs		0	320

BASIC COVER--

Management unit 09, Study no: 17

Cover Type	Average Cover %	
	'82	'88
Vegetation	3.00	9.75
Rock	10.75	15.25
Pavement	7.75	5.00
Litter	60.00	47.00
Cryptogams	3.75	2.00
Bare Ground	14.75	21.00

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 17

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	133	0	100	-	-	100	0	0	19/21	
88	866	69	31	-	200	31	8	0	55/55	
<i>Artemisia frigida</i>										
82	66	0	100	-	-	0	0	0	13/17	
88	66	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
82	666	0	100	0	-	10	0	0	18/22	
88	465	14	57	29	66	43	0	0	24/31	
<i>Cercocarpus montanus</i>										
82	2599	10	90	0	66	59	23	13	19/24	
88	3665	49	31	20	400	55	9	53	23/27	
<i>Chrysothamnus nauseosus</i>										
82	333	0	100	-	-	80	0	0	12/26	
88	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 09

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
82	133	0	100	-	-	0	0	0	10/10
88	66	0	100	-	-	0	0	100	8/8
<i>Echinocereus sp.</i>									
82	733	0	100	-	-	0	0	0	2/2
88	0	0	0	-	-	0	0	0	-/-
<i>Gutierrezia sarothrae</i>									
82	866	0	100	0	-	0	0	0	8/14
88	10732	6	85	9	-	0	0	0	8/6
<i>Pinus ponderosa</i>									
82	66	100	0	-	-	0	0	0	-/-
88	66	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
82	600	0	100	-	-	67	0	0	15/24
88	599	56	44	-	-	33	22	11	9/15
<i>Symphoricarpos oreophilus</i>									
82	0	0	0	-	-	0	0	0	-/-
88	333	40	60	-	-	0	0	0	15/15
<i>Tetradymia canescens</i>									
82	0	0	0	0	-	0	0	0	-/-
88	799	17	67	17	66	50	17	0	12/20

GOOSEBERRY SPRING – STUDY NO. 09-18

HERBACEOUS TRENDS--

Management unit 09, Study no: 18

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron dasystachyum</i>	-	237
G	<i>Bouteloua gracilis</i>	-	13
G	<i>Bromus anomalus</i>	-	3
G	<i>Carex</i> sp.	-	99
G	<i>Koeleria cristata</i>	-	19
G	<i>Poa pratensis</i>	-	113
G	<i>Poa secunda</i>	-	264
G	<i>Stipa comata</i>	-	2
G	<i>Stipa lettermani</i>	-	20
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	770
Total for Grasses		0	770
F	<i>Agoseris glauca</i>	-	3
F	<i>Allium cernuum</i>	-	24
F	<i>Antennaria</i> sp.	-	1
F	<i>Arabis</i> sp.	-	4
F	<i>Aster</i> sp.	-	39
F	<i>Astragalus convallarius</i>	-	61
F	<i>Astragalus</i> sp.	-	7
F	<i>Astragalus spatulatus</i>	-	10
F	<i>Astragalus tenellus</i>	-	71
F	<i>Balsamorhiza hookeri</i>	-	23
F	<i>Castilleja chromosa</i>	-	13
F	<i>Castilleja linariaefolia</i>	-	4
F	<i>Chaenactis douglasii</i>	-	1
F	<i>Cirsium undulatum</i>	-	14
F	<i>Comandra pallida</i>	-	53
F	<i>Crepis acuminata</i>	-	14
F	<i>Cymopterus</i> sp.	-	2
F	<i>Erigeron eatonii</i>	-	97
F	<i>Eriogonum alatum</i>	-	7
F	<i>Eriogonum umbellatum</i>	-	5
F	<i>Euphorbia brachycera</i>	-	1
F	<i>Hymenoxys acaulis</i>	-	24
F	<i>Lesquerella</i> sp.	-	3
F	<i>Linum lewisii</i>	-	3
F	<i>Lithospermum</i> sp.	-	14
F	<i>Lupinus argenteus</i>	-	77

Type	Species	Nested Frequency	
		'82	'88
F	<i>Orthocarpus tolmiei</i> (a)	-	11
F	<i>Penstemon caespitosus</i>	-	10
F	<i>Penstemon dolius</i>	-	8
F	<i>Penstemon</i> sp.	-	23
F	<i>Petradoria pumila</i>	-	59
F	<i>Phlox austromontana</i>	-	93
F	<i>Phlox longifolia</i>	-	53
F	<i>Potentilla gracilis</i>	-	18
F	<i>Senecio multilobatus</i>	-	70
F	<i>Sphaeralcea coccinea</i>	-	31
F	<i>Taraxacum officinale</i>	-	16
F	<i>Viguiera multiflora</i>	-	3
Total for Annual Forbs		0	11
Total for Perennial Forbs		0	959
Total for Forbs		0	970

BASIC COVER--

Management unit 09, Study no: 18

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.50	13.00
Rock	6.50	9.00
Pavement	2.25	4.50
Litter	54.75	57.00
Cryptogams	1.75	0
Bare Ground	25.50	16.50

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	2133	19	72	9	133	31	56	3	45/18	
88	3265	69	22	8	1666	31	18	8	47/31	
<i>Artemisia nova</i>										
82	1933	41	48	10	-	45	7	10	12/15	
88	1798	48	37	15	66	30	0	11	9/14	
<i>Artemisia tridentata vaseyana</i>										
82	3533	15	62	23	-	38	13	26	18/16	
88	3066	13	61	26	-	22	2	9	18/14	
<i>Chrysothamnus depressus</i>										
82	533	0	100	-	-	0	100	38	2/6	
88	532	88	12	-	-	0	0	0	4/5	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	4265	11	89	0	-	22	61	22	8/12	
88	6798	69	30	1	66	.98	0	.98	10/12	
<i>Purshia tridentata</i>										
82	333	0	100	-	-	0	100	0	13/19	
88	399	33	67	-	-	33	67	0	17/23	
<i>Symphoricarpos oreophilus</i>										
82	14133	28	71	1	400	30	4	3	19/23	
88	14065	66	33	1	2266	5	.47	3	18/17	

Tetradymia canescens									
8									
2	66	100	0	-	-	0	100	0	-/-
8									
8	666	70	30	-	-	10	0	0	4/3

MOSBY MOUNTAIN SOUTH – STUDY NO. 09-19

HERBACEOUS TRENDS--

Management unit 09, Study no: 19

Type	Species	Nested Frequency '88
G	<i>Agropyron spicatum</i>	93
G	<i>Bouteloua gracilis</i>	27
G	<i>Carex</i> sp.	7
G	<i>Poa pratensis</i>	25
G	<i>Poa secunda</i>	66
G	<i>Sitanion hystrix</i>	155
G	<i>Stipa comata</i>	31
Total for Annual Grasses		0
Total for Perennial Grasses		404
Total for Grasses		404
F	<i>Arabis</i> sp.	7
F	<i>Astragalus purshii</i>	8
F	<i>Comandra pallida</i>	3
F	<i>Eriogonum racemosum</i>	25
F	<i>Heterotheca villosa</i>	18
F	<i>Hymenoxys acaulis</i>	2
F	<i>Lupinus argenteus</i>	13
F	<i>Oenothera pallida</i>	1
F	<i>Penstemon</i> sp.	5
F	<i>Petradoria pumila</i>	8
F	<i>Phlox longifolia</i>	9
F	<i>Sedum lanceolatum</i>	1
F	<i>Senecio multilobatus</i>	1
F	<i>Sphaeralcea coccinea</i>	5
Total for Annual Forbs		0
Total for Perennial Forbs		106
Total for Forbs		106

WILDLIFE MANAGEMENT UNIT 09

BASIC COVER--

Management unit 09, Study no: 19

Cover Type	Average Cover % '88
Vegetation	7.50
Rock	16.50
Pavement	1.00
Litter	67.00
Cryptogams	0
Bare Ground	8.00

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 19

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	600	100	0	-	-	22	67	44	-/-	
<i>Artemisia nova</i>										
88	2865	35	9	56	200	47	5	5	12/20	
<i>Artemisia tridentata vaseyana</i>										
88	7533	32	35	34	200	47	4	2	14/21	
<i>Gutierrezia sarothrae</i>										
88	1999	0	97	3	-	0	0	0	6/6	
<i>Opuntia sp.</i>										
88	1732	96	4	-	600	0	0	8	2/10	
<i>Purshia tridentata</i>										
88	466	29	71	-	-	0	86	0	12/43	

SEEP HOLLOW – STUDY NO. 09-20

HERBACEOUS TRENDS--

Management unit 09, Study no: 20

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	82
G	Agropyron spicatum	-	157
G	Carex sp.	-	21
G	Koeleria cristata	-	9
G	Oryzopsis hymenoides	-	13
G	Poa fendleriana	-	122
G	Poa secunda	-	15
G	Stipa comata	-	68
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	487
Total for Grasses		0	487
F	Arabis sp.	-	2
F	Castilleja linariaefolia	-	17
F	Cirsium sp.	-	7
F	Comandra pallida	-	34
F	Cryptantha sp.	-	7
F	Erigeron flagellaris	-	4
F	Lomatium sp.	-	20
F	Penstemon sp.	-	11
F	Senecio integerrimus	-	13
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	115
Total for Forbs		0	115

BASIC COVER--

Management unit 09, Study no: 20

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.50	7.50
Rock	10.50	14.00
Pavement	0	0
Litter	64.25	64.25
Cryptogams	1.25	0
Bare Ground	15.50	14.25

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 20

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	799	58	42	-	-	17	0	0	16/14	
88	466	86	14	-	-	14	0	0	56/32	
Artemisia tridentata vaseyana										
82	2666	0	85	15	-	18	5	13	19/24	
88	2732	15	54	32	-	49	2	5	17/22	
Cercocarpus montanus										
82	533	0	100	-	-	38	0	25	33/21	
88	466	29	71	-	66	100	0	0	28/39	
Chrysothamnus viscidiflorus lanceolatus										
82	733	0	100	0	-	0	0	0	11/9	
88	1332	20	60	20	-	10	0	0	11/11	
Eriogonum heracleoides										
82	1933	0	100	-	-	0	0	0	13/10	
88	3065	59	41	-	-	0	0	30	5/7	
Mahonia repens										
82	1066	0	100	-	-	0	0	0	4/6	
88	2866	88	12	-	133	0	0	7	3/5	
Opuntia sp.										
82	1332	35	65	-	-	0	0	0	4/8	
88	2465	59	41	-	66	0	0	14	4/9	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Pinus edulis</i>										
82	66	0	100	-	-	0	0	0	69/59	
88	66	0	100	-	-	0	0	0	83/47	
<i>Purshia tridentata</i>										
82	333	0	100	0	-	80	0	0	12/16	
88	465	14	72	14	-	57	0	0	24/21	
<i>Symphoricarpos oreophilus</i>										
82	1599	13	79	8	-	4	0	8	16/27	
88	932	71	14	14	-	36	0	0	28/22	

WILDLIFE MANAGEMENT UNIT 10

INDIAN RIDGE – STUDY NO. 10-1

HERBACEOUS TRENDS--

Management unit 10, Study no: 1

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	75
G	Bouteloua gracilis	-	8
G	Poa fendleriana	-	9
G	Sporobolus cryptandrus	-	161
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	253
Total for Grasses		0	253
F	Sphaeralcea coccinea	-	20
F	Tragopogon dubius (a)	-	5
F	Trifolium dubium	-	6
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	5
Total for Perennial Forbs		0	27
Total for Forbs		0	32

BASIC COVER--

Management unit 10, Study no: 1

Cover Type	Average Cover %	
	'82	'88
Vegetation	2.25	8.75
Rock	1.25	.50
Pavement	13.50	4.75
Litter	73.00	79.50
Cryptogams	0	0
Bare Ground	10.00	6.50

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
82	3799	33	67	-	733	0	0	0	9/9	
88	266	50	50	-	266	0	0	0	13/5	
<i>Atriplex canescens</i>										
82	400	0	100	-	-	50	0	0	30/31	
88	599	11	89	-	-	0	0	0	49/70	
<i>Ceratoides lanata</i>										
82	7133	17	83	0	400	2	0	0	12/9	
88	7932	41	58	1	66	24	7	0	15/10	
<i>Gutierrezia sarothrae</i>										
82	66	0	100	-	-	0	0	0	7/11	
88	0	0	0	-	-	0	0	0	-/-	

McCOOK RIDGE EXCLOSURE – STUDY NO. 10-2

HERBACEOUS TRENDS--

Management unit 10, Study no: 2

Type	Species	Nested Frequency	
		'82	'88
G	Festuca ovina	-	4
G	Oryzopsis hymenoides	-	1
G	Poa secunda	-	30
G	Sitanion hystrix	-	17
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	52
Total for Grasses		0	52
F	Erigeron pumilus	-	32
F	Sphaeralcea coccinea	-	98
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	130
Total for Forbs		0	130

BASIC COVER--

Management unit 10, Study no: 2

Cover Type	Average Cover %	
	'82	'88
Vegetation	2.25	2.50
Rock	0	0
Pavement	0	0
Litter	48.50	60.75
Cryptogams	0	.50
Bare Ground	49.25	36.25

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
82	300	0	100	-	33	0	0	0	7/3	
88	1199	19	81	-	233	0	0	0	7/5	
<i>Artemisia tridentata tridentata</i>										
82	3966	15	79	6	166	5	0	6	24/33	
88	5865	44	26	30	1766	47	14	2	24/30	
<i>Atriplex canescens</i>										
82	400	0	100	-	-	0	0	0	27/21	
88	699	29	71	-	-	0	0	0	26/29	
<i>Ceratoides lanata</i>										
82	3466	21	79	0	-	0	0	0	5/5	
88	3698	29	48	23	-	2	0	3	7/4	
<i>Gutierrezia sarothrae</i>										
82	2999	44	56	0	700	0	0	0	10/7	
88	6766	24	74	1	5066	.49	.49	0	5/5	
<i>Opuntia sp.</i>										
82	233	0	100	-	-	0	0	0	3/4	
88	266	62	38	-	-	0	0	0	4/9	
<i>Pinus edulis</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	33	100	0	-	33	0	0	0	-/-	

MCCOOK RIDGE CHAINING- STUDY NO. 10-3

HERBACEOUS TRENDS--

Management unit 10, Study no: 3

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	257
G	Agropyron dasystachyum	-	2
G	Agropyron intermedium	-	67
G	Agropyron spicatum	-	13
G	Bouteloua gracilis	-	6
G	Bromus inermis	-	52
G	Carex sp.	-	33
G	Elymus junceus	-	16
G	Koeleria cristata	-	11
G	Oryzopsis hymenoides	-	6
G	Poa secunda	-	18
G	Sitanion hystrix	-	8
G	Stipa comata	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	490
Total for Grasses		0	490
F	Arabis sp.	-	7
F	Arenaria fendleri	-	14
F	Astragalus spatulatus	-	34
F	Caulanthus crassicaulis	-	2
F	Haplopappus acaulis	-	11
F	Machaeranthera grindelioides	-	62
F	Medicago sativa	-	1
F	Phlox austromontana	-	2
F	Physaria sp.	-	9
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	142
Total for Forbs		0	142

BASIC COVER--

Management unit 10, Study no: 3

Cover Type	Average Cover %	
	'82	'88
Vegetation	5.25	12.50
Rock	1.00	2.50
Pavement	.75	5.25
Litter	73.25	69.00
Cryptogams	0	.50
Bare Ground	19.75	10.25

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	1932	34	66	0	400	48	17	0	22/25	
88	1532	17	57	26	266	57	13	9	24/29	
<i>Ceratoides lanata</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	199	67	33	-	-	0	0	0	15/5	
<i>Chrysothamnus depressus</i>										
82	6266	0	100	0	-	0	100	0	3/9	
88	27266	45	53	2	1266	40	.48	.24	4/9	
<i>Gutierrezia sarothrae</i>										
82	66	0	100	0	-	0	0	0	4/1	
88	4598	23	75	1	-	0	0	0	8/5	
<i>Juniperus osteosperma</i>										
82	66	100	0	-	-	0	0	0	-/-	
88	132	50	50	-	66	50	0	0	118/79	

WILDLIFE MANAGEMENT UNIT 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia fragilis</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	
<i>Pediocactus simpsonii</i>										
82	66	0	100	-	-	0	0	0	1/4	
88	0	0	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
82	400	0	100	-	-	0	0	0	33/18	
88	399	67	33	-	-	0	0	0	94/73	

WIREFENCE POINT – STUDY NO. 10-4

HERBACEOUS TRENDS--

Management unit 10, Study no: 4

Type	Species	Nested Frequency	
		'82	'88
G	<i>Agropyron dasystachyum</i>	-	195
G	<i>Bouteloua gracilis</i>	-	25
G	<i>Carex</i> sp.	-	53
G	<i>Koeleria cristata</i>	-	92
G	<i>Poa secunda</i>	-	133
G	<i>Stipa comata</i>	-	225
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	723
Total for Grasses		0	723
F	<i>Antennaria</i> sp.	-	196
F	<i>Arabis</i> sp.	-	47
F	<i>Arenaria congesta</i>	-	256
F	<i>Astragalus convallarius</i>	-	1
F	<i>Astragalus</i> sp.	-	5
F	<i>Castilleja flava</i>	-	8
F	<i>Cirsium</i> sp.	-	3
F	<i>Comandra pallida</i>	-	222
F	<i>Crepis acuminata</i>	-	6
F	<i>Cryptantha</i> sp.	-	7
F	<i>Erigeron pumilus</i>	-	174
F	<i>Eriogonum umbellatum</i>	-	41
F	<i>Lupinus argenteus</i>	-	31
F	<i>Penstemon caespitosus</i>	-	30
F	<i>Phlox austromontana</i>	-	58
F	<i>Phlox longifolia</i>	-	36
F	<i>Sedum lanceolatum</i>	-	164
F	<i>Taraxacum officinale</i>	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	1286
Total for Forbs		0	1286

WILDLIFE MANAGEMENT UNIT 10

BASIC COVER--

Management unit 10, Study no: 4

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.25	12.25
Rock	0	0
Pavement	0	0
Litter	61.50	56.75
Cryptogams	0	8.00
Bare Ground	39.00	23.00

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	66	0	100	-	-	100	0	0	26/10	
88	66	100	0	-	-	0	100	100	-/-	
<i>Artemisia tridentata vaseyana</i>										
82	4666	31	69	0	6666	0	0	0	29/29	
88	7732	60	29	10	1666	35	16	0	27/24	
<i>Chrysothamnus depressus</i>										
82	11666	0	100	0	-	0	0	0	3/8	
88	3666	38	47	15	66	20	4	5	4/5	
<i>Juniperus osteosperma</i>										
82	66	100	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	
<i>Peraphyllum ramosissimum</i>										
82	466	0	29	71	-	0	0	0	31/28	
88	598	44	44	11	-	22	11	0	26/25	

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Purshia tridentata</i>									
82	0	0	0	-	66	0	0	0	-/-
88	0	0	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
82	200	0	100	-	-	0	0	0	8/12
88	800	75	25	-	-	25	0	8	20/12

WILLOW FLAT – STUDY NO. 10-5

HERBACEOUS TRENDS--

Management unit 10, Study no: 5

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	195
G	Carex sp.	-	52
G	Koeleria cristata	-	159
G	Poa fendleriana	-	126
G	Poa secunda	-	142
G	Stipa comata	-	73
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	747
Total for Grasses		0	747
F	Antennaria sp.	-	203
F	Aster sp.	-	92
F	Astragalus convallarius	-	5
F	Astragalus miser	-	12
F	Castilleja flava	-	58
F	Cryptantha sp.	-	57
F	Erigeron eatonii	-	145
F	Eriogonum racemosum	-	1
F	Eriogonum umbellatum	-	18
F	Ipomopsis aggregata	-	1
F	Lesquerella ludoviciana	-	19
F	Linum lewisii	-	7
F	Lupinus argenteus	-	49
F	Penstemon caespitosus	-	3
F	Penstemon sp.	-	15
F	Phlox austromontana	-	52
F	Phlox longifolia	-	44
F	Sedum lanceolatum	-	4
F	Sphaeralcea coccinea	-	7
F	Taraxacum officinale	-	20
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	812
Total for Forbs		0	812

BASIC COVER--

Management unit 10, Study no: 5

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.50	16.75
Rock	0	0
Pavement	0	0
Litter	53.50	46.75
Cryptogams	.75	1.50
Bare Ground	38.25	35.00

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	2533	13	87	0	5200	26	0	0	24/17	
88	16799	90	8	1	1333	4	0	1	30/22	
<i>Chrysothamnus depressus</i>										
82	10599	8	92	0	-	14	3	0	4/9	
88	9599	48	33	19	533	27	16	7	4/6	
<i>Chrysothamnus viscidiflorus</i>										
82	1200	0	100	0	-	56	0	0	9/12	
88	799	58	25	17	-	33	33	0	8/6	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	0	100	-	-	0	0	0	5/1	
<i>Pediocactus simpsonii</i>										
82	66	0	100	-	-	0	0	0	1/2	
88	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 10

		Age class distribution				Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Peraphyllum ramosissimum</i>									
8 2	133	0	100	-	-	0	0	0	30/32
8 8	66	0	100	-	-	0	100	0	28/37
<i>Tetradymia canescens</i>									
8 2	0	0	0	0	-	0	0	0	-/-
8 8	66	0	0	100	-	0	100	0	-/-

LITTLE JIM CANYON – STUDY NO. 10-6

HERBACEOUS TRENDS--

Management unit 10, Study no: 6

Type	Species	Nested Frequency '88
G	Carex sp.	34
G	Elymus junceus	1
G	Oryzopsis hymenoides	85
G	Oryzopsis micrantha	73
G	Sitanion hystrix	139
Total for Annual Grasses		0
Total for Perennial Grasses		332
Total for Grasses		332
F	Arabis sp.	22
F	Aster chilensis	1
F	Chaenactis douglasii	6
F	Cryptantha sp.	8
F	Erigeron pumilus	4
F	Machaeranthera canescens	6
F	Machaeranthera grindelioides	45
F	Penstemon sp.	111
F	Phlox longifolia	2
F	Physaria newberryi	30
F	Unknown forb-perennial	3
Total for Annual Forbs		0
Total for Perennial Forbs		238
Total for Forbs		238

BASIC COVER--

Management unit 10, Study no: 6

Cover Type	Average Cover % '88
Vegetation	3.75
Rock	2.50
Pavement	34.50
Litter	53.25
Cryptogams	0
Bare Ground	6.00

WILDLIFE MANAGEMENT UNIT 10

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 6

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata tridentata</i>									
88	333	100	0	-	-	0	0	0	-/-
<i>Cercocarpus montanus</i>									
88	866	31	69	-	466	8	54	8	58/39
<i>Chrysothamnus nauseosus hololeucus</i>									
88	332	60	20	20	-	20	0	0	31/10
<i>Juniperus osteosperma</i>									
88	133	0	100	-	-	0	0	0	69/295
<i>Pinus edulis</i>									
88	200	100	0	-	66	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
88	3132	47	47	6	200	6	0	21	35/38

CHERRY MESA – STUDY NO. 10-7

HERBACEOUS TRENDS--

Management unit 10, Study no: 7

Type	Species	Nested Frequency '88
G	<i>Agropyron dasystachyum</i>	180
G	<i>Bouteloua gracilis</i>	74
G	<i>Carex</i> sp.	139
G	<i>Oryzopsis hymenoides</i>	33
G	<i>Poa fendleriana</i>	116
G	<i>Sitanion hystrix</i>	82
G	<i>Stipa comata</i>	79
Total for Annual Grasses		0
Total for Perennial Grasses		703
Total for Grasses		703
F	<i>Antennaria</i> sp.	11
F	<i>Arabis</i> sp.	29
F	<i>Aster</i> sp.	12
F	<i>Astragalus argophyllus</i>	3
F	<i>Castilleja flava</i>	9
F	<i>Chaenactis douglasii</i>	51
F	<i>Comandra pallida</i>	36
F	<i>Cryptantha</i> sp.	3
F	<i>Erigeron eatonii</i>	47
F	<i>Eriogonum umbellatum</i>	19
F	<i>Lesquerella</i> sp.	50
F	<i>Linum lewisii</i>	2
F	<i>Machaeranthera grindelioides</i>	15
F	<i>Orthocarpus purpureo-albus</i> (a)	3
F	<i>Penstemon caespitosus</i>	3
F	<i>Phlox longifolia</i>	12
F	<i>Senecio multilobatus</i>	3
F	<i>Tragopogon dubius</i> (a)	2
Total for Annual Forbs		5
Total for Perennial Forbs		305
Total for Forbs		310

BASIC COVER--

Management unit 10, Study no: 7

Cover Type	Average Cover % '88
Vegetation	3.25
Rock	0
Pavement	20.00
Litter	65.25
Cryptogams	.25
Bare Ground	11.25

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 7

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
88	6466	68	29	3	800	18	1	1	21/19	
Chrysothamnus depressus										
88	5265	10	81	9	66	23	0	1	6/8	
Chrysothamnus viscidiflorus viscidiflorus										
88	399	33	33	33	-	0	0	0	7/8	
Gutierrezia sarothrae										
88	266	0	100	-	-	0	0	0	6/7	
Juniperus osteosperma										
88	0	0	0	-	66	0	0	0	-/-	
Purshia tridentata										
88	400	0	100	-	-	50	50	0	9/26	

BLACK HORSE – STUDY NO. 10-8

HERBACEOUS TRENDS--

Management unit 10, Study no: 8

Type	Species	Nested Frequency '88
G	<i>Agropyron dasystachyum</i>	108
G	<i>Bromus anomalus</i>	71
G	<i>Carex</i> sp.	215
G	<i>Poa fendleriana</i>	35
G	<i>Poa pratensis</i>	39
G	<i>Sitanion hystrix</i>	3
G	<i>Stipa lettermani</i>	4
Total for Annual Grasses		0
Total for Perennial Grasses		475
Total for Grasses		475
F	<i>Achillea millefolium</i>	15
F	<i>Arenaria congesta</i>	141
F	<i>Artemisia ludoviciana</i>	4
F	<i>Aster chilensis</i>	89
F	<i>Astragalus miser</i>	78
F	<i>Balsamorhiza sagittata</i>	79
F	<i>Castilleja flava</i>	27
F	<i>Cirsium</i> sp.	28
F	<i>Comandra pallida</i>	120
F	<i>Crepis acuminata</i>	3
F	<i>Erigeron flagellaris</i>	53
F	<i>Eriogonum umbellatum</i>	20
F	<i>Ipomopsis aggregata</i>	2
F	<i>Lupinus argenteus</i>	3
F	<i>Oenothera</i> sp.	2
F	<i>Penstemon caespitosus</i>	61
F	<i>Penstemon pachyphyllus</i>	3
F	<i>Phlox longifolia</i>	37
F	<i>Taraxacum officinale</i>	1
F	<i>Tragopogon dubius</i> (a)	3
F	Unknown forb-perennial	5
F	<i>Viguiera multiflora</i>	3
Total for Annual Forbs		3
Total for Perennial Forbs		774
Total for Forbs		777

BASIC COVER--

Management unit 10, Study no: 8

Cover Type	Average Cover % '88
Vegetation	11.75
Rock	4.25
Pavement	6.00
Litter	55.50
Cryptogams	0
Bare Ground	22.50

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	3598	94	2	4	466	9	9	22	54/55	
<i>Artemisia tridentata vaseyana</i>										
88	1332	10	35	55	133	0	0	0	34/31	
<i>Cercocarpus montanus</i>										
88	66	0	0	100	-	0	100	0	-/-	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
88	4133	29	71	-	-	0	0	0	14/9	
<i>Mahonia repens</i>										
88	2199	76	24	-	-	0	0	0	10/6	
<i>Prunus virginiana</i>										
88	800	100	0	-	-	17	0	0	-/-	
<i>Purshia tridentata</i>										
88	199	33	67	-	-	0	67	0	7/15	
<i>Quercus gambelii</i>										
88	5066	87	12	1	266	17	0	1	70/56	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Rosa woodsii										
8 8	1332	80	20	-	-	0	0	10	16/10	
Symphoricarpos oreophilus										
8 8	6265	68	30	2	333	0	0	49	15/12	
Tetradymia canescens										
8 8	66	100	0	-	-	0	0	0	-/-	

AGENCY DRAW – STUDY NO. 10-9

HERBACEOUS TRENDS--

Management unit 10, Study no: 9

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	7
G	Oryzopsis hymenoides	114
G	Poa secunda	31
G	Sitanion hystrix	85
G	Stipa comata	22
Total for Annual Grasses		0
Total for Perennial Grasses		259
Total for Grasses		259
F	Cryptantha sp.	2
F	Lepidium sp. (a)	31
F	Machaeranthera canescens	6
F	Sphaeralcea coccinea	6
Total for Annual Forbs		31
Total for Perennial Forbs		14
Total for Forbs		45

BASIC COVER--

Management unit 10, Study no: 9

Cover Type	Average Cover % '88
Vegetation	2.50
Rock	.50
Pavement	2.50
Litter	60.00
Cryptogams	1.50
Bare Ground	33.00

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 9

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia frigida</i>									
88	5199	27	73	-	866	0	0	0	8/3
<i>Artemisia nova</i>									
88	666	60	40	-	66	10	40	0	11/21
<i>Artemisia tridentata wyomingensis</i>									
88	3866	36	45	19	66	31	16	5	21/25
<i>Atriplex confertifolia</i>									
88	2200	9	73	18	-	6	0	0	16/18
<i>Ceratoides lanata</i>									
88	1266	74	16	11	66	5	0	5	6/6
<i>Gutierrezia sarothrae</i>									
88	800	0	100	-	66	0	0	0	7/5
<i>Opuntia sp.</i>									
88	66	0	100	-	-	0	0	0	2/3
<i>Sarcobatus vermiculatus</i>									
88	66	0	100	-	-	0	0	0	54/63

SUNDAY SCHOOL – STUDY NO. 10-10

HERBACEOUS TRENDS--

Management unit 10, Study no: 10

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	208
G	Bouteloua gracilis	177
G	Poa secunda	20
Total for Annual Grasses		0
Total for Perennial Grasses		405
Total for Grasses		405
F	Erigeron eatonii	1
F	Machaeranthera canescens	9
F	Phlox longifolia	15
F	Sphaeralcea coccinea	202
Total for Annual Forbs		0
Total for Perennial Forbs		227
Total for Forbs		227

BASIC COVER--

Management unit 10, Study no: 10

Cover Type	Average Cover % '88
Vegetation	7.00
Rock	.25
Pavement	9.50
Litter	55.00
Cryptogams	.50
Bare Ground	27.75

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 10

		Age class distribution				Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia frigida</i>									
8 8	94599	66	34	-	132333	0	0	0	7/5
<i>Artemisia tridentata wyomingensis</i>									
8 8	200	100	0	-	1733	0	0	0	-/-
<i>Atriplex canescens</i>									
8 8	1333	10	90	-	-	0	0	0	31/28
<i>Ceratoides lanata</i>									
8 8	9399	30	70	-	66	0	0	0	9/3

PARK RIDGE – STUDY NO. 10-11

HERBACEOUS TRENDS--

Management unit 10, Study no: 11

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	144
G	Bouteloua gracilis	76
G	Oryzopsis hymenoides	68
G	Sitanion hystrix	107
G	Stipa comata	62
Total for Annual Grasses		0
Total for Perennial Grasses		457
Total for Grasses		457
F	Astragalus sp.	9
F	Draba rectifruca (a)	17
F	Erigeron pumilus	63
F	Gilia pinnatifida (a)	1
F	Sphaeralcea coccinea	144
F	Tragopogon dubius (a)	22
Total for Annual Forbs		40
Total for Perennial Forbs		216
Total for Forbs		256

BASIC COVER--

Management unit 10, Study no: 11

Cover Type	Average Cover % '88
Vegetation	8.50
Rock	2.25
Pavement	12.75
Litter	48.75
Cryptogams	5.25
Bare Ground	22.50

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 11

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
8 8	2798	62	36	2	2600	7	0	0	7/5	
<i>Atriplex canescens</i>										
8 8	266	0	100	-	-	25	0	0	40/44	
<i>Ceratoides lanata</i>										
8 8	17000	26	69	5	-	55	27	0	10/9	
<i>Gutierrezia sarothrae</i>										
8 8	4599	38	61	1	6933	0	1	0	6/6	
<i>Opuntia sp.</i>										
8 8	66	0	100	-	-	0	0	0	4/12	

WOLF DEN – STUDY NO. 10-12

HERBACEOUS TRENDS--

Management unit 10, Study no: 12

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	59
G	Oryzopsis hymenoides	3
G	Poa fendleriana	1
G	Sitanion hystrix	24
Total for Annual Grasses		0
Total for Perennial Grasses		87
Total for Grasses		87
F	Cryptantha sp.	1
Total for Annual Forbs		0
Total for Perennial Forbs		1
Total for Forbs		1

BASIC COVER--

Management unit 10, Study no: 12

Cover Type	Average Cover % '88
Vegetation	5.75
Rock	.75
Pavement	32.25
Litter	49.50
Cryptogams	5.00
Bare Ground	6.75

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 12

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia frigida									
88	4532	15	82	3	866	4	10	0	7/5
Artemisia tridentata wyomingensis									
88	18133	8	65	26	1066	25	6	10	21/16

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Atriplex confertifolia</i>										
8 8	465	29	57	14	-	0	0	0	22/18	
<i>Gutierrezia sarothrae</i>										
8 8	866	31	69	-	133	0	0	0	7/6	
<i>Opuntia sp.</i>										
8 8	66	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
8 8	0	0	0	-	66	0	0	0	-/-	
<i>Sarcobatus vermiculatus</i>										
8 8	266	0	100	-	-	0	0	0	33/26	

EAST FLOY BENCH – STUDY NO. 10-14

HERBACEOUS TRENDS--

Management unit 10, Study no: 14

Type	Species	Nested Frequency '86
G	Hilaria jamesii	156
G	Oryzopsis hymenoides	36
G	Sitanion hystrix	40
G	Stipa comata	92
Total for Annual Grasses		0
Total for Perennial Grasses		324
Total for Grasses		324
F	Tragopogon dubius (a)	3
Total for Annual Forbs		3
Total for Perennial Forbs		0
Total for Forbs		3

BASIC COVER--

Management unit 10, Study no: 14

Cover Type	Average Cover % '86
Vegetation	2.25
Rock	0
Pavement	0
Litter	35.75
Cryptogams	2.50
Bare Ground	59.50

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 14

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
86	2698	37	44	18	66	31	41	6	15/14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Atriplex canescens</i>										
86	333	0	0	100	-	20	50	40	-/-	
<i>Gutierrezia sarothrae</i>										
86	8199	46	52	2	333	0	0	0	8/7	
<i>Juniperus osteosperma</i>										
86	66	50	50	-	-	0	0	0	71/71	
<i>Opuntia sp.</i>										
86	33	0	100	-	-	0	0	0	7/1	

EAST THOMPSON BENCH – STUDY NO. 10-15

HERBACEOUS TRENDS--

Management unit 10, Study no: 15

Type	Species	Nested Frequency '86
G	Hilaria jamesii	129
G	Oryzopsis hymenoides	14
G	Sitanion hystrix	49
Total for Annual Grasses		0
Total for Perennial Grasses		192
Total for Grasses		192
F	Astragalus convallarius	13
F	Castilleja linariaefolia	9
F	Erigeron pumilus	2
F	Phlox longifolia	13
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		38
Total for Forbs		38

BASIC COVER--

Management unit 10, Study no: 15

Cover Type	Average Cover % '86
Vegetation	8.25
Rock	0
Pavement	0
Litter	40.25
Cryptogams	4.25
Bare Ground	47.25

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 15

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
8 6	899	15	33	52	33	26	74	19	18/20	
<i>Gutierrezia sarothrae</i>										
8 6	3466	11	89	-	33	0	0	0	8/7	
<i>Juniperus osteosperma</i>										
8 6	200	50	50	-	33	0	0	0	94/104	
<i>Opuntia sp.</i>										
8 6	33	0	100	-	-	0	0	0	7/7	

WEST HORSE PASTURE – STUDY NO. 10-16

HERBACEOUS TRENDS--

Management unit 10, Study no: 16

Type	Species	Nested Frequency '86
G	Hilaria jamesii	2
G	Oryzopsis hymenoides	1
G	Sitanion hystrix	3
G	Sporobolus cryptandrus	12
Total for Annual Grasses		0
Total for Perennial Grasses		18
Total for Grasses		18
F	Astragalus convallarius	5
F	Astragalus moencopensis	1
F	Astragalus sp.	3
F	Erigeron pumilus	1
F	Sphaeralcea coccinea	20
F	Unknown forb-perennial	3
Total for Annual Forbs		0
Total for Perennial Forbs		33
Total for Forbs		33

BASIC COVER--

Management unit 10, Study no: 16

Cover Type	Average Cover % '86
Vegetation	24.50
Rock	0
Pavement	0
Litter	48.00
Cryptogams	0
Bare Ground	27.50

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	2799	2	43	55	-	5	93	21	12/14	
<i>Grayia spinosa</i>										
86	266	0	25	75	-	0	100	25	13/17	
<i>Gutierrezia sarothrae</i>										
86	7532	53	42	5	733	0	0	0	10/7	

EAST CALF CANYON – STUDY NO. 10-17

HERBACEOUS TRENDS--

Management unit 10, Study no: 17

Type	Species	Nested Frequency '86
G	Hilaria jamesii	3
G	Sitanion hystrix	31
Total for Annual Grasses		0
Total for Perennial Grasses		34
Total for Grasses		34
F	Astragalus sp.	1
F	Calochortus nuttallii	2
F	Erigeron utahensis	1
F	Phlox longifolia	39
Total for Annual Forbs		0
Total for Perennial Forbs		43
Total for Forbs		43

BASIC COVER--

Management unit 10, Study no: 17

Cover Type	Average Cover % '86
Vegetation	5.50
Rock	.25
Pavement	.25
Litter	47.00
Cryptogams	2.50
Bare Ground	44.50

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 17

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
86	3999	12	33	55	1266	2	57	10	12/18
Gutierrezia sarothrae									
86	1932	21	66	14	533	0	0	0	9/7

EAST HORSE PASTURE – STUDY NO. 10-18

HERBACEOUS TRENDS--

Management unit 10, Study no: 18

Type	Species	Nested Frequency '86
G	Hilaria jamesii	6
G	Sitanion hystrix	4
Total for Annual Grasses		0
Total for Perennial Grasses		10
Total for Grasses		10
F	Erigeron utahensis	7
F	Orobanche corymbosa	3
F	Phlox longifolia	6
F	Sphaeralcea coccinea	15
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		32
Total for Forbs		32

BASIC COVER--

Management unit 10, Study no: 18

Cover Type	Average Cover % '86
Vegetation	8.25
Rock	0
Pavement	.25
Litter	56.50
Cryptogams	1.75
Bare Ground	33.25

WILDLIFE MANAGEMENT UNIT 10

BROWSE CHARACTERISTICS--
 Management unit 10, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	3833	3	37	60	-	7	90	10	21/23	
<i>Grayia spinosa</i>										
86	33	0	0	100	-	0	100	0	-/-	
<i>Gutierrezia sarothrae</i>										
86	5065	34	63	3	333	0	0	0	9/6	
<i>Opuntia sp.</i>										
86	199	17	33	50	-	0	0	0	5/4	

LOWER COTTONWOOD – STUDY NO. 10-19

HERBACEOUS TRENDS--

Management unit 10, Study no: 19

Type	Species	Nested Frequency '86
G	Oryzopsis hymenoides	3
G	Sitanion hystrix	3
G	Sporobolus cryptandrus	14
Total for Annual Grasses		0
Total for Perennial Grasses		20
Total for Grasses		20

BASIC COVER--

Management unit 10, Study no: 19

Cover Type	Average Cover % '86
Vegetation	17.00
Rock	19.25
Pavement	5.25
Litter	48.25
Cryptogams	.50
Bare Ground	9.75

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 19

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata wyomingensis									
86	166	0	100	-	-	20	80	0	13/20
Atriplex confertifolia									
86	666	15	40	45	-	40	0	30	11/9
Ephedra viridis									
86	66	0	100	-	-	0	50	0	28/33

WILDLIFE MANAGEMENT UNIT 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
86	1066	19	66	16	-	34	0	9	6/6	
<i>Juniperus osteosperma</i>										
86	100	0	100	-	-	0	0	0	72/89	

UPPER COTTONWOOD – STUDY NO. 10-20

HERBACEOUS TRENDS--

Management unit 10, Study no: 20

Type	Species	Nested Frequency '86
G	Elymus cinereus	7
G	Oryzopsis hymenoides	22
G	Poa fendleriana	1
G	Sitanion hystrix	12
G	Sporobolus cryptandrus	48
Total for Annual Grasses		0
Total for Perennial Grasses		90
Total for Grasses		90
F	Calochortus nuttallii	2
F	Sphaeralcea coccinea	23
F	Tragopogon dubius (a)	1
F	Unknown forb-perennial	1
Total for Annual Forbs		1
Total for Perennial Forbs		26
Total for Forbs		27

BASIC COVER--

Management unit 10, Study no: 20

Cover Type	Average Cover % '86
Vegetation	32.25
Rock	0
Pavement	0
Litter	46.50
Cryptogams	0
Bare Ground	21.25

WILDLIFE MANAGEMENT UNIT 10

BROWSE CHARACTERISTICS--
Management unit 10, Study no: 20

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	899	11	33	56	133	44	11	7	16/15	
<i>Atriplex confertifolia</i>										
86	432	23	38	38	-	8	8	8	14/18	
<i>Ceratoides lanata</i>										
86	33	100	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
86	199	0	17	83	-	17	0	0	15/11	
<i>Gutierrezia sarothrae</i>										
86	133	25	75	-	-	0	0	0	8/3	
<i>Juniperus osteosperma</i>										
86	99	33	67	-	-	0	0	0	67/79	
<i>Sarcobatus vermiculatus</i>										
86	33	100	0	-	-	0	0	0	-/-	

EAST SULFUR BENCH – STUDY NO. 10-21

HERBACEOUS TRENDS--

Management unit 10, Study no: 21

Type	Species	Nested Frequency '86
F	Sphaeralcea coccinea	6
Total for Annual Forbs		0
Total for Perennial Forbs		6
Total for Forbs		6

BASIC COVER--

Management unit 10, Study no: 21

Cover Type	Average Cover % '86
Vegetation	8.50
Rock	2.50
Pavement	2.00
Litter	55.00
Cryptogams	15.00
Bare Ground	17.00

BROWSE CHARACTERISTICS--

Management unit 10, Study no: 21

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
86	5998	63	32	4	-	31	21	1	16/17
Atriplex confertifolia									
86	1132	18	6	77	-	12	0	12	15/19
Chrysothamnus viscidiflorus stenophyllus									
86	133	0	0	100	-	0	0	100	-/-
Grayia spinosa									
86	133	0	0	100	-	0	0	100	-/-

WILDLIFE MANAGEMENT UNIT 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
86	14532	47	48	5	866	0	0	.45	9/6	
<i>Opuntia sp.</i>										
86	66	0	100	-	-	0	0	0	4/8	

BRYSON DRAW – STUDY NO. 10-22

HERBACEOUS TRENDS--

Management unit 10, Study no: 22

Type	Species	Nested Frequency '86
G	Hilaria jamesii	112
G	Oryzopsis hymenoides	10
G	Poa fendleriana	55
G	Stipa comata	17
Total for Annual Grasses		0
Total for Perennial Grasses		194
Total for Grasses		194
F	Astragalus sp.	1
F	Phlox longifolia	6
F	Sphaeralcea coccinea	3
F	Unknown forb-perennial	8
Total for Annual Forbs		0
Total for Perennial Forbs		18
Total for Forbs		18

BASIC COVER--

Management unit 10, Study no: 22

Cover Type	Average Cover % '86
Vegetation	8.00
Rock	0
Pavement	0
Litter	38.25
Cryptogams	14.75
Bare Ground	39.00

WILDLIFE MANAGEMENT UNIT 10

BROWSE CHARACTERISTICS--
 Management unit 10, Study no: 22

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
86	2732	29	32	39	133	37	27	0	14/15
<i>Grayia spinosa</i>									
86	266	0	100	-	-	0	50	0	20/19
<i>Gutierrezia sarothrae</i>									
86	3399	75	25	-	666	0	0	0	9/7
<i>Opuntia sp.</i>									
86	133	0	100	-	-	0	0	0	7/9

WILDLIFE MANAGEMENT UNIT 11

UPPER COTTONWOOD RIDGE – STUDY NO. 11A-1

HERBACEOUS TRENDS--

Management unit 11A, Study no: 1

T y P e	Species	Nested Frequency	
		'82	'88
G	Agropyron spicatum	-	46
G	Agropyron trachycaulum	-	65
G	Bromus anomalus	-	15
G	Bromus carinatus	-	139
G	Carex sp.	-	14
G	Poa pratensis	-	21
G	Stipa columbiana	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	310
Total for Grasses		0	310
F	Achillea millefolium	-	14
F	Agoseris glauca	-	17
F	Arabis sp.	-	1
F	Aster engelmannii	-	48
F	Chaenactis douglasii	-	3
F	Delphinium nuttallianum	-	1
F	Fragaria sp.	-	6
F	Geranium richardsonii	-	20
F	Lupinus argenteus	-	44
F	Penstemon sp.	-	40
F	Penstemon strictus	-	48
F	Phacelia saxicola	-	6
F	Phlox longifolia	-	15
F	Senecio serra	-	52
F	Smilacina racemosa amplexicaulis	-	53
F	Vicia americana	-	87
F	Viguiera multiflora	-	60
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	515
Total for Forbs		0	515

WILDLIFE MANAGEMENT UNIT 11

BASIC COVER--

Management unit 11A, Study no: 1

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.50	7.50
Rock	0	0
Pavement	0	0
Litter	80.75	82.25
Cryptogams	0	0
Bare Ground	11.75	10.25

BROWSE CHARACTERISTICS--

Management unit 11A, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	9266	93	7	-	533	8	0	.71	23/14	
<i>Artemisia tridentata vaseyana</i>										
82	3600	78	22	0	-	46	0	0	13/12	
88	1932	72	24	3	200	0	0	0	17/11	
<i>Populus tremuloides</i>										
82	3933	36	64	-	1533	0	0	0	67/47	
88	6066	100	0	-	333	0	0	0	-/-	
<i>Prunus virginiana</i>										
82	1666	84	16	-	133	0	0	0	17/13	
88	0	0	0	-	-	0	0	0	-/-	
<i>Prunus virginiana</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	1133	100	0	-	266	6	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Rosa woodsii</i>										
82	732	91	9	-	-	0	0	0	17/13	
88	1133	82	18	-	-	0	0	6	18/14	
<i>Sambucus cerulea</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	100	0	-	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
82	3465	42	58	0	66	0	0	0	21/22	
88	7666	62	36	3	-	7	.86	3	16/19	

WIREFENCE CANYON – STUDY NO. 11A-2

HERBACEOUS TRENDS--

Management unit 11A, Study no: 2

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	16
G	Agropyron intermedium	-	41
G	Bromus inermis	-	330
G	Elymus salina	-	34
G	Koeleria cristata	-	52
G	Poa fendleriana	-	123
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	596
Total for Grasses		0	596
F	Arabis drummondi	-	4
F	Astragalus argophyllus	-	4
F	Astragalus convallarius	-	4
F	Astragalus tenellus	-	132
F	Castilleja flava	-	19
F	Chaenactis douglasii	-	6
F	Erigeron eatonii	-	26
F	Eriogonum umbellatum	-	15
F	Ipomopsis aggregata	-	8
F	Linum lewisii	-	2
F	Lupinus argenteus	-	6
F	Oxytropis lambertii	-	40
F	Penstemon caespitosus	-	48
F	Phlox longifolia	-	11
F	Physaria sp.	-	40
F	Potentilla sp.	-	3
F	Schoenocrambe linifolia	-	5
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	373
Total for Forbs		0	373

BASIC COVER--

Management unit 11A, Study no: 2

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.50	6.25
Rock	3.25	3.00
Pavement	18.00	15.50
Litter	46.25	51.25
Cryptogams	.50	0
Bare Ground	24.50	24.00

BROWSE CHARACTERISTICS--

Management unit 11A, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	3132	21	79	0	-	2	0	4	15/18	
88	4331	46	46	8	266	32	0	0	14/20	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	3932	12	88	0	-	3	0	0	8/13	
88	3798	23	75	2	-	4	0	0	5/4	
<i>Eriogonum microthecum</i>										
82	600	0	100	-	-	0	0	0	2/4	
88	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	1733	0	100	-	-	0	0	0	4/4	
<i>Tetradymia canescens</i>										
82	399	83	17	0	-	83	0	0	10/11	
88	665	50	10	40	-	0	0	0	9/12	

CHOCKERRY CANYON – STUDY NO. 11A-3

HERBACEOUS TRENDS--

Management unit 11A, Study no: 3

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	307
G	Agropyron trachycaulum	-	16
G	Bromus anomalus	-	25
G	Carex sp.	-	49
G	Koeleria cristata	-	7
G	Poa fendleriana	-	83
G	Stipa comata	-	17
G	Stipa lettermani	-	252
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	756
Total for Grasses		0	756
F	Antennaria sp.	-	6
F	Arabis drummondi	-	1
F	Astragalus convallarius	-	1
F	Astragalus sp.	-	4
F	Chaenactis douglasii	-	34
F	Comandra pallida	-	186
F	Crepis acuminata	-	3
F	Erigeron eatonii	-	19
F	Eriogonum umbellatum	-	35
F	Geranium sp.	-	3
F	Ipomopsis aggregata	-	8
F	Lupinus argenteus	-	67
F	Lychnis sp.	-	2
F	Machaeranthera canescens	-	31
F	Penstemon comarrhenus	-	50
F	Penstemon watsonii	-	73
F	Phlox longifolia	-	86
F	Unknown forb-perennial	-	20
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	629
Total for Forbs		0	629

BASIC COVER--

Management unit 11A, Study no: 3

Cover Type	Average Cover %	
	'82	'88
Vegetation	12.50	23.00
Rock	2.00	5.50
Pavement	4.75	2.50
Litter	55.75	53.75
Cryptogams	0	0
Bare Ground	25.00	15.25

BROWSE CHARACTERISTICS--

Management unit 11A, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	800	75	25	-	133	17	0	0	11/16	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	3733	14	86	0	-	0	0	0	12/18	
88	9199	57	31	12	266	7	0	13	13/14	
<i>Symphoricarpos oreophilus</i>										
82	266	0	100	0	-	0	0	0	12/21	
88	1199	67	28	6	-	61	11	0	15/26	
<i>Tetradymia canescens</i>										
82	133	0	100	-	-	0	0	0	7/11	
88	199	33	67	-	-	33	0	0	11/12	

COTTONWOOD CANYON – STUDY NO. 11A-4

HERBACEOUS TRENDS--

Management unit 11A, Study no: 4

Type	Species	Nested Frequency '88
G	Agropyron dasystachyum	179
G	Bouteloua gracilis	298
G	Oryzopsis hymenoides	12
G	Sitanion hystrix	15
G	Stipa comata	190
Total for Annual Grasses		0
Total for Perennial Grasses		694
Total for Grasses		694
F	Cryptantha sp.	5
F	Orthocarpus luteus (a)	3
F	Phlox austromontana	3
F	Schoenocrambe linifolia	1
F	Sphaeralcea coccinea	9
F	Tragopogon dubius (a)	2
Total for Annual Forbs		5
Total for Perennial Forbs		18
Total for Forbs		23

BASIC COVER--

Management unit 11A, Study no: 4

Cover Type	Average Cover % '88
Vegetation	23.50
Rock	0
Pavement	24.75
Litter	30.50
Cryptogams	.25
Bare Ground	21.00

BROWSE CHARACTERISTICS--
Management unit 11A, Study no: 4

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
8 8	11932	39	53	8	466	0	0	10	6/4	
<i>Artemisia nova</i>										
8 8	266	75	0	25	-	0	0	25	-/-	
<i>Artemisia spinescens</i>										
8 8	2333	14	60	26	-	0	0	14	5/6	
<i>Atriplex confertifolia</i>										
8 8	4198	21	40	40	333	10	0	2	13/18	
<i>Ceratoides lanata</i>										
8 8	4266	56	28	16	133	13	3	5	6/6	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
8 8	2000	70	30	-	-	0	0	0	7/4	
<i>Gutierrezia sarothrae</i>										
8 8	266	25	0	75	-	0	0	25	-/-	
<i>Opuntia sp.</i>										
8 8	66	0	100	-	-	0	0	0	4/12	

NUTTER'S CANYON – STUDY NO. 11A-5

HERBACEOUS TRENDS--

Management unit 11A, Study no: 5

Type	Species	Nested Frequency '88
G	Bouteloua gracilis	209
G	Oryzopsis hymenoides	10
G	Poa secunda	14
G	Sitanion hystrix	221
G	Stipa comata	281
Total for Annual Grasses		0
Total for Perennial Grasses		735
Total for Grasses		735
F	Astragalus sp.	7
F	Machaeranthera canescens	1
F	Schoenocrambe linifolia	7
F	Sphaeralcea coccinea	32
Total for Annual Forbs		0
Total for Perennial Forbs		47
Total for Forbs		47

BASIC COVER--

Management unit 11A, Study no: 5

Cover Type	Average Cover % '88
Vegetation	11.00
Rock	.50
Pavement	33.00
Litter	44.50
Cryptogams	0
Bare Ground	11.00

BROWSE CHARACTERISTICS--
Management unit 11A, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
88	2532	61	37	3	1200	16	11	5	7/11	
<i>Artemisia nova</i>										
88	21066	42	43	15	5866	13	.31	5	10/12	
<i>Atriplex confertifolia</i>										
88	133	0	100	-	-	0	0	0	8/13	
<i>Ceratoides lanata</i>										
88	266	75	0	25	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
88	132	0	50	50	66	0	0	0	3/2	
<i>Gutierrezia sarothrae</i>										
88	266	25	75	-	-	0	0	0	5/5	
<i>Pinus edulis</i>										
88	133	100	0	-	-	0	0	0	-/-	

DEADMAN – STUDY NO. 11B-1

HERBACEOUS TRENDS--

Management unit 11B, Study no: 1

Type	Species	Nested Frequency '86
G	Agropyron cristatum	292
G	Oryzopsis hymenoides	8
Total for Annual Grasses		0
Total for Perennial Grasses		300
Total for Grasses		300
F	Arabis perennans	16
F	Astragalus convallarius	5
F	Cryptantha fulvocanescens	43
F	Eriogonum umbellatum	19
F	Euphorbia fendleri	80
F	Hedysarum boreale	5
F	Ipomopsis aggregata	3
F	Lithospermum multiflorum	2
F	Machaeranthera grindelioides	4
F	Medicago sativa	18
F	Penstemon cyanocaulis	31
F	Sphaeralcea coccinea	5
F	Townsendia incana	14
Total for Annual Forbs		0
Total for Perennial Forbs		245
Total for Forbs		245

BASIC COVER--

Management unit 11B, Study no: 1

Cover Type	Average Cover % '86
Vegetation	6.25
Rock	2.25
Pavement	10.00
Litter	58.25
Cryptogams	0
Bare Ground	23.25

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 1

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Cercocarpus montanus</i>									
86	233	14	86	-	33	29	0	0	83/29
<i>Juniperus osteosperma</i>									
86	200	50	50	-	-	33	17	0	122/67
<i>Pinus edulis</i>									
86	166	40	60	-	-	0	0	0	59/48

AIRPORT BENCH – STUDY NO. 11B-2

HERBACEOUS TRENDS--

Management unit 11B, Study no: 2

Type	Species	Nested Frequency '86
G	Agropyron cristatum	302
G	Oryzopsis hymenoides	16
G	Poa fendleriana	6
Total for Annual Grasses		0
Total for Perennial Grasses		324
Total for Grasses		324
F	Cryptantha fulvocanescens	8
F	Eriogonum umbellatum	19
F	Euphorbia fendleri	10
F	Lithospermum incisum	2
F	Medicago sativa	11
F	Penstemon cyanocaulis	2
Total for Annual Forbs		0
Total for Perennial Forbs		52
Total for Forbs		52

BASIC COVER--

Management unit 11B, Study no: 2

Cover Type	Average Cover % '86
Vegetation	14.00
Rock	5.25
Pavement	10.25
Litter	51.25
Cryptogams	0
Bare Ground	19.25

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
86	199	33	67	-	-	100	0	0	63/39	
<i>Juniperus osteosperma</i>										
86	199	67	33	-	-	0	0	0	31/30	
<i>Pinus edulis</i>										
86	66	0	100	-	-	0	0	0	87/70	
<i>Purshia tridentata</i>										
86	200	0	100	-	-	33	0	0	31/45	

AIRPORT – STUDY NO. 11B-3

HERBACEOUS TRENDS--

Management unit 11B, Study no: 3

Type	Species	Nested Frequency '86
G	Agropyron cristatum	298
G	Agropyron dasystachyum	7
G	Agropyron trachycaulum	5
G	Oryzopsis hymenoides	1
Total for Annual Grasses		0
Total for Perennial Grasses		311
Total for Grasses		311
F	Astragalus convallarius	1
F	Sphaeralcea coccinea	50
Total for Annual Forbs		0
Total for Perennial Forbs		51
Total for Forbs		51

BASIC COVER--

Management unit 11B, Study no: 3

Cover Type	Average Cover % '86
Vegetation	3.25
Rock	.50
Pavement	18.00
Litter	50.75
Cryptogams	0
Bare Ground	27.50

BROWSE CHARACTERISTICS--

Management unit 11B, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
86	1065	22	31	47	133	6	88	0	18/22

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
86	100	0	0	100	-	0	100	0	-/-	
<i>Ephedra viridis</i>										
86	133	25	75	-	-	25	25	0	17/6	
<i>Gutierrezia sarothrae</i>										
86	266	12	12	75	-	0	0	0	6/4	
<i>Opuntia polyacantha</i>										
86	432	8	54	38	-	0	0	38	4/6	

COAL CREEK – STUDY NO. 11B-4

HERBACEOUS TRENDS--

Management unit 11B, Study no: 4

Type	Species	Nested Frequency '86
G	Bouteloua gracilis	17
G	Sitanion hystrix	28
G	Stipa comata	1
Total for Annual Grasses		0
Total for Perennial Grasses		46
Total for Grasses		46
F	Sphaeralcea coccinea	3
Total for Annual Forbs		0
Total for Perennial Forbs		3
Total for Forbs		3

BASIC COVER--

Management unit 11B, Study no: 4

Cover Type	Average Cover % '86
Vegetation	3.75
Rock	0
Pavement	18.25
Litter	39.00
Cryptogams	3.50
Bare Ground	35.50

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	1866	18	61	21	66	64	29	0	14/15	
<i>Atriplex confertifolia</i>										
86	133	0	0	100	-	0	100	100	-/-	
<i>Ceratoides lanata</i>										
86	533	0	0	100	-	0	75	75	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
86	1865	0	4	96	-	4	0	18	3/7	
<i>Gutierrezia sarothrae</i>										
86	11465	15	58	27	866	0	0	7	7/8	
<i>Juniperus osteosperma</i>										
86	66	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
86	1332	5	85	10	-	0	0	40	4/6	
<i>Pinus edulis</i>										
86	0	0	0	-	66	0	0	0	-/-	

‘B’ CANYON – STUDY NO. 11B-5

HERBACEOUS TRENDS--

Management unit 11B, Study no: 5

Type	Species	Nested Frequency '86
G	Agropyron cristatum	269
G	Agropyron intermedium	4
G	Bromus inermis	12
G	Oryzopsis hymenoides	10
G	Sitanion hystrix	1
Total for Annual Grasses		0
Total for Perennial Grasses		296
Total for Grasses		296
F	Arabis selbyi	2
F	Astragalus convallarius	13
F	Astragalus wingatanus	21
F	Hedysarum boreale	2
F	Lesquerella ludoviciana	3
F	Machaeranthera grindelioides	3
F	Medicago sativa	5
F	Penstemon cyanocaulis	17
F	Sphaeralcea coccinea	3
Total for Annual Forbs		0
Total for Perennial Forbs		69
Total for Forbs		69

BASIC COVER--

Management unit 11B, Study no: 5

Cover Type	Average Cover % '86
Vegetation	11.50
Rock	7.00
Pavement	3.75
Litter	60.50
Cryptogams	.75
Bare Ground	16.50

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 5

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
86	6132	10	63	27	400	10	67	3	9/16
<i>Artemisia tridentata vaseyana</i>									
86	200	0	100	-	-	100	0	0	20/20
<i>Atriplex canescens</i>									
86	66	0	0	100	-	0	0	0	-/-
<i>Ephedra viridis</i>									
86	66	0	100	-	-	100	0	100	36/25
<i>Juniperus osteosperma</i>									
86	266	25	75	-	-	25	25	0	72/35
<i>Pinus edulis</i>									
86	132	50	50	-	-	0	0	0	108/71

UPPER COTTONWOOD RIDGE – STUDY NO. 11B-6

HERBACEOUS TRENDS--

Management unit 11B, Study no: 6

Type	Species	Nested Frequency '86
G	Agropyron spicatum	3
G	Bromus carinatus	73
G	Carex sp.	22
G	Elymus glaucus glaucus	2
G	Poa fendleriana	5
G	Poa pratensis	307
G	Stipa lettermani	1
G	Trisetum spicatum	6
Total for Annual Grasses		0
Total for Perennial Grasses		419
Total for Grasses		419
F	Achillea millefolium	160
F	Agoseris aurantiaca	10
F	Antennaria parvifolia	37
F	Aquilegia coerulea	8
F	Arabis drummondi	1
F	Astragalus miser	20
F	Calochortus gunnisoni	13
F	Cirsium calcareum	15
F	Erigeron speciosus	5
F	Fragaria vesca	8
F	Lupinus argenteus	2
F	Monardella odoratissima	4
F	Phlox longifolia	22
F	Ranunculus alismaefolius	45
F	Silene menziesii	30
F	Taraxacum officinale	236
F	Unknown forb-perennial	58
F	Vicia americana	12
F	Viola adunca	54
Total for Annual Forbs		0
Total for Perennial Forbs		740
Total for Forbs		740

BASIC COVER--

Management unit 11B, Study no: 6

Cover Type	Average Cover % '86
Vegetation	27.75
Rock	.25
Pavement	.25
Litter	53.50
Cryptogams	0
Bare Ground	18.25

BROWSE CHARACTERISTICS--

Management unit 11B, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Populus tremuloides										
86	333	100	0	-	266	60	20	0	-/-	
Ribes montigenum										
86	2599	51	36	13	133	0	0	8	25/28	
Symphoricarpos oreophilus										
86	733	45	55	-	133	0	0	0	22/24	

COTTONWOOD – STUDY NO. 11B-7

HERBACEOUS TRENDS--

Management unit 11B, Study no: 7

Type	Species	Nested Frequency '86
G	Agropyron smithii	88
G	Oryzopsis hymenoides	73
G	Poa fendleriana	14
G	Sitanion hystrix	68
G	Stipa comata	116
Total for Annual Grasses		0
Total for Perennial Grasses		359
Total for Grasses		359
F	Arabis drummondi	20
F	Castilleja chromosa	5
F	Cryptantha fulvocanescens	48
F	Erigeron eatonii	6
F	Lesquerella sp.	19
F	Phlox austromontana	144
F	Senecio multilobatus	71
F	Sphaeralcea coccinea	34
F	Townsendia incana	54
F	Unknown forb-perennial	9
Total for Annual Forbs		0
Total for Perennial Forbs		410
Total for Forbs		410

BASIC COVER--

Management unit 11B, Study no: 7

Cover Type	Average Cover % '86
Vegetation	4.25
Rock	.75
Pavement	9.00
Litter	25.75
Cryptogams	1.25
Bare Ground	59.00

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	5131	9	25	66	1533	44	12	32	24/25	
<i>Ceratoides lanata</i>										
86	599	33	44	22	-	11	33	11	9/6	
<i>Gutierrezia sarothrae</i>										
86	599	44	56	-	400	0	0	0	7/3	
<i>Opuntia sp.</i>										
86	200	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
86	66	100	0	-	-	0	0	0	-/-	

CEDAR CORRAL – STUDY NO. 11B-8

HERBACEOUS TRENDS--

Management unit 11B, Study no: 8

Type	Species	Nested Frequency '86
G	Agropyron dasystachyum	43
G	Agropyron spicatum	163
G	Koeleria cristata	23
G	Oryzopsis hymenoides	13
G	Poa fendleriana	18
G	Poa secunda	85
G	Sitanion hystrix	1
Total for Annual Grasses		0
Total for Perennial Grasses		346
Total for Grasses		346
F	Antennaria sp.	57
F	Arabis drummondi	41
F	Arabis perennans	21
F	Astragalus argophyllus	8
F	Calochortus nuttallii	1
F	Castilleja flava	2
F	Crepis acuminata	21
F	Erigeron eatonii	100
F	Erigeron flagellaris	12
F	Eriogonum alatum	11
F	Eriogonum umbellatum	59
F	Heterotheca villosa	7
F	Ipomopsis aggregata	11
F	Lomatium triternatum	29
F	Machaeranthera grindelioides	4
F	Phlox austromontana	31
F	Sedum lanceolatum	135
F	Trifolium sp.	32
Total for Annual Forbs		0
Total for Perennial Forbs		582
Total for Forbs		582

BASIC COVER--

Management unit 11B, Study no: 8

Cover Type	Average Cover % '86
Vegetation	4.50
Rock	8.50
Pavement	1.00
Litter	50.75
Cryptogams	3.50
Bare Ground	31.75

BROWSE CHARACTERISTICS--

Management unit 11B, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	133	0	0	100	-	0	0	0	-/-	
<i>Artemisia nova</i>										
86	2399	64	19	17	600	17	0	0	9/10	
<i>Artemisia tridentata vaseyana</i>										
86	1399	76	24	-	1733	0	0	0	13/16	
<i>Cercocarpus montanus</i>										
86	666	60	30	10	66	30	0	0	15/15	
<i>Chrysothamnus depressus</i>										
86	3332	12	74	14	133	0	0	0	4/6	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
86	732	9	64	27	-	0	0	0	10/7	
<i>Gutierrezia sarothrae</i>										
86	533	25	75	-	-	0	0	0	5/6	
<i>Pinus edulis</i>										
86	0	0	0	-	133	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
86	200	0	100	-	-	33	0	0	18/25	

CEDAR RIDGE – STUDY NO. 11B-9

HERBACEOUS TRENDS--

Management unit 11B, Study no: 9

Type	Species	Nested Frequency '86
G	Agropyron dasystachyum	10
G	Agropyron spicatum	66
G	Bouteloua gracilis	30
G	Poa fendleriana	190
G	Poa secunda	70
G	Sitanion hystrix	40
G	Stipa comata	246
Total for Annual Grasses		0
Total for Perennial Grasses		652
Total for Grasses		652
F	Antennaria parvifolia	65
F	Arabis perennans	10
F	Astragalus convallarius	12
F	Calochortus nuttallii	3
F	Castilleja linariaefolia	23
F	Cryptantha sp.	23
F	Delphinium nuttallianum	12
F	Eriogonum umbellatum	29
F	Machaeranthera grindelioides	5
F	Penstemon caespitosus	35
F	Penstemon strictus	6
F	Phlox hoodii	2
F	Phlox longifolia	60
F	Senecio multilobatus	46
F	Sphaeralcea coccinea	19
F	Trifolium sp.	11
F	Unknown forb-perennial	20
Total for Annual Forbs		0
Total for Perennial Forbs		381
Total for Forbs		381

BASIC COVER--

Management unit 11B, Study no: 9

Cover Type	Average Cover % '86
Vegetation	7.75
Rock	0
Pavement	.75
Litter	44.50
Cryptogams	.75
Bare Ground	46.25

BROWSE CHARACTERISTICS--

Management unit 11B, Study no: 9

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia nova</i>									
86	5732	41	35	24	15799	42	7	0	17/17
<i>Chrysothamnus depressus</i>									
86	1332	30	65	5	-	0	0	0	4/7
<i>Gutierrezia sarothrae</i>									
86	1532	22	74	4	66	0	0	0	6/4
<i>Tetradymia canescens</i>									
86	133	0	100	-	-	100	0	0	11/11

UPPER LITTLE PARK WASH – STUDY NO. 11B-10

HERBACEOUS TRENDS--

Management unit 11B, Study no: 10

Type	Species	Nested Frequency '86
G	Agropyron smithii	9
G	Festuca ovina	20
G	Oryzopsis hymenoides	38
G	Sitanion hystrix	117
G	Stipa comata	1
Total for Annual Grasses		0
Total for Perennial Grasses		185
Total for Grasses		185
F	Arabis selbyi	19
F	Cryptantha fulvocanescens	10
F	Townsendia incana	1
Total for Annual Forbs		0
Total for Perennial Forbs		30
Total for Forbs		30

BASIC COVER--

Management unit 11B, Study no: 10

Cover Type	Average Cover % '86
Vegetation	12.25
Rock	.75
Pavement	8.75
Litter	50.00
Cryptogams	0
Bare Ground	28.25

BROWSE CHARACTERISTICS--

Management unit 11B, Study no: 10

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata tridentata									
86	3198	2	33	65	54133	48	2	0	41/37

LITTLE PARK ENCLOSURE – STUDY NO. 11B-11

HERBACEOUS TRENDS--

Management unit 11B, Study no: 11

Type	Species	Nested Frequency '86
G	Agropyron smithii	237
G	Bouteloua gracilis	16
G	Oryzopsis hymenoides	11
G	Sitanion hystrix	1
G	Stipa comata	8
Total for Annual Grasses		0
Total for Perennial Grasses		273
Total for Grasses		273
F	Astragalus convallarius	30
F	Cryptantha fulvocanescens	31
F	Hedysarum boreale	2
F	Hymenoxys richardsonii	1
F	Orobanche sp.	3
F	Phlox hoodii	3
F	Phlox longifolia	207
F	Schoenocrambe linifolia	18
F	Sphaeralcea coccinea	19
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		315
Total for Forbs		315

BASIC COVER--

Management unit 11B, Study no: 11

Cover Type	Average Cover % '86
Vegetation	7.75
Rock	.50
Pavement	.75
Litter	33.00
Cryptogams	4.25
Bare Ground	53.75

WILDLIFE MANAGEMENT UNIT 11

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 11

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
86	2800	14	57	29	66	26	38	0	22/22
<i>Gutierrezia sarothrae</i>									
86	66	0	100	-	-	0	0	0	11/6

WILLIAMS DRAW – STUDY NO. 11B-12

HERBACEOUS TRENDS--

Management unit 11B, Study no: 12

Type	Species	Nested Frequency '86
G	Hilaria jamesii	8
G	Oryzopsis hymenoides	29
G	Sitanion hystrix	62
Total for Annual Grasses		0
Total for Perennial Grasses		99
Total for Grasses		99
F	Arabis selbyi	7
F	Astragalus convallarius	3
F	Astragalus sp.	1
F	Chenopodium album (a)	3
F	Cryptantha fulvocanescens	8
F	Erigeron utahensis	2
F	Euphorbia sp.	4
F	Hymenoxys richardsonii	3
F	Machaeranthera grindelioides	5
F	Petradoria pumila	1
F	Senecio multilobatus	2
F	Townsendia incana	1
Total for Annual Forbs		3
Total for Perennial Forbs		37
Total for Forbs		40

BASIC COVER--

Management unit 11B, Study no: 12

Cover Type	Average Cover % '86
Vegetation	1.50
Rock	17.00
Pavement	4.00
Litter	44.00
Cryptogams	8.25
Bare Ground	25.25

WILDLIFE MANAGEMENT UNIT 11

BROWSE CHARACTERISTICS--
Management unit 11B, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	33	0	100	-	-	0	0	0	98/87	
<i>Cercocarpus ledifolius</i>										
86	66	0	0	100	-	0	100	0	-/-	
<i>Cercocarpus montanus</i>										
86	132	50	50	-	-	75	0	0	55/37	
<i>Cowania mexicana stansburiana</i>										
86	166	0	80	20	-	40	0	0	87/83	
<i>Ephedra viridis</i>										
86	333	30	40	30	-	10	0	0	17/17	
<i>Gutierrezia sarothrae</i>										
86	166	40	60	-	-	0	0	0	8/4	
<i>Juniperus osteosperma</i>										
86	199	67	17	17	-	17	0	17	138/93	
<i>Opuntia sp.</i>										
86	2366	27	51	23	-	0	0	6	4/7	
<i>Pinus edulis</i>										
86	166	100	0	-	66	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
86	132	50	50	-	-	0	0	0	13/7	

WILDLIFE MANAGEMENT UNIT 13

TWO MILE CHAINING – STUDY NO. 13A-1

HERBACEOUS TRENDS--

Management unit 13A, Study no: 1

Type	Species	Nested Frequency '87
G	Agropyron cristatum	135
G	Bouteloua gracilis	15
G	Bromus inermis	75
G	Koeleria cristata	61
G	Poa bulbosa	220
G	Sitanion hystrix	6
G	Stipa comata	48
Total for Annual Grasses		0
Total for Perennial Grasses		560
Total for Grasses		560
F	Astragalus convallarius	40
F	Calochortus nuttallii	8
F	Castilleja chromosa	38
F	Crepis acuminata	14
F	Erigeron pumilus	111
F	Eriogonum racemosum	63
F	Hymenoxys acaulis	3
F	Lomatium triternatum	31
F	Lupinus argenteus	162
F	Machaeranthera canescens	1
F	Penstemon caespitosus	85
F	Phlox longifolia	67
F	Sphaeralcea coccinea	58
F	Tragopogon dubius (a)	6
F	Unknown forb-perennial	6
Total for Annual Forbs		6
Total for Perennial Forbs		687
Total for Forbs		693

BASIC COVER--

Management unit 13A, Study no: 1

Cover Type	Average Cover % '87
Vegetation	15.25
Rock	0
Pavement	0
Litter	61.00
Cryptogams	3.50
Bare Ground	20.25

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	66	100	0	-	66	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
87	3199	8	79	13	-	42	8	2	13/17	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	6199	25	75	-	66	14	1	1	5/8	
<i>Coleogyne ramosissima</i>										
87	66	0	100	-	-	0	0	0	11/4	
<i>Gutierrezia sarothrae</i>										
87	66	0	100	-	-	0	0	0	8/6	
<i>Opuntia fragilis</i>										
87	200	0	100	-	-	0	0	67	3/6	
<i>Pinus edulis</i>										
87	133	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
87	0	0	0	-	66	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
87	0	0	0	-	66	0	0	0	-/-	

EAST LASAL PASS – STUDY NO. 13A-2

HERBACEOUS TRENDS--

Management unit 13A, Study no: 2

Type	Species	Nested Frequency '87
G	Bromus carinatus	13
G	Carex sp.	144
G	Dactylis glomerata	11
G	Poa pratensis	139
G	Unknown grass - perennial	4
Total for Annual Grasses		0
Total for Perennial Grasses		311
Total for Grasses		311
F	Achillea millefolium	10
F	Allium sp.	5
F	Corallorhiza sp.	6
F	Delphinium nuttallianum	7
F	Galium boreale	100
F	Iris missouriensis	2
F	Lathyrus lanszwertii	284
F	Lomatium sp.	30
F	Osmorhiza depauperata	318
F	Senecio serra	1
F	Taraxacum officinale	102
F	Thalictrum fendleri	2
F	Thermopsis montana	6
F	Unknown forb-perennial	17
F	Vicia americana	67
F	Viola adunca	62
Total for Annual Forbs		0
Total for Perennial Forbs		1019
Total for Forbs		1019

WILDLIFE MANAGEMENT UNIT 13

BASIC COVER--

Management unit 13A, Study no: 2

Cover Type	Average Cover % '87
Vegetation	8.00
Rock	.25
Pavement	0
Litter	90.00
Cryptogams	0
Bare Ground	1.75

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 2

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Populus tremuloides</i>									
87	433	77	23	-	-	23	0	0	393/219
<i>Rosa woodsii</i>									
87	33	100	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
87	7099	51	43	6	633	35	3	5	27/25

BUCK HOLLOW – STUDY NO. 13A-3

HERBACEOUS TRENDS--

Management unit 13A, Study no: 3

Type	Species	Nested Frequency '87
G	Agropyron cristatum	119
G	Agropyron intermedium	290
G	Bromus inermis	150
G	Carex sp.	9
G	Oryzopsis hymenoides	5
G	Sitanion hystrix	34
Total for Annual Grasses		0
Total for Perennial Grasses		607
Total for Grasses		607
F	Arabis hirsuta	2
F	Astragalus convallarius	18
F	Chaenactis douglasii	3
F	Cruciferae	4
F	Medicago sativa	1
F	Melilotus officinalis	53
F	Phacelia sp.	10
F	Physaria sp.	22
F	Sanguisorba minor	3
F	Sphaeralcea coccinea	11
F	Tragopogon dubius (a)	3
F	Unknown forb-perennial	4
Total for Annual Forbs		3
Total for Perennial Forbs		131
Total for Forbs		134

BASIC COVER--

Management unit 13A, Study no: 3

Cover Type	Average Cover % '87
Vegetation	11.25
Rock	2.50
Pavement	2.25
Litter	72.75
Cryptogams	0
Bare Ground	11.25

WILDLIFE MANAGEMENT UNIT 13

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier utahensis									
87	666	85	15	-	700	45	5	10	59/28
Cercocarpus montanus									
87	66	50	50	-	-	50	50	0	21/19
Juniperus osteosperma									
87	33	0	100	-	66	0	0	0	51/197
Opuntia sp.									
87	33	0	100	-	-	0	0	0	12/6
Pinus edulis									
87	133	75	25	-	33	0	0	0	35/24

SLAUGHTER FLAT – STUDY NO. 13A-4

HERBACEOUS TRENDS--

Management unit 13A, Study no: 4

Type	Species	Nested Frequency '87
G	Agropyron cristatum	57
G	Agropyron smithii	8
G	Oryzopsis hymenoides	24
G	Poa fendleriana	232
G	Poa secunda	20
G	Sitanion hystrix	24
G	Stipa comata	221
Total for Annual Grasses		0
Total for Perennial Grasses		586
Total for Grasses		586
F	Astragalus convallarius	11
F	Castilleja chromosa	6
F	Cordylanthus wrightii (a)	16
F	Crepis acuminata	9
F	Cryptantha sp.	12
F	Erigeron pumilus	8
F	Sphaeralcea coccinea	17
F	Taraxacum officinale	1
F	Tragopogon dubius (a)	1
F	Trifolium gymnocarpon	118
F	Unknown forb-perennial	3
F	Zigadenus paniculatus	15
Total for Annual Forbs		17
Total for Perennial Forbs		200
Total for Forbs		217

BASIC COVER--

Management unit 13A, Study no: 4

Cover Type	Average Cover % '87
Vegetation	12.75
Rock	0
Pavement	0
Litter	53.25
Cryptogams	.75
Bare Ground	33.25

WILDLIFE MANAGEMENT UNIT 13

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 4

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
87	33	100	0	-	-	0	100	0	-/-
<i>Artemisia tridentata wyomingensis</i>									
87	3298	26	66	8	-	40	22	6	23/22
<i>Chrysothamnus nauseosus albicaulis</i>									
87	33	0	100	-	-	0	100	0	31/28
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
87	4132	30	58	12	100	3	0	0	5/10
<i>Eriogonum microthecum</i>									
87	33	0	100	-	-	0	100	0	12/7
<i>Gutierrezia sarothrae</i>									
87	232	28	72	-	33	0	0	0	7/6
<i>Juniperus osteosperma</i>									
87	33	100	0	-	-	0	0	0	-/-
<i>Opuntia polyacantha</i>									
87	1166	37	51	11	133	0	0	26	5/7

AMASAS BACK – STUDY NO. 13A-5

HERBACEOUS TRENDS--

Management unit 13A, Study no: 5

Type	Species	Nested Frequency '87
G	Agropyron cristatum	94
G	Agropyron intermedium	137
G	Bromus japonicus (a)	31
G	Oryzopsis hymenoides	56
G	Poa fendleriana	36
G	Sitanion hystrix	64
Total for Annual Grasses		31
Total for Perennial Grasses		387
Total for Grasses		418
F	Arabis perennans	12
F	Astragalus coltoni	2
F	Erigeron pumilus	3
F	Lathyrus lanszwertii	2
F	Machaeranthera canescens	5
F	Petradoria pumila	34
Total for Annual Forbs		0
Total for Perennial Forbs		58
Total for Forbs		58

BASIC COVER--

Management unit 13A, Study no: 5

Cover Type	Average Cover % '87
Vegetation	4.75
Rock	17.50
Pavement	1.25
Litter	61.50
Cryptogams	.50
Bare Ground	14.50

WILDLIFE MANAGEMENT UNIT 13

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	2333	17	74	9	-	27	1	10	12/16	
<i>Juniperus osteosperma</i>										
87	100	0	100	-	-	0	0	0	46/31	
<i>Purshia tridentata</i>										
87	33	0	100	-	-	100	0	0	5/11	

BALD MESA – STUDY NO. 13A-6

HERBACEOUS TRENDS--

Management unit 13A, Study no: 6

Type	Species	Nested Frequency '87
G	Agropyron sp.	128
G	Bromus anomalus	1
G	Carex sp.	4
G	Poa arida	136
G	Poa pratensis	257
G	Sitanion hystrix	34
G	Stipa comata	99
Total for Annual Grasses		0
Total for Perennial Grasses		659
Total for Grasses		659
F	Achillea millefolium	102
F	Androsace septentrionalis (a)	16
F	Arabis drummondi	38
F	Arenaria congesta	181
F	Astragalus miser	226
F	Cirsium calcareum	51
F	Clematis hirsutissima	13
F	Comandra pallida	28
F	Crepis acuminata	15
F	Delphinium nuttallianum	75
F	Erigeron flagellaris	88
F	Erigeron speciosus	39
F	Eriogonum racemosum	61
F	Eriogonum umbellatum	12
F	Ipomopsis aggregata	2
F	Lupinus sericeus	117
F	Mertensia brevistyla	8
F	Penstemon palmeri	49
F	Potentilla anersina	64
F	Sedum lanceolatum	22
F	Senecio integerrimus	197
F	Taraxacum officinale	172
F	Trifolium sp.	1
F	Unknown forb-perennial	34
F	Zigadenus paniculatus	2
Total for Annual Forbs		16

WILDLIFE MANAGEMENT UNIT 13

Type	Species	Nested Frequency '87
Total for Perennial Forbs		1597
Total for Forbs		1613

BASIC COVER--

Management unit 13A, Study no: 6

Cover Type	Average Cover % '87
Vegetation	26.00
Rock	2.75
Pavement	0
Litter	64.00
Cryptogams	.50
Bare Ground	6.75

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 6

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
<i>Artemisia tridentata vaseyana</i>									
87	933	0	43	57	-	36	29	29	15/25
<i>Chrysothamnus viscidiflorus lanceolatus</i>									
87	2999	44	40	16	133	44	9	0	13/21
<i>Symphoricarpos oreophilus</i>									
87	4798	72	22	6	1866	31	1	0	25/23

ROUND MOUNTAIN – STUDY NO. 13A-7

HERBACEOUS TRENDS--

Management unit 13A, Study no: 7

Type	Species	Nested Frequency '87
F	Arabis sp.	14
F	Astragalus sp.	6
F	Erigeron pumilus	1
F	Penstemon pachyphyllus	3
Total for Annual Forbs		0
Total for Perennial Forbs		24
Total for Forbs		24

BASIC COVER--

Management unit 13A, Study no: 7

Cover Type	Average Cover % '87
Vegetation	8.25
Rock	32.00
Pavement	16.75
Litter	29.50
Cryptogams	.25
Bare Ground	13.25

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	4799	44	33	22	266	33	64	3	16/27	
<i>Coleogyne ramosissima</i>										
87	1732	42	58	-	66	19	54	0	12/16	
<i>Ephedra viridis</i>										
87	66	0	100	-	-	0	100	0	4/2	

WILDLIFE MANAGEMENT UNIT 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
87	4799	46	51	3	400	6	10	3	8/6	
<i>Juniperus osteosperma</i>										
87	66	100	0	-	-	0	0	0	-/-	

BLACK RIDGE – STUDY NO. 13A-8

HERBACEOUS TRENDS--

Management unit 13A, Study no: 8

Type	Species	Nested Frequency '87
G	Agropyron cristatum	169
G	Sitanion hystrix	21
Total for Annual Grasses		0
Total for Perennial Grasses		190
Total for Grasses		190
F	Astragalus amphioxys	1
F	Eriogonum ovalifolium	5
F	Machaeranthera grindelioides	15
Total for Annual Forbs		0
Total for Perennial Forbs		21
Total for Forbs		21

BASIC COVER--

Management unit 13A, Study no: 8

Cover Type	Average Cover % '87
Vegetation	7.00
Rock	0
Pavement	0
Litter	40.50
Cryptogams	.75
Bare Ground	51.75

WILDLIFE MANAGEMENT UNIT 13

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	7832	72	25	3	2833	38	12	1	23/33	
<i>Ephedra viridis</i>										
87	33	0	100	-	-	100	0	0	20/22	
<i>Gutierrezia sarothrae</i>										
87	66	50	50	-	33	0	0	0	12/13	

TAYLOR FLAT – STUDY NO. 13A-9

HERBACEOUS TRENDS--

Management unit 13A, Study no: 9

Type	Species	Nested Frequency '87
G	Agropyron trachycaulum	62
G	Bromus carinatus	88
G	Carex sp.	108
G	Festuca ovina	30
G	Melica sp.	13
G	Phleum pratense	32
G	Poa arida	265
G	Poa pratensis	33
G	Stipa comata	3
Total for Annual Grasses		0
Total for Perennial Grasses		634
Total for Grasses		634
F	Achillea millefolium	231
F	Allium geyeri	93
F	Antennaria parvifolia	74
F	Arabis sp.	13
F	Arenaria congesta	107
F	Calochortus gunnisoni	21
F	Cerastium arvense	92
F	Clematis hirsutissima	1
F	Comandra pallida	27
F	Crepis acuminata	25
F	Cruciferae	28
F	Delphinium nuttallianum	42
F	Erigeron flagellaris	13
F	Erigeron sp.	102
F	Erigeron speciosus	132
F	Eriogonum racemosum	6
F	Galium boreale	164
F	Geranium caespitosum	11
F	Haplopappus croceus	13
F	Heuchera parvifolia	11
F	Iris missouriensis	115
F	Lathyrus lanszwertii	183
F	Lewisia pygmaea	6
F	Linum lewisii	12
F	Lomatium sp.	58

Type	Species	Nested Frequency '87
F	Lupinus argenteus	8
F	Lupinus sericeus	30
F	Osmorhiza sp.	2
F	Penstemon sp.	22
F	Phacelia sp.	6
F	Potentilla gracilis	116
F	Sedum lanceolatum	25
F	Senecio integerrimus	135
F	Taraxacum officinale	262
F	Thermopsis montana	25
F	Tragopogon dubius (a)	3
F	Unknown forb-perennial	138
F	Vicia americana	61
F	Wyethia amplexicaulis	6
Total for Annual Forbs		3
Total for Perennial Forbs		2416
Total for Forbs		2419

BASIC COVER--

Management unit 13A, Study no: 9

Cover Type	Average Cover % '87
Vegetation	21.25
Rock	7.25
Pavement	0
Litter	60.50
Cryptogams	.75
Bare Ground	10.25

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 9

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Potentilla fruticosa</i>									
87	266	75	25	-	66	0	0	0	18/15
<i>Quercus gambelii</i>									
87	3333	96	0	4	1666	6	4	0	-/-
<i>Rosa woodsii</i>									
87	866	92	8	-	-	0	0	0	15/10
<i>Symphoricarpos oreophilus</i>									
87	10866	46	53	1	733	39	1	2	22/32

UPPER FISHER VALLEY – STUDY NO. 13A-10

HERBACEOUS TRENDS--

Management unit 13A, Study no: 10

Type	Species	Nested Frequency '87
G	Agropyron cristatum	63
G	Hilaria jamesii	94
G	Poa secunda	224
G	Sitanion hystrix	24
G	Stipa comata	7
Total for Annual Grasses		0
Total for Perennial Grasses		412
Total for Grasses		412
F	Astragalus amphioxys	7
F	Calochortus nuttallii	1
F	Cruciferae	1
F	Erigeron pumilus	6
F	Oenothera albicaulis (a)	1
F	Phlox austromontana	21
F	Sphaeralcea coccinea	62
F	Tragopogon dubius (a)	4
F	Unknown forb-perennial	1
Total for Annual Forbs		5
Total for Perennial Forbs		99
Total for Forbs		104

BASIC COVER--

Management unit 13A, Study no: 10

Cover Type	Average Cover % '87
Vegetation	8.00
Rock	0
Pavement	0
Litter	32.25
Cryptogams	1.00
Bare Ground	58.75

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	6333	51	43	6	3133	40	1	2	21/25	
<i>Gutierrezia sarothrae</i>										
87	13198	40	57	4	2600	.50	1	2	11/9	

NORTH BEAVER MESA – STUDY NO. 13A-11

HERBACEOUS TRENDS--

Management unit 13A, Study no: 11

Type	Species	Nested Frequency '87
G	Agropyron cristatum	258
G	Agropyron intermedium	41
G	Bouteloua gracilis	5
G	Bromus inermis	24
Total for Annual Grasses		0
Total for Perennial Grasses		328
Total for Grasses		328
F	Astragalus convallarius	8
F	Astragalus mollissimus	8
F	Calochortus nuttallii	1
F	Cruciferae	28
F	Delphinium nuttallianum	1
F	Erigeron pumilus	25
F	Eriogonum racemosum	27
F	Euphorbia sp.	1
F	Heterotheca villosa	214
F	Lactuca serriola (a)	4
F	Lesquerella ludoviciana	3
F	Machaeranthera canescens	15
F	Oenothera coronopifolia	39
F	Petradoria pumila	1
F	Phlox longifolia	9
F	Senecio multilobatus	3
F	Sphaeralcea coccinea	11
F	Tragopogon dubius (a)	17
F	Trifolium sp.	4
F	Unknown forb-perennial	11
Total for Annual Forbs		21
Total for Perennial Forbs		409
Total for Forbs		430

BASIC COVER--

Management unit 13A, Study no: 11

Cover Type	Average Cover % '87
Vegetation	15.75
Rock	0
Pavement	0
Litter	43.50
Cryptogams	3.50
Bare Ground	37.25

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 11

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
87	600	100	0	-	66	0	11	0	-/-	
<i>Artemisia tridentata wyomingensis</i>										
87	10332	49	32	19	733	38	4	2	19/22	
<i>Chrysothamnus nauseosus</i>										
87	332	20	60	20	-	20	20	40	34/25	
<i>Eriogonum microthecum</i>										
87	600	100	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	666	90	10	-	-	0	0	0	6/5	
<i>Opuntia sp.</i>										
87	266	0	100	-	66	0	0	50	4/14	

BELOW POLAR RIM – STUDY NO. 13A-12

HERBACEOUS TRENDS--

Management unit 13A, Study no: 12

Type	Species	Nested Frequency '87
G	Agropyron cristatum	139
G	Bouteloua gracilis	212
G	Hilaria jamesii	22
G	Poa secunda	104
G	Sitanion hystrix	35
G	Stipa comata	183
Total for Annual Grasses		0
Total for Perennial Grasses		695
Total for Grasses		695
F	Astragalus cicer	39
F	Calochortus nuttallii	46
F	Erigeron pumilus	67
F	Lomatium sp.	3
F	Medicago sativa	6
F	Oenothera albicaulis (a)	5
F	Phlox longifolia	76
F	Sphaeralcea coccinea	135
F	Tragopogon dubius (a)	10
Total for Annual Forbs		15
Total for Perennial Forbs		372
Total for Forbs		387

BASIC COVER--

Management unit 13A, Study no: 12

Cover Type	Average Cover % '87
Vegetation	12.25
Rock	0
Pavement	0
Litter	42.25
Cryptogams	5.00
Bare Ground	40.50

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata wyomingensis										
87	7732	71	25	4	533	21	7	.86	20/31	
Opuntia sp.										
87	1266	32	58	11	200	0	0	21	3/13	
Pinus edulis										
87	0	0	0	-	133	0	0	0	-/-	

BEAVER CANYON – STUDY NO. 13A-13

HERBACEOUS TRENDS--

Management unit 13A, Study no: 13

Type	Species	Nested Frequency '87
G	Hilaria jamesii	257
G	Poa secunda	68
G	Sitanion hystrix	114
G	Stipa comata	83
Total for Annual Grasses		0
Total for Perennial Grasses		522
Total for Grasses		522
F	Astragalus sp.	44
F	Erigeron pumilus	163
F	Phlox austromontana	80
F	Plantago patagonica (a)	67
F	Sphaeralcea coccinea	57
F	Townsendia incana	4
F	Tragopogon dubius (a)	3
Total for Annual Forbs		70
Total for Perennial Forbs		348
Total for Forbs		418

BASIC COVER--

Management unit 13A, Study no: 13

Cover Type	Average Cover % '87
Vegetation	8.00
Rock	0
Pavement	0
Litter	27.25
Cryptogams	9.25
Bare Ground	55.50

BROWSE CHARACTERISTICS--
Management unit 13A, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	4465	10	51	39	-	33	22	21	16/19	
<i>Atriplex canescens</i>										
87	132	50	50	-	-	100	0	0	28/16	
<i>Gutierrezia sarothrae</i>										
87	599	89	11	-	66	0	0	0	5/6	
<i>Opuntia sp.</i>										
87	600	0	100	-	-	0	0	0	2/3	

LOWER WESTWATER-DOLORES – STUDY NO. 13B-1

HERBACEOUS TRENDS--

Management unit 13B, Study no: 1

Type	Species	Nested Frequency '86
G	Hilaria jamesii	206
G	Sitanion hystrix	9
G	Sporobolus cryptandrus	1
Total for Annual Grasses		0
Total for Perennial Grasses		216
Total for Grasses		216
F	Astragalus sp.	12
F	Leucelene ericoides	26
Total for Annual Forbs		0
Total for Perennial Forbs		38
Total for Forbs		38

BASIC COVER--

Management unit 13B, Study no: 1

Cover Type	Average Cover % '86
Vegetation	11.50
Rock	0
Pavement	.25
Litter	50.50
Cryptogams	18.50
Bare Ground	19.25

BROWSE CHARACTERISTICS--

Management unit 13B, Study no: 1

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Opuntia sp.									
86	66	0	100	-	-	0	0	0	6/7

UPPER WESTWATER-DOLORES – STUDY NO. 13B-2

HERBACEOUS TRENDS--

Management unit 13B, Study no: 2

Type	Species	Nested Frequency '86
G	Hilaria jamesii	45
Total for Annual Grasses		0
Total for Perennial Grasses		45
Total for Grasses		45
F	Sphaeralcea coccinea	2
Total for Annual Forbs		0
Total for Perennial Forbs		2
Total for Forbs		2

BASIC COVER--

Management unit 13B, Study no: 2

Cover Type	Average Cover % '86
Vegetation	10.50
Rock	0
Pavement	0
Litter	69.50
Cryptogams	3.50
Bare Ground	16.50

FISH PARK – STUDY NO. 13B-3

HERBACEOUS TRENDS--

Management unit 13B, Study no: 3

Type	Species	Nested Frequency '86
G	Agropyron cristatum	169
G	Hilaria jamesii	76
G	Sitanion hystrix	9
G	Stipa comata	70
Total for Annual Grasses		0
Total for Perennial Grasses		324
Total for Grasses		324
F	Astragalus convallarius	10
F	Cryptantha fulvocanescens	5
F	Erigeron pumilus	5
F	Medicago sativa	4
F	Phlox longifolia	87
F	Sphaeralcea coccinea	23
Total for Annual Forbs		0
Total for Perennial Forbs		134
Total for Forbs		134

BASIC COVER--

Management unit 13B, Study no: 3

Cover Type	Average Cover % '86
Vegetation	16.50
Rock	0
Pavement	0
Litter	68.50
Cryptogams	0
Bare Ground	15.00

BROWSE CHARACTERISTICS--
Management unit 13B, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
86	2266	71	24	6	933	7	0	3	24/20	
<i>Gutierrezia sarothrae</i>										
86	533	19	75	6	-	0	0	0	7/8	
<i>Juniperus osteosperma</i>										
86	33	0	100	-	-	0	0	0	61/44	

RED CLIFFS – STUDY NO. 13B-4

HERBACEOUS TRENDS--

Management unit 13B, Study no: 4

Type	Species	Nested Frequency '86
G	Aristida purpurea	3
G	Poa fendleriana	110
G	Sitanion hystrix	5
G	Sporobolus cryptandrus	3
Total for Annual Grasses		0
Total for Perennial Grasses		121
Total for Grasses		121
F	Machaeranthera glabriusculas	3
Total for Annual Forbs		0
Total for Perennial Forbs		3
Total for Forbs		3

BASIC COVER--

Management unit 13B, Study no: 4

Cover Type	Average Cover % '86
Vegetation	13.75
Rock	16.25
Pavement	3.00
Litter	25.00
Cryptogams	23.50
Bare Ground	18.50

BROWSE CHARACTERISTICS--
Management unit 13B, Study no: 4

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
86	133	0	0	100	-	0	0	0	-/-
<i>Coleogyne ramosissima</i>									
86	11200	4	86	11	-	27	5	11	15/16
<i>Gutierrezia sarothrae</i>									
86	66	0	100	-	-	0	0	0	10/5
<i>Sclerocactus sp.</i>									
86	66	0	100	-	-	0	0	0	7/3

BUCKHORN DRAW – STUDY NO. 13B-5

HERBACEOUS TRENDS--

Management unit 13B, Study no: 5

Type	Species	Nested Frequency '86
G	Aristida purpurea	68
G	Oryzopsis hymenoides	18
G	Sporobolus cryptandrus	156
Total for Annual Grasses		0
Total for Perennial Grasses		242
Total for Grasses		242

BASIC COVER--

Management unit 13B, Study no: 5

Cover Type	Average Cover % '86
Vegetation	8.50
Rock	0
Pavement	0
Litter	42.00
Cryptogams	.75
Bare Ground	48.75

BROWSE CHARACTERISTICS--

Management unit 13B, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata wyomingensis										
86	499	13	47	40	66	13	87	0	11/13	
Coleogyne ramosissima										
86	166	0	100	-	-	0	100	0	15/31	
Grayia spinosa										
86	300	0	0	100	-	0	100	100	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
86	7765	11	74	15	-	.85	.42	0	9/5	
<i>Juniperus osteosperma</i>										
86	33	0	100	-	-	0	0	0	63/63	
<i>Opuntia sp.</i>										
86	66	0	100	-	-	0	0	0	4/6	

RYAN CREEK – STUDY NO. 13B-6

HERBACEOUS TRENDS--

Management unit 13B, Study no: 6

Type	Species	Nested Frequency '86
G	Agropyron cristatum	286
G	Sitanion hystrix	2
G	Vulpia octoflora (a)	4
Total for Annual Grasses		4
Total for Perennial Grasses		288
Total for Grasses		292
F	Astragalus mollissimus	2
F	Medicago sativa	1
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		5
Total for Forbs		5

BASIC COVER--

Management unit 13B, Study no: 6

Cover Type	Average Cover % '86
Vegetation	7.25
Rock	4.00
Pavement	4.00
Litter	53.00
Cryptogams	2.25
Bare Ground	29.50

BROWSE CHARACTERISTICS--

Management unit 13B, Study no: 6

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
86	33	0	0	100	-	0	100	0	-/-

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
8 6	66	0	100	-	-	0	0	0	10/11	
<i>Juniperus osteosperma</i>										
8 6	66	0	100	-	-	0	0	0	98/79	
<i>Pinus edulis</i>										
8 6	132	50	50	-	-	0	0	0	78/50	

STEAMBOAT MESA NORTH – STUDY 13B-7

HERBACEOUS TRENDS--

Management unit 13B, Study no: 7

Type	Species	Nested Frequency '86
G	Agropyron cristatum	155
G	Oryzopsis hymenoides	52
G	Poa fendleriana	4
G	Sitanion hystrix	28
G	Stipa comata	8
Total for Annual Grasses		0
Total for Perennial Grasses		247
Total for Grasses		247
F	Astragalus convallarius	7
F	Erigeron pumilus	2
F	Haplopappus acaulis	3
F	Petradoria pumila	37
F	Phlox hoodii	28
F	Tragopogon dubius (a)	14
Total for Annual Forbs		14
Total for Perennial Forbs		77
Total for Forbs		91

BASIC COVER--

Management unit 13B, Study no: 7

Cover Type	Average Cover % '86
Vegetation	11.25
Rock	.25
Pavement	0
Litter	65.00
Cryptogams	.25
Bare Ground	23.25

BROWSE CHARACTERISTICS--
Management unit 13B, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
86	66	0	100	-	-	0	0	0	22/19
<i>Atriplex canescens</i>									
86	66	0	0	100	-	0	0	0	-/-
<i>Ephedra viridis</i>									
86	133	0	100	-	-	0	100	0	18/11
<i>Gutierrezia sarothrae</i>									
86	66	0	0	100	333	0	0	0	-/-
<i>Juniperus osteosperma</i>									
86	66	0	100	-	-	0	0	0	83/58
<i>Pinus edulis</i>									
86	333	60	40	-	-	0	0	0	81/47

STEAMBOAT MESA SOUTH – STUDY 13B-8

HERBACEOUS TRENDS--

Management unit 13B, Study no: 8

Type	Species	Nested Frequency '86
G	Hilaria jamesii	17
G	Oryzopsis hymenoides	6
G	Poa fendleriana	26
G	Sitanion hystrix	11
G	Sporobolus cryptandrus	7
G	Stipa comata	257
Total for Annual Grasses		0
Total for Perennial Grasses		324
Total for Grasses		324
F	Sphaeralcea coccinea	207
F	Tragopogon dubius (a)	69
F	Unknown forb-perennial	15
Total for Annual Forbs		69
Total for Perennial Forbs		222
Total for Forbs		291

BASIC COVER--

Management unit 13B, Study no: 8

Cover Type	Average Cover % '86
Vegetation	6.00
Rock	0
Pavement	0
Litter	67.00
Cryptogams	0
Bare Ground	27.00

BROWSE CHARACTERISTICS--
Management unit 13B, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	2332	51	46	3	133	46	37	0	17/12	
<i>Ceratoides lanata</i>										
86	66	0	100	-	-	0	100	0	14/11	

STEAMBOAT EAST BENCH – STUDY NO. 13B-9

HERBACEOUS TRENDS--

Management unit 13B, Study no: 9

Type	Species	Nested Frequency '86
G	Agropyron cristatum	63
G	Oryzopsis hymenoides	29
G	Poa fendleriana	15
G	Sitanion hystrix	62
Total for Annual Grasses		0
Total for Perennial Grasses		169
Total for Grasses		169
F	Astragalus mollissimus	15
F	Erigeron pumilus	2
F	Euphorbia sp.	13
F	Haplopappus acaulis	70
F	Lesquerella ludoviciana	10
F	Machaeranthera grindelioides	10
F	Penstemon sp.	3
F	Petradoria pumila	28
F	Phlox hoodii	25
F	Physaria sp.	1
F	Sisymbrium altissimum (a)	1
F	Townsendia incana	3
F	Tragopogon dubius (a)	17
Total for Annual Forbs		18
Total for Perennial Forbs		180
Total for Forbs		198

BASIC COVER--

Management unit 13B, Study no: 9

Cover Type	Average Cover % '86
Vegetation	2.00
Rock	7.00
Pavement	1.75
Litter	55.50
Cryptogams	1.00
Bare Ground	32.75

BROWSE CHARACTERISTICS--
Management unit 13B, Study no: 9

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
<i>Artemisia nova</i>									
86	1199	31	36	33	-	50	6	6	8/11
<i>Artemisia tridentata wyomingensis</i>									
86	132	25	25	50	-	50	25	25	5/7
<i>Gutierrezia sarothrae</i>									
86	1566	15	83	2	-	0	0	0	8/10
<i>Juniperus osteosperma</i>									
86	0	0	0	-	33	0	0	0	-/-
<i>Pinus edulis</i>									
86	333	30	60	10	-	0	0	10	81/39
<i>Yucca harrimaniae</i>									
86	832	28	68	4	-	0	0	4	12/16

WILDLIFE MANAGEMENT UNIT 14

ALKALI POINT – STUDY NO. 14-1

HERBACEOUS TRENDS--

Management unit 14, Study no: 1

Type	Species	Nested Frequency '86
G	Hilaria jamesii	5
G	Sitanion hystrix	111
Total for Annual Grasses		0
Total for Perennial Grasses		116
Total for Grasses		116
F	Astragalus convallarius	13
F	Astragalus mollissimus	4
F	Cordylanthus sp. (a)	6
F	Euphorbia fendleri	13
F	Sphaeralcea coccinea	5
Total for Annual Forbs		6
Total for Perennial Forbs		35
Total for Forbs		41

BASIC COVER--

Management unit 14, Study no: 1

Cover Type	Average Cover % '86
Vegetation	3.00
Rock	1.00
Pavement	.25
Litter	45.75
Cryptogams	8.00
Bare Ground	42.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 1

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata wyomingensis										
8 6	4399	0	35	65	-	12	88	21	22/23	
Gutierrezia sarothrae										
8 6	5999	4	96	-	200	1	2	0	8/9	

BRUSHY BASIN – STUDY NO. 14-2

HERBACEOUS TRENDS--

Management unit 14, Study no: 2

Type	Species	Nested Frequency '86
G	Agropyron cristatum	198
G	Agropyron intermedium	410
G	Bromus inermis	26
G	Carex sp.	80
G	Poa fendleriana	120
G	Sitanion hystrix	38
G	Stipa sp.	2
Total for Annual Grasses		0
Total for Perennial Grasses		874
Total for Grasses		874
F	Astragalus miser	5
F	Cirsium sp.	3
F	Eriogonum racemosum	4
F	Lesquerella fendleri	16
F	Machaeranthera grindelioides	8
F	Penstemon pachyphyllus	8
F	Tragopogon dubius (a)	3
F	Unknown forb-perennial	9
Total for Annual Forbs		3
Total for Perennial Forbs		53
Total for Forbs		56

BASIC COVER--

Management unit 14, Study no: 2

Cover Type	Average Cover % '86
Vegetation	4.75
Rock	4.50
Pavement	.75
Litter	73.50
Cryptogams	.25
Bare Ground	16.25

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 2

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
86	3333	78	22	-	200	17	1	13	14/22
<i>Chrysothamnus depressus</i>									
86	6965	2	98	-	-	0	0	0	2/11
<i>Gutierrezia sarothrae</i>									
86	7932	11	88	2	-	0	0	0	6/6
<i>Juniperus osteosperma</i>									
86	66	0	0	100	-	0	0	0	-/-
<i>Pinus edulis</i>									
86	100	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
86	33	0	100	-	166	0	100	0	15/35
<i>Quercus gambelii</i>									
86	300	100	0	-	-	89	11	0	-/-

GOLD QUEEN BASIN – STUDY NO. 14-3

HERBACEOUS TRENDS--

Management unit 14, Study no: 3

Type	Species	Nested Frequency '86
G	Agropyron intermedium	5
G	Agropyron smithii	32
G	Carex sp.	3
G	Koeleria cristata	4
G	Poa fendleriana	50
G	Poa pratensis	284
G	Sitanion hystrix	29
G	Stipa columbiana	20
G	Unknown grass - perennial	2
Total for Annual Grasses		0
Total for Perennial Grasses		429
Total for Grasses		429
F	Achillea millefolium	97
F	Antennaria neglecta	62
F	Arenaria congesta	6
F	Artemisia michauxiana	16
F	Cirsium sp.	2
F	Erigeron flagellaris	122
F	Erigeron speciosus	9
F	Eriogonum racemosum	16
F	Lathyrus lanszwertii	27
F	Ligusticum porteri	3
F	Lomatium sp.	3
F	Lupinus sericeus	3
F	Lychnis drummondii drummondii	7
F	Penstemon crandallii	28
F	Phlox longifolia	6
F	Senecio integerrimus	19
F	Trifolium gymnocarpon	3
Total for Annual Forbs		0
Total for Perennial Forbs		429
Total for Forbs		429

BASIC COVER--

Management unit 14, Study no: 3

Cover Type	Average Cover % '86
Vegetation	9.25
Rock	3.00
Pavement	0
Litter	79.00
Cryptogams	.25
Bare Ground	8.50

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 3

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
86	0	0	0	-	66	0	0	0	-/-	
Pinus ponderosa										
86	66	100	0	-	-	0	0	0	-/-	
Quercus gambelii										
86	9865	93	5	3	7733	17	26	31	127/49	
Symphoricarpos oreophilus										
86	5398	31	64	5	333	33	0	0	19/14	

CAMP JACKSON RESERVOIR – STUDY NO. 14-4

HERBACEOUS TRENDS--

Management unit 14, Study no: 4

Type	Species	Nested Frequency '86
G	<i>Agropyron trachycaulum</i>	4
G	<i>Bromus anomalus</i>	47
G	<i>Carex sp.</i>	105
G	<i>Festuca thurberi</i>	22
G	<i>Koeleria cristata</i>	20
G	<i>Muhlenbergia montana</i>	47
G	<i>Phleum pratense</i>	1
G	<i>Poa pratensis</i>	128
G	<i>Sitanion hystrix</i>	28
G	<i>Stipa columbiana</i>	11
G	<i>Stipa comata</i>	49
Total for Annual Grasses		0
Total for Perennial Grasses		462
Total for Grasses		462
F	<i>Achillea millefolium</i>	163
F	<i>Agoseris glauca</i>	29
F	<i>Arenaria congesta</i>	60
F	<i>Aster sp.</i>	68
F	<i>Castilleja linariaefolia</i>	32
F	<i>Chaenactis douglasii</i>	1
F	<i>Crepis acuminata</i>	3
F	<i>Erigeron flagellaris</i>	58
F	<i>Erigeron speciosus</i>	53
F	<i>Eriogonum racemosum</i>	4
F	<i>Geranium caespitosum</i>	34
F	<i>Ipomopsis aggregata</i>	17
F	<i>Lathyrus lanszwertii</i>	156
F	<i>Ligusticum porteri</i>	60
F	<i>Lomatium dissectum</i>	22
F	<i>Penstemon sp.</i>	34
F	<i>Potentilla anersina</i>	19
F	<i>Potentilla gracilis</i>	29
F	<i>Sedum lanceolatum</i>	7
F	<i>Senecio neomexicanus</i>	102
F	<i>Taraxacum officinale</i>	58
F	<i>Thalictrum fendleri</i>	34
F	<i>Thermopsis montana</i>	1

Type	Species	Nested Frequency '86
F	Thlaspi montanum	28
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		1074
Total for Forbs		1074

BASIC COVER--

Management unit 14, Study no: 4

Cover Type	Average Cover % '86
Vegetation	10.00
Rock	4.25
Pavement	3.50
Litter	64.00
Cryptogams	0
Bare Ground	18.25

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 4

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Quercus gambelii									
86	13999	65	21	14	4733	64	14	21	41/26
Rosa woodsii									
86	2999	36	44	20	200	51	18	16	22/8
Symphoricarpos oreophilus									
86	12332	32	52	16	333	58	12	37	16/14

JACKSON RIDGE – STUDY NO. 14-5

HERBACEOUS TRENDS--

Management unit 14, Study no: 5

Type	Species	Nested Frequency '86
G	Agropyron spicatum	22
G	Agropyron trachycaulum	104
G	Bromus carinatus	48
G	Carex sp.	5
G	Dactylis glomerata	3
G	Phleum pratense	1
G	Poa pratensis	362
G	Stipa lettermani	48
G	Trisetum spicatum	4
Total for Annual Grasses		0
Total for Perennial Grasses		597
Total for Grasses		597
F	Achillea millefolium	280
F	Agoseris aurantiaca	37
F	Cirsium wheeleri	6
F	Erigeron engelmannii	10
F	Erigeron flagellaris	102
F	Erigeron speciosus	10
F	Fragaria vesca	39
F	Gentiana amarella heterosepala	9
F	Lathyrus lanszwertii	16
F	Lupinus argenteus	32
F	Osmorhiza occidentalis	37
F	Phacelia hastata	23
F	Phlox longifolia	3
F	Potentilla gracilis	9
F	Senecio neomexicanus	29
F	Taraxacum officinale	168
F	Thlaspi montanum	22
F	Tragopogon dubius (a)	17
F	Unknown forb-perennial	96
F	Valeriana occidentalis	7
F	Veronica serpyllifolia	1
F	Vicia americana	145
Total for Annual Forbs		17
Total for Perennial Forbs		1081

Type	Species	Nested Frequency '86
Total for Forbs		1098

BASIC COVER--

Management unit 14, Study no: 5

Cover Type	Average Cover % '86
Vegetation	25.50
Rock	6.50
Pavement	1.75
Litter	55.00
Cryptogams	0
Bare Ground	11.25

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Picea engelmannii										
86	33	100	0	-	-	0	0	0	-/-	
Populus tremuloides										
86	532	81	6	12	333	25	25	44	393/300	
Symphoricarpos oreophilus										
86	33	0	100	-	-	100	0	0	24/2	

HARTS DRAW RESERVOIR – STUDY NO. 14-6

HERBACEOUS TRENDS--

Management unit 14, Study no: 6

Type	Species	Nested Frequency '86
G	Agropyron cristatum	12
G	Bromus inermis	301
G	Carex sp.	54
G	Poa fendleriana	130
G	Poa pratensis	143
G	Sitanion hystrix	3
G	Unknown grass - perennial	4
Total for Annual Grasses		0
Total for Perennial Grasses		647
Total for Grasses		647
F	Antennaria sp.	9
F	Castilleja linariaefolia	6
F	Erigeron flagellaris	29
F	Eriogonum racemosum	76
F	Ipomopsis aggregata	17
F	Lathyrus pauciflorus	42
F	Lupinus holosericeus	178
F	Penstemon comarrhenus	138
F	Phlox longifolia	16
F	Senecio neomexicanus	21
F	Taraxacum officinale	3
F	Thlaspi sp.	12
Total for Annual Forbs		0
Total for Perennial Forbs		547
Total for Forbs		547

BASIC COVER--

Management unit 14, Study no: 6

Cover Type	Average Cover % '86
Vegetation	7.50
Rock	0
Pavement	.50
Litter	76.00
Cryptogams	.25
Bare Ground	15.75

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	999	100	0	-	-	93	7	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
86	5399	0	53	47	-	56	42	28	18/18	
<i>Quercus gambelii</i>										
86	4066	59	23	18	1133	64	36	44	41/21	
<i>Symphoricarpos oreophilus</i>										
86	599	33	56	11	-	78	11	78	14/7	

SHAY MOUNTAIN – STUDY NO. 14-7

HERBACEOUS TRENDS--

Management unit 14, Study no: 7

Type	Species	Nested Frequency '86
G	Carex sp.	88
G	Koeleria cristata	79
G	Muhlenbergia montana	42
G	Poa fendleriana	130
G	Poa pratensis	34
G	Sitanion hystrix	66
Total for Annual Grasses		0
Total for Perennial Grasses		439
Total for Grasses		439
F	Achillea millefolium	57
F	Arabis perennans	3
F	Arenaria congesta	105
F	Artemisia ludoviciana	12
F	Balsamorhiza sagittata	27
F	Castilleja linariaefolia	20
F	Comandra pallida	19
F	Erigeron eatonii	21
F	Erigeron flagellaris	77
F	Erigeron speciosus	20
F	Eriogonum racemosum	22
F	Eriogonum umbellatum	16
F	Heterotheca villosa	6
F	Lathyrus brachycalyx	6
F	Lathyrus pauciflorus	43
F	Lomatium dissectum	3
F	Lychnis drummondii drummondii	11
F	Orobanche sp.	3
F	Penstemon comarrhenus	21
F	Petradoria pumila	23
F	Phlox longifolia	68
F	Sedum stenopetalum	3
F	Senecio canus	82
F	Thermopsis montana	14
Total for Annual Forbs		0
Total for Perennial Forbs		682
Total for Forbs		682

BASIC COVER--

Management unit 14, Study no: 7

Cover Type	Average Cover % '86
Vegetation	10.00
Rock	5.00
Pavement	1.25
Litter	73.00
Cryptogams	1.50
Bare Ground	9.25

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 7

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
86	2199	0	24	76	-	45	55	18	18/23	
Purshia tridentata										
86	332	20	40	40	-	20	80	40	15/27	
Quercus gambelii										
86	13266	72	21	7	2466	82	12	4	31/13	
Symphoricarpos oreophilus										
86	333	60	40	-	-	60	0	40	14/8	

PETERS POINT – STUDY NO. 14-8

HERBACEOUS TRENDS--

Management unit 14, Study no: 8

Type	Species	Nested Frequency '86
G	Agropyron cristatum	324
G	Poa fendleriana	3
G	Sitanion hystrix	9
Total for Annual Grasses		0
Total for Perennial Grasses		336
Total for Grasses		336
F	Arabis sp.	1
F	Artemisia ludoviciana	1
F	Erigeron pumilus	4
F	Eriogonum alatum	1
F	Lesquerella rectipes	10
F	Penstemon pachyphyllus	9
F	Petradoria pumila	118
Total for Annual Forbs		0
Total for Perennial Forbs		144
Total for Forbs		144

BASIC COVER--

Management unit 14, Study no: 8

Cover Type	Average Cover % '86
Vegetation	15.25
Rock	1.00
Pavement	1.25
Litter	63.25
Cryptogams	0
Bare Ground	19.25

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 8

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia frigida</i>									
86	100	0	100	-	-	0	0	0	9/7
<i>Artemisia tridentata vaseyana</i>									
86	1832	29	64	7	133	35	13	5	20/20
<i>Chrysothamnus nauseosus</i>									
86	1432	74	14	12	33	53	5	19	43/52
<i>Gutierrezia sarothrae</i>									
86	899	15	82	4	33	0	0	4	6/6
<i>Juniperus osteosperma</i>									
86	166	80	20	-	-	20	0	0	88/42
<i>Opuntia sp.</i>									
86	299	22	78	-	-	0	0	0	3/8
<i>Pinus edulis</i>									
86	0	0	0	-	33	0	0	0	-/-

HARTS DRAW – STUDY NO. 14-9

HERBACEOUS TRENDS--

Management unit 14, Study no: 9

Type	Species	Nested Frequency '86
G	Bouteloua gracilis	165
G	Hilaria jamesii	1
G	Sitanion hystrix	25
G	Stipa comata	81
Total for Annual Grasses		0
Total for Perennial Grasses		272
Total for Grasses		272
F	Arnica mollis	7
F	Astragalus mollissimus	2
F	Erigeron pumilus	44
F	Erigeron sp.	9
F	Sclerocactus sp.	2
F	Sphaeralcea coccinea	52
Total for Annual Forbs		0
Total for Perennial Forbs		116
Total for Forbs		116

BASIC COVER--

Management unit 14, Study no: 9

Cover Type	Average Cover % '86
Vegetation	4.25
Rock	0
Pavement	8.25
Litter	35.75
Cryptogams	.75
Bare Ground	51.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	3332	2	48	50	-	46	14	16	20/19	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
86	199	33	67	-	-	0	0	33	9/11	
<i>Gutierrezia sarothrae</i>										
86	12866	29	66	5	3533	.51	0	.51	8/6	
<i>Opuntia sp.</i>										
86	133	0	100	-	-	0	0	50	3/6	

HARTS POINT – STUDY NO. 14-10

HERBACEOUS TRENDS--

Management unit 14, Study no: 10

Type	Species	Nested Frequency '86
G	<i>Bouteloua gracilis</i>	234
G	<i>Hilaria jamesii</i>	31
G	<i>Oryzopsis hymenoides</i>	7
G	<i>Sitanion hystrix</i>	27
G	<i>Stipa comata</i>	110
Total for Annual Grasses		0
Total for Perennial Grasses		409
Total for Grasses		409
F	<i>Calochortus nuttallii</i>	6
F	<i>Erigeron pumilus</i>	77
F	<i>Machaeranthera canescens</i>	1
F	<i>Senecio multilobatus</i>	9
Total for Annual Forbs		0
Total for Perennial Forbs		93
Total for Forbs		93

BASIC COVER--

Management unit 14, Study no: 10

Cover Type	Average Cover % '86
Vegetation	10.75
Rock	0
Pavement	0
Litter	45.75
Cryptogams	4.50
Bare Ground	39.00

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 10

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata wyomingensis									
86	3732	20	57	23	999	18	64	9	17/22
Juniperus osteosperma									
86	66	0	100	-	-	0	0	0	69/70

SHAY MESA – STUDY NO 14-11

HERBACEOUS TRENDS--

Management unit 14, Study no: 11

Type	Species	Nested Frequency '86
G	Agropyron smithii	204
G	Bouteloua gracilis	168
G	Poa fendleriana	1
G	Sitanion hystrix	2
G	Sporobolus cryptandrus	53
G	Stipa comata	280
Total for Annual Grasses		0
Total for Perennial Grasses		708
Total for Grasses		708
F	Astragalus mollissimus	11
F	Calochortus nuttallii	2
F	Erigeron pumilus	44
F	Eriogonum cernuum (a)	3
F	Senecio multilobatus	3
F	Sphaeralcea coccinea	118
Total for Annual Forbs		3
Total for Perennial Forbs		178
Total for Forbs		181

BASIC COVER--

Management unit 14, Study no: 11

Cover Type	Average Cover % '86
Vegetation	14.00
Rock	0
Pavement	0
Litter	61.25
Cryptogams	4.25
Bare Ground	20.50

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 11

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
86	2265	77	21	3	-	76	9	6	23/25
<i>Atriplex canescens</i>									
86	200	0	100	-	-	67	33	0	5/3
<i>Chrysothamnus nauseosus</i>									
86	3199	23	77	-	-	4	96	0	15/16
<i>Eriogonum microthecum</i>									
86	533	38	62	-	-	0	0	0	11/6
<i>Gutierrezia sarothrae</i>									
86	8265	17	80	3	-	0	0	0	7/5
<i>Leptodactylon pungens</i>									
86	999	0	93	7	-	0	0	0	1/3
<i>Opuntia sp.</i>									
86	266	25	75	-	-	0	0	0	3/4
<i>Pinus edulis</i>									
86	199	33	67	-	-	0	0	0	114/45
<i>Symphoricarpos oreophilus</i>									
86	200	0	100	-	-	67	33	33	15/22

BLACK MESA – STUDY NO. 14-13

HERBACEOUS TRENDS--

Management unit 14, Study no: 13

Type	Species	Nested Frequency '86
G	Hilaria jamesii	40
G	Sitanion hystrix	142
G	Stipa comata	2
Total for Annual Grasses		0
Total for Perennial Grasses		184
Total for Grasses		184
F	Erigeron sp.	2
F	Euphorbia fendleri	3
F	Medicago sativa	2
F	Phlox longifolia	26
F	Sphaeralcea coccinea	1
Total for Annual Forbs		0
Total for Perennial Forbs		34
Total for Forbs		34

BASIC COVER--

Management unit 14, Study no: 13

Cover Type	Average Cover % '86
Vegetation	3.25
Rock	0
Pavement	.50
Litter	38.50
Cryptogams	5.75
Bare Ground	52.00

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 13

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata wyomingensis									
86	3266	16	47	37	466	29	37	20	19/15
Gutierrezia sarothrae									
86	10131	12	73	14	66	0	0	0	9/9

TEXAS FLAT – STUDY NO 14-14

HERBACEOUS TRENDS--

Management unit 14, Study no: 14

Type	Species	Nested Frequency '86
G	Agropyron cristatum	252
G	Sporobolus cryptandrus	30
G	Stipa comata	29
Total for Annual Grasses		0
Total for Perennial Grasses		311
Total for Grasses		311
F	Astragalus convallarius	9
F	Astragalus sp.	13
F	Erigeron pumilus	18
F	Lathyrus lanszwertii	2
F	Penstemon comarrhenus	5
F	Phlox longifolia	6
F	Senecio multilobatus	1
F	Sphaeralcea coccinea	55
Total for Annual Forbs		0
Total for Perennial Forbs		109
Total for Forbs		109

BASIC COVER--

Management unit 14, Study no: 14

Cover Type	Average Cover % '86
Vegetation	1.25
Rock	0
Pavement	0
Litter	58.75
Cryptogams	0
Bare Ground	40.00

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
86	5466	83	13	4	3133	2	0	0	25/24	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
86	200	100	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
86	800	100	0	-	66	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
86	2465	19	68	14	66	0	0	0	9/7	
<i>Opuntia fragilis</i>										
86	1799	85	15	-	-	0	0	0	4/8	

HARMONY FLAT – STUDY NO. 14-15

HERBACEOUS TRENDS--

Management unit 14, Study no: 15

Type	Species	Nested Frequency '86
G	Agropyron cristatum	235
G	Agropyron smithii	3
G	Bromus inermis	4
G	Sitanion hystrix	3
Total for Annual Grasses		0
Total for Perennial Grasses		245
Total for Grasses		245
F	Medicago sativa	14
Total for Annual Forbs		0
Total for Perennial Forbs		14
Total for Forbs		14

BASIC COVER--

Management unit 14, Study no: 15

Cover Type	Average Cover % '86
Vegetation	3.00
Rock	0
Pavement	0
Litter	50.00
Cryptogams	0
Bare Ground	47.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 15

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata wyomingensis									
86	5198	28	44	28	133	13	0	4	18/17
Atriplex canescens									
86	66	0	0	100	-	0	100	0	-/-

LOWER LOST PARK – STUDY NO. 14-16

HERBACEOUS TRENDS--

Management unit 14, Study no: 16

Type	Species	Nested Frequency '86
G	Agropyron cristatum	11
G	Oryzopsis hymenoides	26
G	Poa fendleriana	47
G	Sitanion hystrix	157
G	Stipa comata	18
Total for Annual Grasses		0
Total for Perennial Grasses		259
Total for Grasses		259
F	Astragalus convallarius	95
F	Cordylanthus wrightii (a)	13
F	Erigeron pumilus	25
F	Machaeranthera canescens	36
F	Penstemon comarrhenus	53
F	Phlox longifolia	207
F	Sphaeralcea coccinea	33
F	Unknown forb-perennial	2
Total for Annual Forbs		13
Total for Perennial Forbs		451
Total for Forbs		464

BASIC COVER--

Management unit 14, Study no: 16

Cover Type	Average Cover % '86
Vegetation	3.25
Rock	0
Pavement	0
Litter	28.25
Cryptogams	2.00
Bare Ground	66.50

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
86	7399	0	37	63	-	35	49	24	20/19	
<i>Chrysothamnus depressus</i>										
86	266	25	75	-	-	0	0	0	6/6	
<i>Opuntia sp.</i>										
86	66	0	100	-	-	0	0	0	8/12	

DEER FLAT – STUDY NO. 14-17

HERBACEOUS TRENDS--

Management unit 14, Study no: 17

Type	Species	Nested Frequency '86
G	Agropyron cristatum	106
G	Agropyron smithii	63
G	Bouteloua gracilis	25
G	Sitanion hystrix	90
G	Stipa comata	107
Total for Annual Grasses		0
Total for Perennial Grasses		391
Total for Grasses		391
F	Astragalus convallarius	28
F	Calochortus nuttallii	1
F	Cordylanthus kingii (a)	4
F	Erigeron utahensis	36
F	Eriogonum leptophyllum	8
F	Eriogonum racemosum	53
F	Penstemon comarrhenus	10
F	Phlox longifolia	123
F	Sphaeralcea coccinea	36
F	Tragopogon dubius (a)	1
Total for Annual Forbs		5
Total for Perennial Forbs		295
Total for Forbs		300

BASIC COVER--

Management unit 14, Study no: 17

Cover Type	Average Cover % '86
Vegetation	4.75
Rock	0
Pavement	0
Litter	55.00
Cryptogams	0
Bare Ground	40.25

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
 Management unit 14, Study no: 17

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
8 6	1032	26	0	74	-	0	0	6	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
8 6	2165	25	46	29	-	2	0	9	7/11	

KIGALIA POINT – STUDY NO. 14-18

HERBACEOUS TRENDS--

Management unit 14, Study no: 18

Type	Species	Nested Frequency '86
G	Agropyron intermedium	14
G	Agropyron trachycaulum	20
G	Bromus inermis	85
G	Carex sp.	13
G	Dactylis glomerata	16
G	Oryzopsis hymenoides	3
G	Phleum pratense	40
G	Poa pratensis	294
G	Sitanion hystrix	30
Total for Annual Grasses		0
Total for Perennial Grasses		515
Total for Grasses		515
F	Achillea millefolium	164
F	Erigeron flagellaris	19
F	Erigeron speciosus	1
F	Lathyrus lanszwertii	8
F	Senecio canus	2
F	Taraxacum officinale	126
F	Thermopsis montana	43
F	Trifolium kingii	183
F	Unknown forb-perennial	9
F	Vicia exigua	16
Total for Annual Forbs		0
Total for Perennial Forbs		571
Total for Forbs		571

BASIC COVER--

Management unit 14, Study no: 18

Cover Type	Average Cover % '86
Vegetation	13.25
Rock	0
Pavement	0
Litter	83.00
Cryptogams	0
Bare Ground	3.75

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 18

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Pinus ponderosa									
86	66	100	0	-	-	0	0	0	-/-
Populus tremuloides									
86	466	29	71	-	66	0	0	0	303/61
Quercus gambelii									
86	3932	73	5	22	1666	19	29	14	143/39
Symphoricarpos oreophilus									
86	19199	57	40	3	8400	45	7	.69	28/20

WOODENSHOE – STUDY NO. 14-19

HERBACEOUS TRENDS--

Management unit 14, Study no: 19

Type	Species	Nested Frequency '86
G	Bromus anomalus	5
G	Carex sp.	44
G	Poa fendleriana	54
G	Sitanion hystrix	63
G	Stipa comata	30
Total for Annual Grasses		0
Total for Perennial Grasses		196
Total for Grasses		196
F	Achillea millefolium	26
F	Arenaria congesta	1
F	Artemisia ludoviciana	8
F	Castilleja linariaefolia	25
F	Comandra pallida	2
F	Erigeron divergens	10
F	Erigeron flagellaris	57
F	Eriogonum racemosum	21
F	Lathyrus lanszwertii	77
F	Lupinus sericeus	28
F	Penstemon strictus	35
F	Phlox longifolia	41
F	Senecio canus	28
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		361
Total for Forbs		361

BASIC COVER--

Management unit 14, Study no: 19

Cover Type	Average Cover % '86
Vegetation	8.75
Rock	3.50
Pavement	0
Litter	79.25
Cryptogams	0
Bare Ground	8.50

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 19

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
86	1998	3	33	63	266	33	7	20	26/18
<i>Ceanothus fendleri</i>									
86	132	50	50	-	-	0	0	0	7/20
<i>Mahonia repens</i>									
86	4599	3	97	-	266	0	0	0	6/6
<i>Pinus ponderosa</i>									
86	133	100	0	-	-	0	0	0	-/-
<i>Prunus virginiana</i>									
86	200	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
86	66	0	100	-	-	100	0	0	19/13
<i>Quercus gambelii</i>									
86	2665	75	25	-	2733	3	0	0	77/44
<i>Rosa woodsii</i>									
86	533	62	38	-	-	0	0	13	24/17
<i>Symphoricarpos oreophilus</i>									
86	15066	40	60	-	2400	4	0	29	26/16

GOOSEBERRY – STUDY NO. 14-20

HERBACEOUS TRENDS--

Management unit 14, Study no: 20

Type	Species	Nested Frequency '86
G	<i>Agropyron intermedium</i>	13
G	<i>Agropyron spicatum</i>	3
G	<i>Bromus anomalus</i>	50
G	<i>Bromus inermis</i>	18
G	<i>Dactylis glomerata</i>	10
G	<i>Koeleria cristata</i>	12
G	<i>Muhlenbergia montana</i>	46
G	<i>Phleum pratense</i>	19
G	<i>Poa fendleriana</i>	16
G	<i>Poa pratensis</i>	182
G	<i>Sitanion hystrix</i>	69
G	<i>Stipa columbiana</i>	83
Total for Annual Grasses		0
Total for Perennial Grasses		521
Total for Grasses		521
F	<i>Achillea millefolium</i>	171
F	<i>Aster chilensis</i>	6
F	<i>Erigeron flagellaris</i>	37
F	<i>Geranium sp.</i>	2
F	<i>Lathyrus lanszwertii</i>	132
F	<i>Lychnis drummondii</i> <i>drummondii</i>	4
F	<i>Phlox longifolia</i>	97
F	<i>Senecio integerrimus</i>	61
F	<i>Smilacina stellata</i>	1
F	<i>Stellaria jamesiana</i>	2
F	<i>Taraxacum officinale</i>	59
F	<i>Trifolium repens</i>	49
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		622
Total for Forbs		622

BASIC COVER--

Management unit 14, Study no: 20

Cover Type	Average Cover % '86
Vegetation	9.25
Rock	0
Pavement	0
Litter	81.25
Cryptogams	.50
Bare Ground	9.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 20

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	766	57	43	-	233	13	4	0	11/5	
<i>Mahonia repens</i>										
86	4199	33	58	10	700	0	0	10	6/6	
<i>Pachistima myrsinites</i>										
86	1132	41	59	-	1200	0	6	0	5/6	
<i>Pinus ponderosa</i>										
86	166	100	0	-	-	0	0	0	-/-	
<i>Populus tremuloides</i>										
86	33	100	0	-	33	0	0	0	-/-	
<i>Quercus gambelii</i>										
86	0	0	0	-	66	0	0	0	-/-	
<i>Rosa woodsii</i>										
86	765	65	30	4	100	13	0	0	10/8	
<i>Symphoricarpos oreophilus</i>										
86	7899	55	44	1	1466	42	5	0	22/20	

NORTH LONG POINT – STUDY NO. 14-21

HERBACEOUS TRENDS--

Management unit 14, Study no: 21

Type	Species	Nested Frequency '86
G	Agropyron cristatum	2
G	Bromus anomalus	9
G	Bromus inermis	78
G	Carex sp.	73
G	Koeleria cristata	19
G	Poa fendleriana	89
G	Poa pratensis	6
G	Sitanion hystrix	52
G	Stipa comata	2
G	Stipa lettermani	10
Total for Annual Grasses		0
Total for Perennial Grasses		340
Total for Grasses		340
F	Achillea millefolium	19
F	Artemisia ludoviciana	28
F	Comandra pallida	8
F	Crepis acuminata	5
F	Erigeron flagellaris	18
F	Eriogonum racemosum	15
F	Lupinus sericeus	83
F	Penstemon comarrhenus	2
F	Phacelia hastata	4
F	Senecio canus	4
F	Solidago sparsiflora	42
F	Unknown forb-perennial	8
Total for Annual Forbs		0
Total for Perennial Forbs		236
Total for Forbs		236

BASIC COVER--

Management unit 14, Study no: 21

Cover Type	Average Cover % '86
Vegetation	7.25
Rock	9.25
Pavement	0
Litter	80.50
Cryptogams	0
Bare Ground	3.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 21

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	533	100	0	-	-	50	13	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
86	666	0	10	90	66	10	0	50	32/25	
<i>Juniperus scopulorum</i>										
86	66	100	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
86	66	0	100	-	-	0	0	0	6/13	
<i>Quercus gambelii</i>										
86	2999	98	0	2	-	7	2	11	-/-	
<i>Symphoricarpos oreophilus</i>										
86	2733	44	41	15	133	49	2	20	33/38	

WILD COW POINT – STUDY NO. 14-22

HERBACEOUS TRENDS--

Management unit 14, Study no: 22

Type	Species	Nested Frequency '86
G	Agropyron cristatum	108
G	Bouteloua gracilis	57
G	Poa fendleriana	168
G	Sitanion hystrix	33
Total for Annual Grasses		0
Total for Perennial Grasses		366
Total for Grasses		366
F	Allium sp.	2
F	Antennaria neglecta	8
F	Arabis sp.	3
F	Astragalus convallarius	41
F	Calochortus nuttallii	1
F	Cordylanthus kingii (a)	5
F	Cryptantha flavoculata	2
F	Erigeron pumilus	32
F	Eriogonum racemosum	60
F	Eriogonum umbellatum	12
F	Lesquerella rectipes	16
F	Penstemon lentus	10
F	Phlox austromontana	46
F	Senecio multilobatus	15
F	Thlaspi montanum	9
Total for Annual Forbs		5
Total for Perennial Forbs		257
Total for Forbs		262

BASIC COVER--

Management unit 14, Study no: 22

Cover Type	Average Cover % '86
Vegetation	12.25
Rock	.25
Pavement	.25
Litter	65.50
Cryptogams	.50
Bare Ground	21.25

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 22

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
86	5099	12	45	42	33	29	45	10	8/13
<i>Artemisia tridentata wyomingensis</i>									
86	399	17	33	50	66	42	50	8	16/15
<i>Chrysothamnus depressus</i>									
86	2365	11	82	7	33	31	4	4	4/6
<i>Gutierrezia sarothrae</i>									
86	33	0	100	-	-	0	0	0	4/3
<i>Juniperus osteosperma</i>									
86	166	60	40	-	-	0	0	0	93/89
<i>Pinus edulis</i>									
86	233	100	0	-	-	0	0	0	-/-

SOUTH PLAIN – STUDY NO. 14-23

HERBACEOUS TRENDS--

Management unit 14, Study no: 23

Type	Species	Nested Frequency '86
G	<i>Bouteloua gracilis</i>	141
G	<i>Sitanion hystrix</i>	42
G	<i>Sporobolus cryptandrus</i>	95
G	<i>Stipa comata</i>	67
Total for Annual Grasses		0
Total for Perennial Grasses		345
Total for Grasses		345
F	<i>Astragalus amphioxys</i>	9
F	<i>Erigeron pumilus</i>	35
F	<i>Machaeranthera canescens</i>	12
F	<i>Sphaeralcea coccinea</i>	2
Total for Annual Forbs		0
Total for Perennial Forbs		58
Total for Forbs		58

BASIC COVER--

Management unit 14, Study no: 23

Cover Type	Average Cover % '86
Vegetation	9.50
Rock	0
Pavement	0
Litter	52.75
Cryptogams	0
Bare Ground	37.75

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 23

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
86	3000	0	53	47	-	0	96	36	19/23
<i>Ceratoides lanata</i>									
86	933	0	36	64	-	36	64	0	11/8
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
86	2333	23	17	60	200	17	6	23	12/14
<i>Pinus edulis</i>									
86	0	0	0	-	66	0	0	0	-/-

RUIN PARK – STUDY NO. 14-24

HERBACEOUS TRENDS--

Management unit 14, Study no: 24

Type	Species	Nested Frequency '86
G	Bouteloua gracilis	95
G	Oryzopsis hymenoides	56
G	Sitanion hystrix	47
G	Sporobolus cryptandrus	10
G	Stipa comata	278
Total for Annual Grasses		0
Total for Perennial Grasses		486
Total for Grasses		486
F	Astragalus mollissimus	7
F	Chenopodium leptophyllum(a)	8
F	Erigeron pumilus	4
F	Euphorbia fendleri	11
F	Machaeranthera canescens	4
F	Phlox hoodii	3
F	Phlox longifolia	32
F	Senecio multilobatus	4
F	Sphaeralcea coccinea	15
Total for Annual Forbs		8
Total for Perennial Forbs		80
Total for Forbs		88

BASIC COVER--

Management unit 14, Study no: 24

Cover Type	Average Cover % '86
Vegetation	6.50
Rock	0
Pavement	0
Litter	41.00
Cryptogams	2.50
Bare Ground	50.00

WILDLIFE MANAGEMENT UNIT 14

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 24

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
8 6	2198	12	30	58	-	15	85	0	24/27	
<i>Ceratoides lanata</i>										
8 6	1732	19	27	54	133	73	23	0	8/9	

DAVIS POCKET – STUDY NO. 14-25

HERBACEOUS TRENDS--

Management unit 14, Study no: 25

Type	Species	Nested Frequency '86
G	Agropyron intermedium	10
G	Agropyron trachycaulum	3
G	Bromus anomalus	3
G	Carex sp.	65
G	Koeleria cristata	53
G	Poa fendleriana	34
G	Poa pratensis	98
G	Sitanion hystrix	35
G	Stipa comata	15
G	Stipa lettermani	37
G	Trisetum spicatum	15
Total for Annual Grasses		0
Total for Perennial Grasses		368
Total for Grasses		368
F	Achillea millefolium	128
F	Arenaria congesta	90
F	Castilleja linariaefolia	67
F	Comandra pallida	98
F	Erigeron eatonii	12
F	Erigeron flagellaris	2
F	Erigeron speciosus	28
F	Eriogonum racemosum	13
F	Lathyrus lanszwertii	82
F	Ligusticum porteri	9
F	Linum lewisii	12
F	Lupinus sericeus	82
F	Penstemon comarrhenus	6
F	Penstemon pachyphyllus	4
F	Petradoria pumila	31
F	Phlox longifolia	38
F	Taraxacum officinale	3
Total for Annual Forbs		0
Total for Perennial Forbs		705
Total for Forbs		705

BASIC COVER--

Management unit 14, Study no: 25

Cover Type	Average Cover % '86
Vegetation	21.25
Rock	1.00
Pavement	1.00
Litter	69.00
Cryptogams	.25
Bare Ground	7.50

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 25

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	4398	71	23	6	733	14	11	0	30/14	
<i>Artemisia tridentata vaseyana</i>										
86	399	0	33	67	66	33	0	0	26/35	
<i>Cercocarpus montanus</i>										
86	133	0	100	-	-	50	50	0	48/10	
<i>Mahonia repens</i>										
86	132	50	50	-	-	0	0	0	8/4	
<i>Pinus edulis</i>										
86	66	100	0	-	-	0	0	0	-/-	
<i>Prunus virginiana</i>										
86	533	100	0	-	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
86	10532	82	16	3	3933	7	0	0	50/31	
<i>Rosa woodsii</i>										
86	799	75	8	17	-	8	8	8	7/6	
<i>Symphoricarpos oreophilus</i>										
86	10199	54	45	1	1533	20	0	3	17/20	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Yucca angustissima</i>										
8 6	66	0	100	-	-	0	0	0	17/12	

THE WILDERNESS – STUDY NO. 14-26

HERBACEOUS TRENDS--

Management unit 14, Study no: 26

Type	Species	Nested Frequency '86
G	Agropyron intermedium	26
G	Agropyron trachycaulum	45
G	Bouteloua gracilis	12
G	Bromus anomalus	11
G	Bromus inermis	1
G	Carex sp.	6
G	Koeleria cristata	24
G	Poa fendleriana	21
G	Poa pratensis	119
G	Sitanion hystrix	14
G	Sporobolus cryptandrus	25
G	Stipa comata	148
Total for Annual Grasses		0
Total for Perennial Grasses		452
Total for Grasses		452
F	Artemisia ludoviciana	17
F	Castilleja linariaefolia	6
F	Comandra pallida	36
F	Cryptantha flavoculata	14
F	Equisetum arvense	162
F	Erigeron sp.	36
F	Eriogonum racemosum	2
F	Eriogonum umbellatum	5
F	Geranium fremontii	8
F	Heterotheca villosa	11
F	Lupinus sericeus	69
F	Machaeranthera canescens	27
F	Oenothera pallida	69
F	Penstemon comarrhenus	114
F	Phacelia hastata	27
F	Senecio multilobatus	155
F	Taraxacum officinale	1
F	Tragopogon dubius (a)	51
F	Unknown forb-perennial	74
F	Viguiera multiflora	3
Total for Annual Forbs		51
Total for Perennial Forbs		836

Type	Species	Nested Frequency '86
	Total for Forbs	887

BASIC COVER--

Management unit 14, Study no: 26

Cover Type	Average Cover % '86
Vegetation	7.00
Rock	0
Pavement	0
Litter	71.75
Cryptogams	.25
Bare Ground	21.00

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 26

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Arctostaphylos patula</i>										
86	400	0	100	-	-	0	0	0	33/69	
<i>Ceanothus fendleri</i>										
86	133	0	100	-	-	0	100	0	11/6	
<i>Pinus ponderosa</i>										
86	133	100	0	-	-	0	0	0	-/-	
<i>Prunus virginiana</i>										
86	333	100	0	-	-	20	20	0	-/-	
<i>Quercus gambelii</i>										
86	2799	81	5	14	3399	10	50	7	59/13	
<i>Rosa woodsii</i>										
86	799	42	50	8	-	25	25	8	19/6	
<i>Symphoricarpos oreophilus</i>										
86	5333	32	45	23	400	25	4	6	31/20	

MORMON PASTURE POINT – STUDY NO. 14-27

HERBACEOUS TRENDS--

Management unit 14, Study no: 27

Type	Species	Nested Frequency '86
G	Agropyron cristatum	32
G	Agropyron dasystachyum	218
G	Agropyron intermedium	157
G	Carex sp.	12
G	Oryzopsis hymenoides	36
G	Poa fendleriana	1
G	Poa pratensis	7
G	Sitanion hystrix	63
Total for Annual Grasses		0
Total for Perennial Grasses		526
Total for Grasses		526
F	Astragalus tenellus	68
F	Calochortus nuttallii	3
F	Cirsium sp.	3
F	Cymopterus sp.	5
F	Eriogonum racemosum	2
F	Hymenoxys acaulis	22
F	Ipomopsis aggregata	3
F	Lesquerella rectipes	17
F	Machaeranthera canescens	3
F	Penstemon lentus	26
F	Petradoria pumila	3
F	Phlox longifolia	11
F	Senecio multilobatus	2
F	Sphaeralcea coccinea	70
F	Taraxacum officinale	1
F	Tragopogon dubius (a)	22
Total for Annual Forbs		22
Total for Perennial Forbs		239
Total for Forbs		261

BASIC COVER--

Management unit 14, Study no: 27

Cover Type	Average Cover % '86
Vegetation	2.50
Rock	0
Pavement	.75
Litter	69.50
Cryptogams	0
Bare Ground	27.25

BROWSE CHARACTERISTICS--

Management unit 14, Study no: 27

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
86	33	0	100	-	-	100	0	0	55/43	
<i>Juniperus osteosperma</i>										
86	33	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
86	33	100	0	-	66	0	0	0	-/-	
<i>Purshia tridentata</i>										
86	100	0	100	-	-	33	67	0	12/20	
<i>Quercus gambelii</i>										
86	2165	58	26	15	800	62	3	3	63/35	

NORTH COTTONWOOD – STUDY NO. 14-28

HERBACEOUS TRENDS--

Management unit 14, Study no: 28

Type	Species	Nested Frequency '86
G	Agropyron cristatum	3
G	Bouteloua gracilis	26
G	Oryzopsis hymenoides	14
G	Sitanion hystrix	37
Total for Annual Grasses		0
Total for Perennial Grasses		80
Total for Grasses		80
F	Astragalus miser	2
F	Euphorbia fendleri	9
F	Hymenoxys acaulis	14
F	Lepidium montanum	66
F	Penstemon comarrhenus	10
F	Phlox hoodii	27
F	Senecio multilobatus	14
F	Townsendia incana	18
Total for Annual Forbs		0
Total for Perennial Forbs		160
Total for Forbs		160

BASIC COVER--

Management unit 14, Study no: 28

Cover Type	Average Cover % '86
Vegetation	4.50
Rock	3.00
Pavement	2.50
Litter	44.00
Cryptogams	4.50
Bare Ground	41.50

BROWSE CHARACTERISTICS--
Management unit 14, Study no: 28

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
86	66	0	100	-	-	0	0	0	6/14
<i>Cercocarpus montanus</i>									
86	99	0	67	33	-	33	33	0	37/33
<i>Chrysothamnus nauseosus</i>									
86	33	0	100	-	-	0	0	0	55/48
<i>Gutierrezia sarothrae</i>									
86	2866	16	80	3	-	0	0	1	7/9
<i>Opuntia sp.</i>									
86	232	14	72	14	-	0	0	0	7/10
<i>Philadelphus microphyllus</i>									
86	332	20	50	30	-	10	0	20	15/14
<i>Pinus edulis</i>									
86	100	100	0	-	33	0	0	0	-/-
<i>Purshia tridentata</i>									
86	199	67	33	-	-	50	0	0	50/36
<i>Yucca baccata baccata</i>									
86	100	0	100	-	-	0	0	0	21/24

WILDLIFE MANAGEMENT UNIT 15

EAGLE BENCH – STUDY NO. 15-1

HERBACEOUS TRENDS--

Management unit 15, Study no: 1

Type	Species	Nested Frequency '87
G	Agropyron cristatum	39
G	Bouteloua gracilis	196
G	Oryzopsis hymenoides	19
G	Sitanion hystrix	109
Total for Annual Grasses		0
Total for Perennial Grasses		363
Total for Grasses		363
F	Hymenoxys acaulis	2
F	Phlox longifolia	6
F	Senecio multilobatus	16
F	Unknown forb-perennial	6
Total for Annual Forbs		0
Total for Perennial Forbs		30
Total for Forbs		30

BASIC COVER--

Management unit 15, Study no: 1

Cover Type	Average Cover % '87
Vegetation	4.25
Rock	23.25
Pavement	16.25
Litter	37.50
Cryptogams	0
Bare Ground	18.75

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 1

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata wyomingensis										
8 7	6866	17	79	4	133	87	5	0	18/27	
Eriogonum microthecum										
8 7	266	75	25	-	-	25	0	0	3/3	
Gutierrezia sarothrae										
8 7	2466	8	92	-	66	0	0	0	6/4	
Mahonia fremontii										
8 7	0	0	0	-	66	0	0	0	-/-	

NASTY FLAT – STUDY NO. 15-2

HERBACEOUS TRENDS--

Management unit 15, Study no: 2

Type	Species	Nested Frequency '87
G	<i>Agropyron trachycaulum</i>	111
G	<i>Bromus inermis</i>	51
G	<i>Carex geeyeri</i>	4
G	<i>Festuca ovina</i>	5
G	<i>Poa fendleriana</i>	259
G	<i>Sitanion hystrix</i>	10
G	<i>Stipa lettermani</i>	1
Total for Annual Grasses		0
Total for Perennial Grasses		441
Total for Grasses		441
F	<i>Arabis drummondi</i>	13
F	<i>Calochortus nuttallii</i>	4
F	<i>Cymopterus lemmonii</i>	3
F	<i>Descurainia pinnata</i> (a)	4
F	<i>Erigeron eatonii</i>	15
F	<i>Erigeron</i> sp.	4
F	<i>Penstemon watsonii</i>	41
F	<i>Phlox longifolia</i>	22
F	<i>Sedum lanceolatum</i>	1
F	<i>Senecio multilobatus</i>	13
F	<i>Stellaria jamesiana</i>	282
F	<i>Taraxacum officinale</i>	187
F	Unknown forb-perennial	23
F	<i>Vicia</i> sp.	3
Total for Annual Forbs		4
Total for Perennial Forbs		611
Total for Forbs		615

BASIC COVER--

Management unit 15, Study no: 2

Cover Type	Average Cover % '87
Vegetation	4.50
Rock	1.00
Pavement	0
Litter	93.75
Cryptogams	0
Bare Ground	.75

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Pinus flexilis										
87	66	100	0	-	66	0	0	0	-/-	
Populus tremuloides										
87	5132	94	5	1	600	39	22	0	393/157	
Ribes velutinum velutinum										
87	66	100	0	-	-	100	0	0	-/-	
Symphoricarpos oreophilus										
87	133	0	100	-	-	0	100	0	14/16	

DUGOUT – STUDY NO. 15-3

HERBACEOUS TRENDS--

Management unit 15, Study no: 3

Type	Species	Nested Frequency '87
G	Agropyron intermedium	4
G	Agropyron smithii	20
G	Bouteloua gracilis	5
G	Carex sp.	1
G	Festuca sp.	29
G	Oryzopsis hymenoides	31
G	Poa fendleriana	54
G	Sitanion hystrix	55
G	Stipa lettermani	18
Total for Annual Grasses		0
Total for Perennial Grasses		217
Total for Grasses		217
F	Allium sp.	4
F	Antennaria parvifolia	2
F	Aster sp.	47
F	Astragalus tenellus	8
F	Astragalus henrimontanensis	10
F	Calochortus nuttallii	6
F	Castilleja chromosa	12
F	Castilleja linariaefolia	6
F	Comandra pallida	18
F	Crepis intermedia	13
F	Cymopterus purpureus	56
F	Erigeron pumilus	23
F	Hymenoxys acaulis	37
F	Lesquerella wardii	42
F	Lupinus sericeus	19
F	Machaeranthera grindelioides	8
F	Penstemon sp.	26
F	Penstemon watsonii	14
F	Petradoria pumila	1
F	Phlox longifolia	10
F	Potentilla gracilis	6
F	Unknown forb-perennial	3
Total for Annual Forbs		0

Type	Species	Nested Frequency '87
Total for Perennial Forbs		371
Total for Forbs		371

BASIC COVER--

Management unit 15, Study no: 3

Cover Type	Average Cover % '87
Vegetation	3.75
Rock	13.50
Pavement	13.00
Litter	58.00
Cryptogams	.25
Bare Ground	11.50

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier utahensis									
87	732	64	36	-	200	64	9	0	46/18
Artemisia nova									
87	4999	27	44	29	1799	23	5	5	14/15
Artemisia tridentata vaseyana									
87	66	0	100	-	-	0	0	0	15/23
Cercocarpus montanus									
87	199	33	67	-	-	33	67	33	24/34
Chrysothamnus depressus									
87	799	8	92	-	66	25	0	0	3/7
Pinus edulis									
87	133	100	0	-	-	0	0	50	-/-

WILDLIFE MANAGEMENT UNIT 15

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Quercus gambelii										
87	4200	100	0	-	1266	8	0	0	-/-	
Symphoricarpos oreophilus										
87	600	33	67	-	-	33	0	0	17/23	

SOUTH CREEK CHAINING – STUDY NO. 15-4

HERBACEOUS TRENDS--

Management unit 15, Study no: 4

Type	Species	Nested Frequency '87
G	Agropyron cristatum	293
G	Agropyron smithii	5
G	Poa fendleriana	3
G	Sitanion hystrix	42
Total for Annual Grasses		0
Total for Perennial Grasses		343
Total for Grasses		343
F	Artemisia ludoviciana	3
F	Astragalus henrimontanensis	7
F	Cirsium vulgare	9
F	Lesquerella kingii	18
F	Machaeranthera canescens	1
F	Medicago sativa	110
F	Sphaeralcea coccinea	35
F	Taraxacum officinale	27
F	Unknown forb-perennial	6
Total for Annual Forbs		0
Total for Perennial Forbs		216
Total for Forbs		216

BASIC COVER--

Management unit 15, Study no: 4

Cover Type	Average Cover % '87
Vegetation	7.25
Rock	12.25
Pavement	9.75
Litter	49.75
Cryptogams	0
Bare Ground	21.00

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	66	100	0	-	-	0	100	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
87	33	100	0	-	-	0	100	0	-/-	
<i>Cercocarpus montanus</i>										
87	66	0	100	-	-	0	100	0	8/12	
<i>Chrysothamnus nauseosus graveolens</i>										
87	33	0	100	-	-	100	0	0	43/33	
<i>Pinus edulis</i>										
87	166	40	60	-	-	0	0	0	64/55	
<i>Symphoricarpos oreophilus</i>										
87	166	60	40	-	33	0	100	0	13/24	

BATES KNOB – STUDY NO. 15-5

HERBACEOUS TRENDS--

Management unit 15, Study no: 5

Type	Species	Nested Frequency '87
G	Agropyron cristatum	300
G	Agropyron intermedium	3
G	Oryzopsis hymenoides	1
G	Sitanion hystrix	24
G	Sporobolus cryptandrus	1
Total for Annual Grasses		0
Total for Perennial Grasses		329
Total for Grasses		329
F	Artemisia ludoviciana	38
F	Chaenactis douglasii	3
F	Eriogonum alatum	26
F	Hymenoxys acaulis	9
F	Lesquerella kingii	21
F	Machaeranthera canescens	4
F	Medicago sativa	109
F	Tragopogon dubius (a)	1
F	Unknown forb-perennial	9
Total for Annual Forbs		1
Total for Perennial Forbs		219
Total for Forbs		220

BASIC COVER--

Management unit 15, Study no: 5

Cover Type	Average Cover % '87
Vegetation	6.00
Rock	5.25
Pavement	5.50
Litter	57.50
Cryptogams	0
Bare Ground	25.75

BROWSE CHARACTERISTICS--
Management unit 15, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	66	50	0	50	-	50	0	50	-/-	
<i>Chrysothamnus nauseosus graveolens</i>										
87	366	55	45	-	300	9	0	0	26/37	
<i>Gutierrezia sarothrae</i>										
87	200	0	100	-	-	0	0	0	8/5	
<i>Juniperus osteosperma</i>										
87	33	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
87	33	100	0	-	-	0	0	0	-/-	

BOX SPRINGS CHAINING – STUDY NO. 15-6

HERBACEOUS TRENDS--

Management unit 15, Study no: 6

Type	Species	Nested Frequency '87
G	Agropyron cristatum	167
G	Agropyron intermedium	227
G	Bromus inermis	78
G	Dactylis glomerata	39
G	Festuca ovina	62
G	Sitanion hystrix	1
Total for Annual Grasses		0
Total for Perennial Grasses		574
Total for Grasses		574
F	Arabis sp.	6
F	Astragalus cicer	1
F	Lesquerella kingii	19
F	Medicago sativa	66
F	Penstemon palmeri	1
F	Sanguisorba minor	32
Total for Annual Forbs		0
Total for Perennial Forbs		125
Total for Forbs		125

BASIC COVER--

Management unit 15, Study no: 6

Cover Type	Average Cover % '87
Vegetation	11.25
Rock	1.50
Pavement	.50
Litter	73.25
Cryptogams	0
Bare Ground	13.50

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
87	100	0	100	-	-	0	0	0	10/6	
<i>Juniperus osteosperma</i>										
87	66	100	0	-	33	0	0	0	-/-	
<i>Pinus edulis</i>										
87	233	86	14	-	33	0	0	0	169/79	
<i>Purshia tridentata</i>										
87	0	0	0	-	266	0	0	0	-/-	

AIRPLANE SPRING – STUDY NO. 15-7

HERBACEOUS TRENDS--

Management unit 15, Study no: 7

Type	Species	Nested Frequency '87
G	Agropyron cristatum	306
G	Agropyron intermedium	122
G	Bouteloua gracilis	1
G	Festuca ovina	2
G	Sitanion hystrix	73
Total for Annual Grasses		0
Total for Perennial Grasses		504
Total for Grasses		504
F	Astragalus sp.	3
F	Erigeron eatonii	27
F	Hymenoxys acaulis	14
F	Lesquerella kingii	2
F	Medicago sativa	49
F	Orthocarpus sp. (a)	3
F	Schoenocrambe linifolia	15
F	Sphaeralcea coccinea	3
F	Tragopogon dubius (a)	3
F	Unknown forb-perennial	1
Total for Annual Forbs		6
Total for Perennial Forbs		114
Total for Forbs		120

BASIC COVER--

Management unit 15, Study no: 7

Cover Type	Average Cover % '87
Vegetation	6.50
Rock	19.50
Pavement	4.25
Litter	57.50
Cryptogams	.50
Bare Ground	11.75

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--
Management unit 15, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
87	166	20	80	-	-	0	100	0	33/22
<i>Artemisia nova</i>									
87	1665	64	34	2	4033	8	2	2	14/21
<i>Artemisia tridentata vaseyana</i>									
87	133	75	25	-	133	0	0	0	17/13
<i>Cercocarpus montanus</i>									
87	66	0	100	-	-	50	50	0	21/30
<i>Chrysothamnus depressus</i>									
87	432	85	8	8	33	85	0	0	4/10
<i>Gutierrezia sarothrae</i>									
87	1399	60	40	-	-	0	0	0	10/8
<i>Juniperus osteosperma</i>									
87	100	100	0	-	33	0	0	0	-/-
<i>Pinus edulis</i>									
87	100	100	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
87	566	53	41	6	66	24	47	0	21/20

GARDEN BASIN – STUDY NO. 15-8

HERBACEOUS TRENDS--

Management unit 15, Study no: 8

Type	Species	Nested Frequency '87
G	Festuca ovina	7
G	Oryzopsis hymenoides	4
G	Poa sp.	2
G	Sitanion hystrix	22
Total for Annual Grasses		0
Total for Perennial Grasses		35
Total for Grasses		35
F	Allium sp.	14
F	Astragalus sp.	3
F	Chaenactis douglasii	26
F	Ipomopsis aggregata	3
F	Lesquerella kingii	19
F	Unknown forb-perennial	3
F	Zigadenus paniculatus	2
Total for Annual Forbs		0
Total for Perennial Forbs		70
Total for Forbs		70

BASIC COVER--

Management unit 15, Study no: 8

Cover Type	Average Cover % '87
Vegetation	1.00
Rock	20.25
Pavement	15.50
Litter	55.00
Cryptogams	0
Bare Ground	8.25

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
87	233	86	14	-	66	43	0	0	79/98	
Artemisia nova										
87	33	100	0	-	-	100	0	100	-/-	
Gutierrezia sarothrae										
87	166	100	0	-	33	0	0	0	-/-	
Juniperus osteosperma										
87	33	0	100	-	-	0	0	0	177/79	
Pinus edulis										
87	199	17	83	-	1633	17	0	0	126/87	
Purshia tridentata										
87	33	100	0	-	-	0	0	0	-/-	

CAVE FLAT CHAINING – STUDY NO. 15-9

HERBACEOUS TRENDS--

Management unit 15, Study no: 9

Type	Species	Nested Frequency '87
G	Agropyron cristatum	38
G	Agropyron intermedium	21
G	Aristida purpurea	12
G	Oryzopsis hymenoides	25
G	Sitanion hystrix	31
G	Sporobolus cryptandrus	7
Total for Annual Grasses		0
Total for Perennial Grasses		134
Total for Grasses		134
F	Astragalus mollissimus	19
F	Cryptantha humilis	4
F	Eriogonum sp.	4
F	Lactuca serriola (a)	7
F	Medicago sativa	2
F	Melilotus officinalis	60
F	Penstemon sp.	4
F	Psilostrophe sparsiflora	2
F	Salsola iberica (a)	76
Total for Annual Forbs		83
Total for Perennial Forbs		95
Total for Forbs		178

BASIC COVER--

Management unit 15, Study no: 9

Cover Type	Average Cover % '87
Vegetation	2.50
Rock	3.75
Pavement	3.00
Litter	47.50
Cryptogams	0
Bare Ground	43.25

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 9

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Chrysothamnus nauseosus graveolens</i>									
87	33	100	0	-	-	0	0	0	-/-
<i>Ephedra viridis</i>									
87	66	0	100	-	-	50	50	0	15/16
<i>Eriogonum microthecum</i>									
87	1432	16	81	2	133	0	0	0	7/6
<i>Gutierrezia sarothrae</i>									
87	2666	46	54	-	5166	0	0	0	13/16
<i>Juniperus osteosperma</i>									
87	66	50	50	-	-	0	0	0	98/47
<i>Opuntia sp.</i>									
87	33	0	100	-	-	0	0	0	4/4
<i>Pinus edulis</i>									
87	33	100	0	-	33	0	0	0	-/-
<i>Shepherdia rotundifolia</i>									
87	66	100	0	-	-	0	0	0	-/-

CAVE FLAT – STUDY NO. 15-10

HERBACEOUS TRENDS--

Management unit 15, Study no: 10

Type	Species	Nested Frequency '87
G	<i>Bouteloua gracilis</i>	160
G	<i>Hilaria jamesii</i>	107
G	<i>Oryzopsis hymenoides</i>	14
G	<i>Sitanion hystrix</i>	14
Total for Annual Grasses		0
Total for Perennial Grasses		295
Total for Grasses		295
F	<i>Plantago patagonica</i> (a)	84
F	<i>Sphaeralcea coccinea</i>	10
Total for Annual Forbs		84
Total for Perennial Forbs		10
Total for Forbs		94

BASIC COVER--

Management unit 15, Study no: 10

Cover Type	Average Cover % '87
Vegetation	4.00
Rock	0
Pavement	0
Litter	29.50
Cryptogams	0
Bare Ground	66.50

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	7065	46	38	16	-	36	38	75	22/26	
<i>Gutierrezia sarothrae</i>										
87	4333	17	74	9	-	0	0	3	8/8	
<i>Opuntia sp.</i>										
87	133	0	100	-	-	0	0	0	6/10	

ABOVE COYOTE BENCH – STUDY NO. 15-11

HERBACEOUS TRENDS--

Management unit 15, Study no: 11

Type	Species	Nested Frequency '87
G	<i>Agropyron cristatum</i>	3
G	<i>Oryzopsis hymenoides</i>	10
G	<i>Poa fendleriana</i>	12
G	<i>Sitanion hystrix</i>	67
G	<i>Stipa comata</i>	57
G	<i>Stipa lettermani</i>	4
Total for Annual Grasses		0
Total for Perennial Grasses		153
Total for Grasses		153
F	<i>Arabis</i> sp.	4
F	<i>Balsamorhiza sagittata</i>	5
F	<i>Calochortus nuttallii</i>	4
F	<i>Castilleja chromosa</i>	6
F	<i>Castilleja linariaefolia</i>	41
F	<i>Collomia</i> sp. (a)	17
F	<i>Crepis acuminata</i>	17
F	<i>Erigeron eatonii</i>	118
F	<i>Eriogonum racemosum</i>	35
F	<i>Helianthella microcephala</i>	33
F	<i>Lesquerella kingii</i>	12
F	<i>Linum lewisii</i>	38
F	<i>Penstemon</i> sp.	10
F	<i>Phlox longifolia</i>	114
F	<i>Senecio multilobatus</i>	8
F	<i>Taraxacum officinale</i>	5
F	<i>Tragopogon dubius</i> (a)	6
F	Unknown forb-perennial	4
F	<i>Zigadenus paniculatus</i>	11
Total for Annual Forbs		23
Total for Perennial Forbs		465
Total for Forbs		488

WILDLIFE MANAGEMENT UNIT 15

BASIC COVER--

Management unit 15, Study no: 11

Cover Type	Average Cover % '87
Vegetation	7.50
Rock	7.75
Pavement	14.25
Litter	64.25
Cryptogams	0
Bare Ground	6.25

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 11

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	1599	67	33	-	400	25	8	0	59/47	
<i>Artemisia nova</i>										
87	4532	10	49	41	66	46	13	24	9/18	
<i>Artemisia tridentata vaseyana</i>										
87	2399	17	53	31	133	25	3	6	16/22	
<i>Cercocarpus montanus</i>										
87	733	55	45	-	-	18	82	0	23/30	
<i>Chrysothamnus nauseosus</i>										
87	133	100	0	-	-	50	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	533	75	25	-	-	0	0	0	9/6	
<i>Opuntia sp.</i>										
87	66	0	100	-	-	0	0	0	8/17	
<i>Pinus edulis</i>										
87	266	100	0	-	200	0	0	0	-/-	
<i>Quercus gambelii</i>										
87	1066	100	0	-	1133	0	0	0	-/-	

QUAKING ASPEN SPRING – STUDY NO. 15-12

HERBACEOUS TRENDS--

Management unit 15, Study no: 12

Type	Species	Nested Frequency '87
G	<i>Agropyron cristatum</i>	63
G	<i>Bouteloua gracilis</i>	174
G	<i>Poa fendleriana</i>	101
G	<i>Sitanion hystrix</i>	163
G	<i>Stipa comata</i>	4
Total for Annual Grasses		0
Total for Perennial Grasses		505
Total for Grasses		505
F	<i>Allium</i> sp.	2
F	<i>Arabis demissa</i>	31
F	<i>Astragalus</i> sp.	16
F	<i>Castilleja chromosa</i>	40
F	<i>Erigeron pumilus</i>	19
F	<i>Eriogonum umbellatum</i>	7
F	<i>Hymenoxys acaulis</i>	44
F	<i>Lesquerella kingii</i>	40
F	<i>Linum lewisii</i>	51
F	<i>Lygodesmia spinosa</i>	20
F	<i>Machaeranthera canescens</i>	3
F	<i>Penstemon comarrhenus</i>	2
F	<i>Phlox longifolia</i>	167
F	<i>Senecio multilobatus</i>	21
F	<i>Sphaeralcea coccinea</i>	1
F	Unknown forb-perennial	3
F	<i>Zigadenus paniculatus</i>	2
Total for Annual Forbs		0
Total for Perennial Forbs		469
Total for Forbs		469

WILDLIFE MANAGEMENT UNIT 15

BASIC COVER--

Management unit 15, Study no: 12

Cover Type	Average Cover % '87
Vegetation	7.75
Rock	18.50
Pavement	2.25
Litter	57.00
Cryptogams	.25
Bare Ground	14.25

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	66	100	0	-	200	100	0	0	-/-	
<i>Artemisia nova</i>										
87	12332	23	64	12	4333	28	9	2	9/10	
<i>Cercocarpus montanus</i>										
87	799	17	83	-	66	25	67	0	22/30	
<i>Chrysothamnus depressus</i>										
87	1466	14	77	9	333	9	14	0	6/6	
<i>Eriogonum microthecum</i>										
87	1933	31	69	-	800	28	0	0	5/4	
<i>Gutierrezia sarothrae</i>										
87	999	13	80	7	200	0	0	7	7/6	
<i>Opuntia sp.</i>										
87	400	0	100	-	-	0	0	0	6/9	
<i>Pinus edulis</i>										
87	532	88	12	-	-	0	0	0	55/43	

SIDEHILL SPRING – STUDY NO. 15-13

HERBACEOUS TRENDS--

Management unit 15, Study no: 13

Type	Species	Nested Frequency '87
G	Agropyron sp.	9
G	Hilaria jamesii	2
G	Oryzopsis hymenoides	33
G	Sitanion hystrix	138
Total for Annual Grasses		0
Total for Perennial Grasses		182
Total for Grasses		182
F	Calochortus nuttallii	7
F	Ipomopsis aggregata	11
F	Linum lewisii	5
F	Lupinus sericeus	58
F	Penstemon comarrhenus	5
F	Phlox longifolia	12
Total for Annual Forbs		0
Total for Perennial Forbs		98
Total for Forbs		98

BASIC COVER--

Management unit 15, Study no: 13

Cover Type	Average Cover % '87
Vegetation	7.25
Rock	.25
Pavement	2.00
Litter	62.75
Cryptogams	0
Bare Ground	27.75

WILDLIFE MANAGEMENT UNIT 15

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	1533	48	52	-	1733	9	0	17	9/8	
<i>Artemisia tridentata vaseyana</i>										
87	4799	47	50	3	466	26	0	17	20/19	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	11332	34	66	-	200	0	0	4	4/8	
<i>Gutierrezia sarothrae</i>										
87	866	8	92	-	-	0	0	0	9/5	
<i>Opuntia sp.</i>										
87	132	50	50	-	133	0	0	0	4/7	

WILDLIFE MANAGEMENT UNIT 16

STRAWBERRY HIGHLINE CANAL – STUDY NO. 16A-1

HERBACEOUS TRENDS--

Management unit 16A, Study no: 1

T y P e	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	64	110
G	<i>Poa pratensis</i>	16	3
G	<i>Poa secunda</i>	66	59
Total for Annual Grasses		0	0
Total for Perennial Grasses		146	172
Total for Grasses		146	172
F	<i>Agoseris glauca</i>	1	-
F	<i>Allium sp.</i>	2	-
F	<i>Arabis sp.</i>	1	1
F	<i>Aster chilensis</i>	5	8
F	<i>Calochortus nuttallii</i>	-	3
F	<i>Comandra pallida</i>	3	-
F	<i>Erigeron divergens</i>	1	-
F	<i>Eriogonum umbellatum</i>	18	30
F	<i>Hedysarum boreale</i>	12	14
F	<i>Lactuca serriola (a)</i>	-	3
F	<i>Phlox longifolia</i>	-	20
F	<i>Sphaeralcea coccinea</i>	13	18
F	<i>Stephanomeria exigua (a)</i>	1	-
F	<i>Tragopogon dubius (a)</i>	3	-
F	Unknown forb-perennial	-	1
F	<i>Wyethia amplexicaulis</i>	3	11
F	<i>Zigadenus paniculatus</i>	-	8
Total for Annual Forbs		4	3
Total for Perennial Forbs		59	114
Total for Forbs		63	117

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16A, Study no: 1

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.75	4.50
Rock	2.50	1.75
Pavement	14.50	17.75
Litter	68.00	65.75
Cryptogams	3.50	0
Bare Ground	9.75	10.25

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
83	0	0	0	-	133	0	0	0	-/-	
89	266	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
83	2032	18	52	30	33	26	0	5	14/25	
89	2266	24	41	35	5400	7	0	4	21/35	
<i>Gutierrezia sarothrae</i>										
83	1266	3	95	3	-	0	0	0	12/11	
89	5332	26	63	11	166	.62	0	0	9/10	
<i>Quercus gambelii</i>										
83	3299	32	64	4	366	0	0	0	43/27	
89	4432	75	24	1	133	5	0	0	71/41	

SANTAQUIN BENCH – STUDY NO. 16A-2

HERBACEOUS TRENDS--

Management unit 16A, Study no: 2

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	89	126
G	Poa pratensis	52	124
G	Poa secunda	167	127
G	Sitanion hystrix	26	24
Total for Annual Grasses		0	0
Total for Perennial Grasses		334	401
Total for Grasses		334	401
F	Allium sp.	22	46
F	Antennaria sp.	-	3
F	Cirsium sp.	1	2
F	Collomia linearis (a)	4	-
F	Cymopterus sp.	7	5
F	Eriogonum racemosum	15	20
F	Eriogonum umbellatum	22	2
F	Hydrophyllum occidentale	-	1
F	Lathyrus brachycalyx	43	157
F	Phlox longifolia	9	19
F	Tragopogon dubius (a)	-	3
F	Zigadenus paniculatus	2	4
Total for Annual Forbs		4	3
Total for Perennial Forbs		121	259
Total for Forbs		125	262

BASIC COVER--

Management unit 16A, Study no: 2

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	3.25
Rock	2.25	3.75
Pavement	.25	2.00
Litter	91.75	81.75
Cryptogams	.25	2.25
Bare Ground	4.25	7.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1266	11	63	26	-	26	5	21	21/21	
89	799	0	58	42	66	8	0	17	22/28	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	133	0	100	-	-	0	0	0	7/9	
<i>Quercus gambelii</i>										
83	4865	37	62	1	1866	3	0	1	66/39	
89	11799	75	23	3	1466	0	0	.56	120/39	

SANTAQUIN HILL – STUDY NO. 16A-3

HERBACEOUS TRENDS--

Management unit 16A, Study no: 3

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	181	246
G	Poa pratensis	8	7
G	Poa secunda	74	153
Total for Annual Grasses		0	0
Total for Perennial Grasses		263	406
Total for Grasses		263	406
F	Arabis sp.	2	10
F	Astragalus cibarius	11	5
F	Astragalus eurekaensis	1	3
F	Calochortus nuttallii	5	23
F	Chaenactis douglasii	6	5
F	Crepis acuminata	-	2
F	Phlox longifolia	8	30
F	Streptanthus cordatus	1	3
F	Tragopogon dubius (a)	8	-
Total for Annual Forbs		8	0
Total for Perennial Forbs		34	81
Total for Forbs		42	81

BASIC COVER--

Management unit 16A, Study no: 3

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	7.50
Rock	17.00	15.00
Pavement	4.00	14.00
Litter	61.50	55.25
Cryptogams	0	1.25
Bare Ground	17.50	7.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
83	3199	4	71	25	-	71	10	0	18/21	
89	2732	5	32	63	-	20	0	20	17/22	
Gutierrezia sarothrae										
83	533	0	100	0	-	0	0	0	16/10	
89	2666	30	60	10	-	0	0	0	9/12	
Quercus gambelii										
83	7132	26	70	4	733	85	0	0	27/18	
89	9332	90	9	1	1266	23	0	0	33/21	

WASH CANYON – STUDY NO. 16A-4

HERBACEOUS TRENDS--

Management unit 16A, Study no: 4

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	19	31
G	<i>Oryzopsis hymenoides</i>	145	128
G	<i>Poa pratensis</i>	43	74
G	<i>Poa secunda</i>	3	3
G	<i>Sitanion hystrix</i>	35	4
G	<i>Stipa comata</i>	19	75
Total for Annual Grasses		0	0
Total for Perennial Grasses		264	315
Total for Grasses		264	315
F	<i>Allium sp.</i>	6	1
F	<i>Astragalus convallarius</i>	30	35
F	<i>Calochortus nuttallii</i>	4	1
F	<i>Castilleja chromosa</i>	5	-
F	<i>Chaenactis douglasii</i>	29	4
F	<i>Cirsium sp.</i>	84	56
F	<i>Comandra pallida</i>	3	3
F	<i>Crepis acuminata</i>	2	4
F	<i>Cryptantha sp.</i>	12	28
F	<i>Erigeron divergens</i>	-	5
F	<i>Erigeron pumilus</i>	6	-
F	<i>Eriogonum umbellatum</i>	9	14
F	<i>Hackelia patens</i>	36	21
F	<i>Lathyrus brachycalyx</i>	21	55
F	<i>Linum lewisii</i>	125	98
F	<i>Lithospermum ruderae</i>	1	10
F	<i>Lomatium sp.</i>	-	4
F	<i>Machaeranthera canescens</i>	3	-
F	<i>Oenothera sp.</i>	2	-
F	<i>Phlox longifolia</i>	6	67
F	<i>Senecio multilobatus</i>	-	2
F	<i>Sphaeralcea coccinea</i>	137	168
F	<i>Taraxacum officinale</i>	2	-
F	<i>Tragopogon dubius (a)</i>	49	28
Total for Annual Forbs		49	28
Total for Perennial Forbs		523	576
Total for Forbs		572	604

BASIC COVER--

Management unit 16A, Study no: 4

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.25	8.75
Rock	4.00	8.25
Pavement	8.00	15.50
Litter	45.25	37.75
Cryptogams	0	.25
Bare Ground	38.50	29.50

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1665	32	64	4	-	0	0	2	27/24	
89	2466	57	30	14	-	39	19	8	29/32	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	4300	0	98	2	-	0	0	0	13/19	
89	10632	17	68	15	-	0	0	27	11/16	
<i>Gutierrezia sarothrae</i>										
83	2666	15	85	0	-	0	0	0	13/12	
89	7531	22	71	7	-	0	0	2	11/12	
<i>Juniperus osteosperma</i>										
83	66	50	50	-	-	0	0	0	47/30	
89	66	50	50	-	-	0	50	0	71/35	
<i>Opuntia sp.</i>										
83	466	0	100	-	-	0	0	0	8/17	
89	1866	16	84	-	33	0	0	0	8/10	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
83	166	20	80	0	-	0	80	80	23/37	
89	233	43	0	57	33	14	71	14	-/-	

NEBO CREEK – STUDY NO. 16A-5

HERBACEOUS TRENDS--

Management unit 16A, Study no: 5

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	9	36
G	<i>Bromus carinatus</i>	16	27
G	<i>Elymus cinereus</i>	1	-
G	<i>Melica bulbosa</i>	10	3
G	<i>Poa fendleriana</i>	22	57
G	<i>Poa pratensis</i>	6	56
G	<i>Poa secunda</i>	34	26
G	<i>Sitanion hystrix</i>	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		98	206
Total for Grasses		98	206
F	<i>Achillea millefolium</i>	21	20
F	<i>Agoseris glauca</i>	10	-
F	<i>Allium campanulatum</i>	8	47
F	<i>Arabis</i> sp.	-	3
F	<i>Artemisia ludoviciana</i>	7	7
F	<i>Aster chilensis</i>	35	43
F	<i>Balsamorhiza sagittata</i>	6	7
F	<i>Cirsium</i> sp.	-	14
F	<i>Comandra pallida</i>	37	-
F	<i>Crepis acuminata</i>	3	16
F	<i>Cymopterus longipes</i>	3	7
F	<i>Cynoglossum officinale</i>	-	6
F	<i>Eriogonum racemosum</i>	6	1
F	<i>Hackelia patens</i>	16	41
F	<i>Lactuca serriola</i> (a)	-	13
F	<i>Lathyrus brachycalyx</i>	97	54
F	<i>Lithospermum ruderae</i>	1	6
F	<i>Lupinus argenteus</i>	8	5
F	<i>Machaeranthera canescens</i>	-	2
F	<i>Phlox longifolia</i>	-	88
F	<i>Senecio integerrimus</i>	-	1
F	<i>Sphaeralcea coccinea</i>	-	3
F	<i>Taraxacum officinale</i>	12	40

Type	Species	Nested Frequency	
		'83	'89
F	Tragopogon dubius (a)	26	14
F	Vicia americana	10	52
F	Viguiera multiflora	-	3
Total for Annual Forbs		26	27
Total for Perennial Forbs		280	466
Total for Forbs		306	493

BASIC COVER--

Management unit 16A, Study no: 5

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	3.00
Rock	.50	1.50
Pavement	.25	2.00
Litter	88.00	84.75
Cryptogams	0	.25
Bare Ground	11.25	8.50

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata tridentata										
83	1932	3	66	31	-	28	0	0	28/38	
89	865	38	8	54	133	23	8	15	22/21	
Artemisia tridentata vaseyana										
83	0	0	0	0	-	0	0	0	-/-	
89	799	8	42	50	200	42	0	0	49/34	
Chrysothamnus viscidiflorus viscidiflorus										
83	1666	4	96	0	-	0	0	0	16/18	
89	1932	14	62	24	-	0	0	41	15/19	

WILDLIFE MANAGEMENT UNIT 16

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Juniperus osteosperma</i>									
83	66	0	100	-	-	0	0	0	67/79
89	66	0	100	-	-	0	100	0	128/87
<i>Opuntia sp.</i>									
83	533	0	100	-	-	0	0	0	6/6
89	1199	44	56	-	-	0	0	0	5/8
<i>Quercus gambelii</i>									
83	6799	23	76	1	466	18	60	0	43/18
89	8866	69	29	2	533	15	0	0	85/36
<i>Symphoricarpos oreophilus</i>									
83	0	0	0	-	-	0	0	0	-/-
89	0	0	0	-	66	0	0	0	-/-

HOP CREEK BROWSE – STUDY NO. 16A-6

HERBACEOUS TRENDS--

Management unit 16A, Study no: 6

Type	Species	Nestled Frequency	
		'83	'89
G	<i>Agropyron smithii</i>	194	205
G	<i>Agropyron spicatum</i>	135	92
G	<i>Melica bulbosa</i>	15	36
G	<i>Poa fendleriana</i>	50	94
G	<i>Poa pratensis</i>	74	50
G	<i>Poa secunda</i>	35	39
G	<i>Stipa comata</i>	59	53
Total for Annual Grasses		0	0
Total for Perennial Grasses		562	569
Total for Grasses		562	569
F	<i>Achillea millefolium</i>	-	1
F	<i>Allium</i> sp.	-	2
F	<i>Antennaria</i> sp.	1	7
F	<i>Aster chilensis</i>	2	13
F	<i>Astragalus convallarius</i>	23	55
F	<i>Calochortus nuttallii</i>	35	3
F	<i>Castilleja linariaefolia</i>	4	-
F	<i>Cirsium undulatum</i>	3	3
F	<i>Comandra pallida</i>	123	51
F	<i>Conringia orientalis</i> (a)	1	-
F	<i>Crepis acuminata</i>	1	5
F	<i>Cymopterus longipes</i>	-	6
F	<i>Eriogonum racemosum</i>	5	3
F	<i>Eriogonum umbellatum</i>	-	3
F	<i>Lactuca serriola</i> (a)	-	4
F	<i>Linum lewisii</i>	25	3
F	<i>Phlox longifolia</i>	-	11
F	<i>Sphaeralcea coccinea</i>	-	7
F	<i>Tragopogon dubius</i> (a)	13	10
F	<i>Zigadenus paniculatus</i>	5	-
Total for Annual Forbs		14	14
Total for Perennial Forbs		227	173
Total for Forbs		241	187

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16A, Study no: 6

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.75	11.75
Rock	.25	.25
Pavement	.50	0
Litter	71.25	69.75
Cryptogams	1.25	1.50
Bare Ground	22.00	16.75

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 6

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	3132	21	66	13	200	11	0	0	31/36
89	2598	26	41	33	-	23	5	8	29/33
<i>Chrysothamnus nauseosus consimilis</i>									
83	66	100	0	-	-	0	0	0	-/-
89	0	0	0	-	-	0	0	0	-/-
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	66	0	100	-	-	0	0	0	8/10
89	66	0	100	-	-	0	0	0	10/14
<i>Gutierrezia sarothrae</i>									
83	66	0	100	0	-	0	0	0	11/19
89	866	23	69	8	-	0	0	0	8/6
<i>Purshia tridentata</i>									
83	533	0	75	25	-	0	100	88	44/38
89	399	0	67	33	-	50	50	0	38/44

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
83	0	0	0	-	-	0	0	0	-/-	
89	133	100	0	-	-	0	0	0	-/-	

WILLOW CREEK – STUDY NO. 16A-7

HERBACEOUS TRENDS--

Management unit 16A, Study no: 7

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	198	191
G	Poa bulbosa	-	10
G	Poa secunda	-	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		198	213
Total for Grasses		198	213
F	Artemisia ludoviciana	5	6
F	Astragalus utahensis	2	5
F	Calochortus nuttallii	1	-
F	Cerastium sp.	-	3
F	Cirsium vulgare	1	6
F	Cryptantha sp.	4	2
F	Erigeron pumilus	34	47
F	Eriogonum brevicaule	3	4
F	Lygodesmia grandiflora	9	-
F	Phlox longifolia	-	4
F	Sphaeralcea coccinea	8	14
Total for Annual Forbs		0	0
Total for Perennial Forbs		67	91
Total for Forbs		67	91

BASIC COVER--

Management unit 16A, Study no: 7

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	8.75
Rock	4.00	8.00
Pavement	11.50	29.75
Litter	62.25	44.75
Cryptogams	0	0
Bare Ground	21.00	8.75

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Atriplex canescens</i>										
83	33	0	0	100	-	0	0	100	-/-	
89	33	0	100	0	-	0	0	0	43/39	
<i>Brickellia californica</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	666	15	85	-	-	0	0	0	6/5	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	66	0	100	0	-	0	0	0	31/51	
89	66	0	50	50	-	0	0	0	41/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	33	0	100	-	-	0	0	0	14/17	
89	0	0	0	-	-	0	0	0	-/-	
<i>Cowania mexicana stansburiana</i>										
83	965	3	90	7	-	21	38	3	52/53	
89	1033	10	52	39	-	39	32	0	81/84	
<i>Gutierrezia sarothrae</i>										
83	266	0	100	0	-	0	0	0	13/14	
89	566	0	94	6	-	0	0	12	8/10	
<i>Rhus trilobata</i>										
83	166	60	40	0	-	0	0	0	24/24	
89	133	0	25	75	-	0	0	75	28/30	

GARDNER CANYON – STUDY NO. 16A-8

HERBACEOUS TRENDS--

Management unit 16A, Study no: 8

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	234	231
G	Poa pratensis	2	-
G	Poa secunda	1	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		237	231
Total for Grasses		237	231
F	Astragalus sp.	-	2
F	Calochortus nuttallii	3	-
F	Cirsium undulatum	1	-
F	Comandra pallida	3	-
F	Erigeron pumilus	14	21
F	Eriogonum brevicaule	3	-
F	Hedysarum boreale	17	-
F	Lygodesmia grandiflora	12	3
F	Sphaeralcea coccinea	90	117
F	Streptanthus cordatus	8	3
F	Tragopogon dubius (a)	4	-
Total for Annual Forbs		4	0
Total for Perennial Forbs		151	146
Total for Forbs		155	146

BASIC COVER--

Management unit 16A, Study no: 8

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	10.25
Rock	17.00	20.00
Pavement	2.00	12.75
Litter	50.50	31.00
Cryptogams	.25	0
Bare Ground	30.25	26.00

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	66	0	100	0	-	50	50	0	25/19	
89	66	0	0	100	-	50	50	50	-/-	
<i>Cercocarpus montanus</i>										
83	333	0	100	-	-	70	30	0	52/55	
89	466	21	79	-	-	36	64	0	62/51	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	633	5	95	0	-	0	0	0	10/13	
89	798	33	58	8	-	29	0	8	10/14	
<i>Cowania mexicana stansburiana</i>										
83	966	0	79	21	-	38	62	0	32/30	
89	965	24	24	52	-	31	69	24	25/29	
<i>Gutierrezia sarothrae</i>										
83	1933	0	100	0	-	0	0	0	11/9	
89	832	4	32	64	-	0	0	32	9/8	

BIRCH CREEK – STUDY NO. 16A-9

HERBACEOUS TRENDS--

Management unit 16A, Study no: 9

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	188	259
G	Poa secunda	4	75
Total for Annual Grasses		0	0
Total for Perennial Grasses		192	334
Total for Grasses		192	334
F	Artemisia ludoviciana	2	-
F	Calochortus nuttallii	3	-
F	Comandra pallida	-	7
F	Eriogonum brevicaule	1	2
F	Hackelia patens	2	6
F	Hedysarum boreale	27	31
F	Lygodesmia grandiflora	7	18
F	Machaeranthera canescens	-	9
F	Phlox longifolia	-	11
F	Tragopogon dubius (a)	2	-
Total for Annual Forbs		2	0
Total for Perennial Forbs		42	84
Total for Forbs		44	84

BASIC COVER--

Management unit 16A, Study no: 9

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.00	8.50
Rock	26.25	41.25
Pavement	25.50	3.25
Litter	44.50	42.25
Cryptogams	.25	1.50
Bare Ground	1.50	3.25

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
83	699	29	71	0	-	81	0	10	34/37	
89	265	12	63	25	-	63	13	0	46/31	
<i>Artemisia tridentata vaseyana</i>										
83	732	9	55	36	-	59	0	9	22/25	
89	466	29	43	29	-	50	7	14	17/29	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	133	0	100	0	-	0	0	0	19/33	
89	199	0	83	17	-	0	0	0	15/27	
<i>Cowania mexicana stansburiana</i>										
83	66	0	100	0	33	50	50	50	67/69	
89	99	0	67	33	-	100	0	0	75/45	
<i>Gutierrezia sarothrae</i>										
83	66	0	100	0	-	0	0	0	11/10	
89	33	0	0	100	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
83	33	0	100	-	-	0	0	0	67/81	
89	33	0	100	-	-	0	0	0	108/79	
<i>Rhus glabra cismontana</i>										
83	33	100	0	-	-	0	0	0	-/-	
89	300	0	100	-	-	33	0	0	39/35	

NORTH CANYON – STUDY NO. 16A-10

HERBACEOUS TRENDS--

Management unit 16A, Study no: 10

Type	Species	Nest Frequency	
		'83	'89
G	Agropyron cristatum	8	22
G	Agropyron intermedium	40	48
G	Aristida purpurea	8	7
G	Bromus carinatus	1	-
G	Poa secunda	75	114
G	Sporobolus cryptandrus	15	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		147	191
Total for Grasses		147	191
F	Cirsium vulgare	3	-
F	Cruciferae	-	2
F	Cynoglossum officinale	-	2
F	Erigeron pumilus	5	2
F	Eriogonum racemosum	43	52
F	Helianthus annuus (a)	4	15
F	Machaeranthera canescens	6	3
F	Medicago sativa	1	3
F	Unknown forb-perennial	3	-
Total for Annual Forbs		4	15
Total for Perennial Forbs		61	64
Total for Forbs		65	79

BASIC COVER--

Management unit 16A, Study no: 10

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.00	3.75
Rock	20.50	25.25
Pavement	7.00	10.00
Litter	66.75	56.75
Cryptogams	0	0
Bare Ground	4.75	4.25

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	6332	21	60	19	-	17	24	20	21/24	
89	4865	14	60	26	-	49	40	7	19/28	
<i>Gutierrezia sarothrae</i>										
83	1066	38	62	0	-	0	0	0	9/8	
89	1733	42	23	35	-	0	0	4	8/5	
<i>Quercus gambelii</i>										
83	199	67	33	-	66	0	0	0	20/31	
89	200	100	0	-	-	100	0	0	-/-	

REES FLAT – STUDY NO. 16A-11

HERBACEOUS TRENDS--

Management unit 16A, Study no: 11

Type	Species	Nestled Frequency	
		'83	'89
G	<i>Agropyron cristatum</i>	159	117
G	<i>Agropyron spicatum</i>	24	11
G	<i>Bromus inermis</i>	88	118
G	<i>Dactylis glomerata</i>	6	2
G	<i>Poa bulbosa</i>	3	282
G	<i>Poa fendleriana</i>	-	3
G	<i>Poa pratensis</i>	14	14
G	<i>Poa secunda</i>	290	18
Total for Annual Grasses		0	0
Total for Perennial Grasses		584	565
Total for Grasses		584	565
F	<i>Agoseris glauca</i>	3	-
F	<i>Artemisia ludoviciana</i>	4	3
F	<i>Aster chilensis</i>	-	10
F	<i>Calochortus nuttallii</i>	3	-
F	<i>Cirsium sp.</i>	5	6
F	<i>Comandra pallida</i>	23	29
F	<i>Cymopterus longipes</i>	10	3
F	<i>Lathyrus brachycalyx</i>	2	-
F	<i>Machaeranthera canescens</i>	-	9
F	<i>Phlox longifolia</i>	16	15
F	<i>Solidago sparsiflora</i>	2	-
F	<i>Stellaria sp.</i>	5	-
F	<i>Tragopogon dubius (a)</i>	14	6
F	<i>Viguiera multiflora</i>	9	-
Total for Annual Forbs		14	6
Total for Perennial Forbs		82	75
Total for Forbs		96	81

BASIC COVER--

Management unit 16A, Study no: 11

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	8.25
Rock	7.50	7.75
Pavement	3.50	8.25
Litter	54.50	50.00
Cryptogams	.50	3.00
Bare Ground	33.75	22.75

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 11

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	499	0	93	7	-	13	0	0	18/26	
89	199	33	50	17	-	17	17	17	17/13	
<i>Gutierrezia sarothrae</i>										
83	2199	67	32	2	733	0	0	0	8/6	
89	1600	6	81	13	-	0	0	0	9/7	
<i>Purshia tridentata</i>										
83	166	0	100	-	-	80	0	0	16/28	
89	299	22	78	-	66	78	11	0	23/39	
<i>Quercus gambelii</i>										
83	4900	4	96	0	133	0	0	0	46/24	
89	3966	31	51	18	1033	.84	0	3	77/36	

TITHING MOUNTAIN – STUDY NO. 16A-12

HERBACEOUS TRENDS--

Management unit 16A, Study no: 12

Type	Species	Nested Frequency '89
G	Agropyron spicatum	10
G	Poa pratensis	5
G	Poa secunda	28
Total for Annual Grasses		0
Total for Perennial Grasses		43
Total for Grasses		43
F	Allium sp.	6
F	Asclepias asperula	3
F	Cardaria draba	49
F	Cymopterus longipes	7
F	Galium aparine (a)	104
F	Helianthus annuus (a)	9
F	Lactuca serriola (a)	148
F	Phlox longifolia	2
F	Taraxacum officinale	3
F	Tragopogon dubius (a)	25
F	Zigadenus paniculatus	1
Total for Annual Forbs		286
Total for Perennial Forbs		71
Total for Forbs		357

BASIC COVER--

Management unit 16A, Study no: 12

Cover Type	Average Cover % '89
Vegetation	2.50
Rock	5.25
Pavement	.25
Litter	84.25
Cryptogams	.75
Bare Ground	7.00

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	666	40	30	30	-	30	20	15	20/38	
<i>Cowania mexicana stansburiana</i>										
89	466	21	57	21	-	50	29	0	56/58	

STEELE RANCH – STUDY NO. 16A-13

HERBACEOUS TRENDS--

Management unit 16A, Study no: 13

Type	Species	Nested Frequency '89
G	Poa fendleriana	1
G	Poa secunda	235
Total for Annual Grasses		0
Total for Perennial Grasses		236
Total for Grasses		236
F	Arabis sp.	5
F	Astragalus beckwithii	3
F	Calochortus nuttallii	21
F	Castilleja sp.	6
F	Eriogonum racemosum	3
F	Lomatium sp.	5
F	Petroradia pumila	3
F	Phlox longifolia	20
F	Tragopogon dubius (a)	3
Total for Annual Forbs		3
Total for Perennial Forbs		66
Total for Forbs		69

BASIC COVER--

Management unit 16A, Study no: 13

Cover Type	Average Cover % '89
Vegetation	3.00
Rock	3.75
Pavement	26.75
Litter	56.75
Cryptogams	5.75
Bare Ground	4.00

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	3132	11	34	55	66	55	0	9	22/23	
<i>Gutierrezia sarothrae</i>										
89	532	75	12	12	200	0	0	0	4/2	
<i>Quercus gambelii</i>										
89	9531	76	13	11	733	22	.69	.69	33/24	

BIG HOLLOW – STUDY NO. 16A-14

HERBACEOUS TRENDS--

Management unit 16A, Study no: 14

Type	Species	Nested Frequency '89
G	Agropyron spicatum	11
G	Oryzopsis hymenoides	74
G	Sitanion hystrix	89
G	Stipa comata	12
Total for Annual Grasses		0
Total for Perennial Grasses		186
Total for Grasses		186
F	Astragalus eurekaensis	1
F	Chaenactis douglasii	12
F	Cirsium sp.	8
F	Eriogonum cernuum (a)	1
F	Sphaeralcea coccinea	42
F	Tragopogon dubius (a)	8
Total for Annual Forbs		9
Total for Perennial Forbs		63
Total for Forbs		72

BASIC COVER--

Management unit 16A, Study no: 14

Cover Type	Average Cover % '89
Vegetation	3.25
Rock	3.75
Pavement	26.25
Litter	49.00
Cryptogams	.50
Bare Ground	17.25

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 14

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata tridentata										
8 9	2599	13	54	33	200	18	0	3	31/33	
Gutierrezia sarothrae										
8 9	799	8	92	-	-	0	0	0	6/4	
Purshia tridentata										
8 9	599	22	44	33	-	67	11	0	24/38	

OLD PINERY – STUDY NO. 16A-15

HERBACEOUS TRENDS--

Management unit 16A, Study no: 15

Type	Species	Nest Frequency	
		'83	'89
G	Agropyron cristatum	35	121
G	Agropyron smithii	23	148
G	Agropyron spicatum	23	7
G	Poa pratensis	55	-
G	Poa secunda	4	104
G	Sitanion hystrix	-	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		140	388
Total for Grasses		140	388
F	Allium sp.	-	57
F	Cerastium sp.	-	16
F	Cymopterus longipes	-	3
F	Descurainia pinnata (a)	-	3
F	Lactuca serriola (a)	-	26
F	Phlox longifolia	-	9
F	Sphaeralcea coccinea	-	3
F	Tragopogon dubius (a)	-	3
Total for Annual Forbs		0	32
Total for Perennial Forbs		0	88
Total for Forbs		0	120

BASIC COVER--

Management unit 16A, Study no: 15

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.00	9.50
Rock	2.25	.25
Pavement	0	.50
Litter	75.00	63.00
Cryptogams	1.50	0
Bare Ground	18.25	26.75

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 15

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	1332	0	95	5	-	0	0	3	13/13
89	4532	76	21	4	8166	1	0	.73	15/16
<i>Gutierrezia sarothrae</i>									
83	633	0	100	0	-	0	0	0	11/13
89	8565	46	48	5	-	0	0	0	11/9
<i>Juniperus osteosperma</i>									
83	33	100	0	-	-	0	0	0	-/-
89	33	100	0	-	-	0	0	0	-/-

LEVAN FARM CHAINING – STUDY NO 16A-16

HERBACEOUS TRENDS--

Management unit 16A, Study no: 16

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron intermedium	-	4
G	Poa secunda	6	9
G	Sitanion hystrix	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		6	16
Total for Grasses		6	16
F	Asclepias speciosa	-	1
F	Astragalus eurekaensis	-	3
F	Calochortus nuttallii	3	-
F	Cirsium sp.	-	14
F	Helianthus annuus (a)	3	240
F	Lactuca pulchella	226	13
F	Marrubium vulgare	1	-
F	Sphaeralcea coccinea	-	3
F	Streptanthus cordatus	-	4
F	Tragopogon dubius (a)	-	5
Total for Annual Forbs		3	245
Total for Perennial Forbs		230	38
Total for Forbs		233	283

BASIC COVER--

Management unit 16A, Study no: 16

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	1.75
Rock	3.00	3.00
Pavement	3.75	18.00
Litter	58.25	47.50
Cryptogams	0	0
Bare Ground	35.00	29.75

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
83	100	0	100	-	-	0	0	0	16/24	
89	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
83	3066	3	95	2	-	0	0	0	9/9	
89	3765	10	76	14	10066	0	0	2	9/10	

CHICKEN CREEK – STUDY NO. 16A-17

HERBACEOUS TRENDS--

Management unit 16A, Study no: 17

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	150	185
G	Poa secunda	-	25
Total for Annual Grasses		0	0
Total for Perennial Grasses		150	210
Total for Grasses		150	210
F	Cryptantha flavoculata	-	5
F	Cryptantha sp.	14	6
F	Eriogonum brevicaule	9	14
F	Hackelia patens	2	-
F	Lactuca serriola (a)	27	-
F	Lathyrus brachycalyx	2	2
F	Machaeranthera canescens	4	-
F	Phlox longifolia	-	3
F	Physalis hederifolia	-	7
F	Streptanthus cordatus	3	8
F	Tragopogon dubius (a)	2	-
Total for Annual Forbs		29	0
Total for Perennial Forbs		34	45
Total for Forbs		63	45

BASIC COVER--

Management unit 16A, Study no: 17

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.25	7.00
Rock	4.75	4.25
Pavement	52.00	57.25
Litter	33.50	29.75
Cryptogams	0	0
Bare Ground	7.50	1.75

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
83	166	20	20	60	-	40	40	0	18/8	
89	66	0	0	100	-	0	100	0	-/-	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	100	0	100	-	-	0	0	0	27/33	
89	233	57	43	-	-	0	0	0	28/34	
<i>Cowania mexicana stansburiana</i>										
83	399	0	17	83	-	25	75	42	43/72	
89	199	0	17	83	-	33	50	33	114/126	
<i>Juniperus osteosperma</i>										
83	33	0	100	-	-	0	0	0	67/118	
89	0	0	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
83	4932	27	73	-	-	0	0	0	5/4	
89	4166	70	30	-	-	10	0	0	4/5	

DEEP CREEK – STUDY NO. 16A-18

HERBACEOUS TRENDS--

Management unit 16A, Study no: 18

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	79	141
G	Oryzopsis hymenoides	2	-
G	Poa fendleriana	-	2
G	Poa secunda	25	31
Total for Annual Grasses		0	0
Total for Perennial Grasses		106	174
Total for Grasses		106	174
F	Arabis sp.	1	-
F	Calochortus nuttallii	9	3
F	Chaenactis douglasii	3	-
F	Crepis acuminata	14	17
F	Cryptantha sp.	78	30
F	Erigeron sp.	19	3
F	Eriogonum brevicaule	3	7
F	Hackelia patens	5	9
F	Machaeranthera canescens	-	1
F	Phlox hoodii	112	155
F	Phlox longifolia	26	30
F	Physaria australis	4	-
F	Stanleya pinnata	7	17
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		281	273
Total for Forbs		281	273

BASIC COVER--

Management unit 16A, Study no: 18

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.50	9.75
Rock	2.25	5.25
Pavement	6.75	20.50
Litter	46.50	33.75
Cryptogams	2.00	0
Bare Ground	40.00	30.75

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	533	0	56	44	-	50	38	0	28/34	
89	500	0	40	60	-	47	40	33	21/19	
<i>Cercocarpus montanus</i>										
83	433	31	69	0	-	77	15	0	35/36	
89	465	29	57	14	-	79	21	14	40/41	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	100	0	100	-	-	0	0	0	11/14	
89	133	0	100	-	-	25	0	0	10/13	
<i>Cowania mexicana stansburiana</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	66	0	100	-	-	100	0	0	26/35	
<i>Ephedra viridis</i>										
83	299	11	67	22	-	11	0	0	40/48	
89	333	0	40	60	-	0	0	0	35/24	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	-	0	0	0	67/207	
89	66	0	100	-	-	0	0	0	165/136	

FLAT CANYON – STUDY NO. 16A-19

HERBACEOUS TRENDS--

Management unit 16A, Study no: 19

Type	Species	Nested Frequency '89
G	Agropyron spicatum	171
G	Oryzopsis hymenoides	27
G	Poa secunda	20
G	Sitanion hystrix	2
G	Stipa comata	38
Total for Annual Grasses		0
Total for Perennial Grasses		258
Total for Grasses		258
F	Cryptantha sp.	6
F	Machaeranthera canescens	3
F	Phlox longifolia	9
F	Streptanthus cordatus	3
Total for Annual Forbs		0
Total for Perennial Forbs		21
Total for Forbs		21

BASIC COVER--

Management unit 16A, Study no: 19

Cover Type	Average Cover % '89
Vegetation	4.75
Rock	8.75
Pavement	21.00
Litter	42.25
Cryptogams	1.25
Bare Ground	22.00

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	2532	24	50	26	66	39	8	21	20/24	
<i>Chrysothamnus nauseosus albicaulis</i>										
89	132	50	50	-	-	0	50	0	20/13	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	465	14	72	14	-	14	14	14	12/13	
<i>Purshia tridentata</i>										
89	533	0	100	-	-	63	38	0	15/32	

TRIANGLE RANCH – STUDY NO. 16A-20

HERBACEOUS TRENDS--

Management unit 16A, Study no: 20

Type	Species	Nested Frequency '89
G	Agropyron cristatum	40
G	Agropyron intermedium	62
G	Agropyron smithii	330
G	Agropyron spicatum	4
G	Bromus inermis	13
G	Dactylis glomerata	28
G	Festuca ovina	30
G	Poa pratensis	74
G	Poa secunda	82
Total for Annual Grasses		0
Total for Perennial Grasses		663
Total for Grasses		663
F	Agoseris glauca	5
F	Arabis sp.	10
F	Astragalus convallarius	25
F	Cerastium sp.	4
F	Crepis acuminata	14
F	Cymopterus sp.	8
F	Eriogonum racemosum	5
F	Eriogonum umbellatum	6
F	Lactuca serriola (a)	5
F	Linum lewisii	13
F	Phlox longifolia	18
F	Sanguisorba minor	1
F	Sphaeralcea coccinea	12
F	Tragopogon dubius (a)	45
F	Zigadenus paniculatus	1
Total for Annual Forbs		50
Total for Perennial Forbs		122
Total for Forbs		172

BASIC COVER--

Management unit 16A, Study no: 20

Cover Type	Average Cover % '89
Vegetation	6.50
Rock	1.00
Pavement	.50
Litter	79.75
Cryptogams	1.25
Bare Ground	11.00

BROWSE CHARACTERISTICS--

Management unit 16A, Study no: 20

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
89	3332	12	28	60	66	54	0	0	22/24
<i>Gutierrezia sarothrae</i>									
89	3199	17	75	8	-	0	0	6	7/8
<i>Quercus gambelii</i>									
89	200	100	0	-	66	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
89	132	0	50	50	-	0	100	0	40/34

JERUSALEM – STUDY NO. 16A-21

HERBACEOUS TRENDS--

Management unit 16A, Study no: 21

Type	Species	Nested Frequency '89
G	Agropyron spicatum	55
G	Agropyron spicatum inerme	8
G	Poa secunda	44
Total for Annual Grasses		0
Total for Perennial Grasses		107
Total for Grasses		107
F	Calochortus nuttallii	5
F	Crepis acuminata	1
F	Eriogonum racemosum	1
F	Lactuca serriola (a)	4
F	Streptanthus cordatus	6
F	Tragopogon dubius (a)	13
F	Zigadenus paniculatus	5
Total for Annual Forbs		17
Total for Perennial Forbs		18
Total for Forbs		35

BASIC COVER--

Management unit 16A, Study no: 21

Cover Type	Average Cover % '89
Vegetation	3.00
Rock	7.75
Pavement	5.25
Litter	73.75
Cryptogams	2.00
Bare Ground	8.25

BROWSE CHARACTERISTICS--
Management unit 16A, Study no: 21

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	3399	12	51	37	866	39	8	10	19/31	
<i>Gutierrezia sarothrae</i>										
89	3265	2	96	2	-	0	0	2	12/11	
<i>Opuntia sp.</i>										
89	133	0	100	-	-	0	0	100	4/13	
<i>Purshia tridentata</i>										
89	532	0	88	12	-	13	63	0	10/23	
<i>Quercus gambelii</i>										
89	133	100	0	-	-	50	0	0	-/-	

LONG RIDGE SOUTH – STUDY NO. 16B-1

HERBACEOUS TRENDS--

Management unit 16B, Study no: 1

Type	Species	Nested Frequency '89
G	Agropyron spicatum	138
G	Carex sp.	4
G	Poa fendleriana	22
G	Poa secunda	4
G	Stipa comata	5
Total for Annual Grasses		0
Total for Perennial Grasses		173
Total for Grasses		173
F	Artemisia ludoviciana	74
F	Balsamorhiza sagittata	15
F	Calochortus nuttallii	5
F	Cirsium sp.	6
F	Eriogonum racemosum	10
F	Lithospermum ruderales	10
F	Lomatium dissectum	4
F	Phlox longifolia	6
F	Sphaeralcea coccinea	14
Total for Annual Forbs		0
Total for Perennial Forbs		144
Total for Forbs		144

BASIC COVER--

Management unit 16B, Study no: 1

Cover Type	Average Cover % '89
Vegetation	6.75
Rock	18.00
Pavement	14.50
Litter	52.00
Cryptogams	.25
Bare Ground	8.50

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	432	0	85	15	66	0	92	8	89/45	
<i>Artemisia tridentata vaseyana</i>										
89	799	58	17	25	-	46	17	4	34/52	
<i>Chrysothamnus nauseosus albicaulis</i>										
89	33	0	100	-	-	0	0	0	22/19	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	1199	0	86	14	-	0	0	81	12/20	
<i>Gutierrezia sarothrae</i>										
89	2066	0	90	10	-	0	0	2	11/8	
<i>Opuntia sp.</i>										
89	799	4	92	4	-	0	0	4	6/14	
<i>Pediocactus simpsonii</i>										
89	33	0	100	-	-	0	0	0	4/6	
<i>Purshia tridentata</i>										
89	232	0	72	28	-	57	43	0	26/43	
<i>Tetradymia canescens</i>										
89	166	0	0	100	-	100	0	100	-/-	

LONG RIDGE NORTH – STUDY NO. 16B-2

HERBACEOUS TRENDS--

Management unit 16B, Study no: 2

Type	Species	Nested Frequency '89
G	Agropyron spicatum	295
G	Poa fendleriana	164
G	Poa secunda	140
G	Stipa comata	49
Total for Annual Grasses		0
Total for Perennial Grasses		648
Total for Grasses		648
F	Antennaria sp.	20
F	Arabis sp.	51
F	Artemisia ludoviciana	3
F	Astragalus beckwithii	58
F	Balsamorhiza sagittata	5
F	Calochortus nuttallii	6
F	Castilleja chromosa	31
F	Chaenactis douglasii	2
F	Cirsium sp.	1
F	Crepis acuminata	20
F	Cryptantha sp.	47
F	Cymopterus longipes	67
F	Eriogonum racemosum	64
F	Eriogonum umbellatum	29
F	Linum lewisii	1
F	Lithospermum ruderales	8
F	Lupinus argenteus	40
F	Phlox longifolia	24
F	Sphaeralcea coccinea	13
F	Taraxacum officinale	3
Total for Annual Forbs		0
Total for Perennial Forbs		493
Total for Forbs		493

BASIC COVER--

Management unit 16B, Study no: 2

Cover Type	Average Cover % '89
Vegetation	13.50
Rock	12.00
Pavement	31.75
Litter	35.75
Cryptogams	.50
Bare Ground	6.50

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	666	30	0	70	-	30	30	50	-/-	
<i>Artemisia tridentata vaseyana</i>										
89	4665	3	27	70	66	46	29	6	15/16	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	399	33	17	50	-	33	0	33	7/4	
<i>Gutierrezia sarothrae</i>										
89	732	0	91	9	-	0	0	9	10/6	
<i>Opuntia sp.</i>										
89	399	17	83	-	200	0	0	0	4/7	
<i>Symphoricarpos oreophilus</i>										
89	66	100	0	-	-	100	0	100	-/-	
<i>Tetradymia canescens</i>										
89	132	50	50	-	-	0	0	0	6/4	

ROCKY HOLLOW – STUDY NO. 16B-3

HERBACEOUS TRENDS--

Management unit 16B, Study no: 3

Type	Species	Nested Frequency '89
G	Agropyron spicatum	80
G	Oryzopsis hymenoides	15
G	Poa secunda	43
G	Sitanion hystrix	23
Total for Annual Grasses		0
Total for Perennial Grasses		161
Total for Grasses		161
F	Allium sp.	13
F	Comandra pallida	3
F	Crepis acuminata	4
F	Erigeron pumilus	2
F	Eriogonum racemosum	3
F	Lithospermum ruderales	3
F	Lomatium triternatum	21
F	Lupinus argenteus	6
F	Machaeranthera canescens	4
F	Phlox longifolia	1
F	Sphaeralcea coccinea	51
F	Vicia americana	54
Total for Annual Forbs		0
Total for Perennial Forbs		165
Total for Forbs		165

BASIC COVER--

Management unit 16B, Study no: 3

Cover Type	Average Cover % '89
Vegetation	10.00
Rock	10.75
Pavement	6.00
Litter	53.25
Cryptogams	1.75
Bare Ground	18.25

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	199	33	67	-	66	0	67	33	29/29	
<i>Artemisia tridentata vaseyana</i>										
89	2598	3	59	38	-	46	0	5	32/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	2666	8	92	-	-	0	0	15	13/13	
<i>Opuntia sp.</i>										
89	1199	22	78	-	66	0	0	17	6/16	
<i>Purshia tridentata</i>										
89	66	100	0	-	-	0	0	0	-/-	

DRY CREEK CHAINING – STUDY NO. 16B-4

HERBACEOUS TRENDS--

Management unit 16B, Study no: 4

Type	Species	Nested Frequency '89
G	Agropyron cristatum	50
G	Agropyron intermedium	171
G	Agropyron spicatum	45
G	Bromus inermis	71
G	Carex sp.	19
G	Oryzopsis hymenoides	19
G	Poa fendleriana	11
G	Poa secunda	6
G	Sitanion hystrix	11
Total for Annual Grasses		0
Total for Perennial Grasses		403
Total for Grasses		403
F	Balsamorhiza sagittata	2
F	Cirsium sp.	12
F	Cryptantha sp.	6
F	Eriogonum umbellatum	1
F	Lactuca serriola (a)	3
F	Medicago sativa	3
F	Penstemon humilis	7
F	Petradoria pumila	43
F	Phlox longifolia	5
F	Streptanthus cordatus	1
Total for Annual Forbs		3
Total for Perennial Forbs		80
Total for Forbs		83

BASIC COVER--

Management unit 16B, Study no: 4

Cover Type	Average Cover % '89
Vegetation	6.75
Rock	12.50
Pavement	10.25
Litter	57.50
Cryptogams	2.25
Bare Ground	10.75

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	33	0	100	-	-	0	0	0	68/23	
<i>Cercocarpus montanus</i>										
89	632	10	47	42	-	26	0	11	54/40	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	33	0	0	100	-	0	0	100	-/-	
<i>Juniperus osteosperma</i>										
89	132	50	50	-	-	0	0	0	96/47	
<i>Pinus edulis</i>										
89	66	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
89	33	0	100	-	-	0	0	0	19/43	
<i>Quercus gambelii</i>										
89	4299	61	31	8	100	.77	0	.77	73/30	
<i>Symphoricarpos oreophilus</i>										
89	33	100	0	-	-	0	0	0	-/-	

JACKSON UNIT – STUDY NO. 16B-5

HERBACEOUS TRENDS--

Management unit 16B, Study no: 5

Type	Species	Nested Frequency '89
G	Agropyron cristatum	136
G	Agropyron intermedium	91
G	Agropyron spicatum	41
G	Bromus inermis	4
G	Elymus junceus	1
G	Oryzopsis hymenoides	48
G	Poa secunda	2
G	Sitanion hystrix	3
G	Stipa comata	123
Total for Annual Grasses		0
Total for Perennial Grasses		449
Total for Grasses		449
F	Allium sp.	1
F	Astragalus calycosus	1
F	Cirsium sp.	1
F	Eriogonum sp.	14
F	Linum lewisii	11
F	Medicago sativa	3
F	Oxytropis sp.	3
F	Streptanthus cordatus	10
F	Tragopogon dubius (a)	3
Total for Annual Forbs		3
Total for Perennial Forbs		44
Total for Forbs		47

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	99	0	33	67	-	33	0	0	29/21	
<i>Juniperus osteosperma</i>										
89	66	50	50	-	-	0	0	0	102/55	
<i>Opuntia sp.</i>										
89	866	15	81	4	-	0	0	0	5/5	
<i>Quercus gambelii</i>										
89	400	100	0	-	66	50	8	0	-/-	

MILL FORK – STUDY NO. 16B-6

HERBACEOUS TRENDS--

Management unit 16B, Study no: 6

Type	Species	Nested Frequency '89
G	Oryzopsis hymenoides	2
G	Poa fendleriana	4
G	Sitanion hystrix	2
Total for Annual Grasses		0
Total for Perennial Grasses		8
Total for Grasses		8
F	Aster chilensis	34
F	Astragalus convallarius	43
F	Astragalus utahensis	2
F	Calochortus nuttallii	1
F	Chaenactis douglasii	17
F	Cirsium sp.	2
F	Eriogonum brevicaule	1
F	Machaeranthera canescens	24
F	Penstemon humilis	41
F	Phlox longifolia	159
F	Taraxacum officinale	3
F	Verbascum thapsus	3
F	Vicia americana	4
Total for Annual Forbs		0
Total for Perennial Forbs		334
Total for Forbs		334

BASIC COVER--

Management unit 16B, Study no: 6

Cover Type	Average Cover % '89
Vegetation	6.50
Rock	2.50
Pavement	15.25
Litter	47.25
Cryptogams	2.00
Bare Ground	26.50

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	133	100	0	-	-	0	100	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
89	5132	10	12	78	-	61	5	27	32/36	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	2266	50	32	18	-	0	0	0	13/14	
<i>Gutierrezia sarothrae</i>										
89	1466	5	95	-	66	0	0	0	10/13	
<i>Juniperus osteosperma</i>										
89	0	0	0	-	133	0	0	0	-/-	
<i>Opuntia sp.</i>										
89	132	50	0	50	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
89	199	33	67	-	-	67	0	0	13/19	
<i>Tetradymia canescens</i>										
89	66	0	100	-	-	0	0	0	8/4	

EAST DAIRY FORK – STUDY NO. 16B-7

HERBACEOUS TRENDS--

Management unit 16B, Study no: 7

Type	Species	Nested Frequency '89
G	Agropyron spicatum	38
G	Carex sp.	17
G	Oryzopsis hymenoides	50
G	Poa fendleriana	16
G	Poa pratensis	3
Total for Annual Grasses		0
Total for Perennial Grasses		124
Total for Grasses		124
F	Achillea millefolium	13
F	Artemisia ludoviciana	6
F	Astragalus convallarius	6
F	Astragalus sp.	6
F	Cirsium sp.	16
F	Eriogonum brevicaule	15
F	Machaeranthera canescens	30
F	Penstemon caespitosus	83
F	Penstemon cyananthus	12
F	Phlox longifolia	43
F	Senecio multilobatus	11
F	Taraxacum officinale	3
F	Thalictrum fendleri	8
F	Unknown forb-perennial	7
F	Vicia americana	50
Total for Annual Forbs		0
Total for Perennial Forbs		309
Total for Forbs		309

BASIC COVER--

Management unit 16B, Study no: 7

Cover Type	Average Cover % '89
Vegetation	3.50
Rock	6.75
Pavement	17.75
Litter	63.00
Cryptogams	0
Bare Ground	9.00

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 7

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	799	92	8	-	266	17	0	8	21/6	
<i>Artemisia tridentata vaseyana</i>										
89	2132	3	34	63	133	16	0	0	25/25	
<i>Cercocarpus montanus</i>										
89	1065	25	50	25	133	38	38	25	25/21	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	1332	0	20	80	-	0	0	0	14/12	
<i>Juniperus scopulorum</i>										
89	332	80	20	-	333	0	0	0	59/22	
<i>Mahonia repens</i>										
89	16400	63	37	-	1799	0	0	0	7/7	
<i>Pseudotsuga menziesii</i>										
89	0	0	0	-	66	0	0	0	-/-	
<i>Quercus gambelii</i>										
89	3865	48	48	3	66	2	0	2	101/31	
<i>Symphoricarpos oreophilus</i>										
89	15999	20	75	5	133	0	0	31	15/14	

STARVATION MAHOGANY – STUDY NO. 16B-8

HERBACEOUS TRENDS--

Management unit 16B, Study no: 8

Type	Species	Nested Frequency '89
G	<i>Agropyron cristatum</i>	25
G	<i>Agropyron smithii</i>	59
G	<i>Agropyron spicatum</i>	80
G	<i>Agropyron trachycaulum</i>	16
G	<i>Carex sp.</i>	9
G	<i>Koeleria cristata</i>	4
G	<i>Oryzopsis hymenoides</i>	11
G	<i>Poa fendleriana</i>	22
G	<i>Poa pratensis</i>	4
G	<i>Sitanion hystrix</i>	4
G	<i>Stipa lettermani</i>	37
Total for Annual Grasses		0
Total for Perennial Grasses		271
Total for Grasses		271
F	<i>Achillea millefolium</i>	6
F	<i>Arabis sp.</i>	1
F	<i>Aster chilensis</i>	57
F	<i>Astragalus convallarius</i>	26
F	<i>Astragalus sp.</i>	9
F	<i>Chaenactis douglasii</i>	9
F	<i>Cirsium sp.</i>	30
F	<i>Comandra pallida</i>	20
F	<i>Eriogonum umbellatum</i>	20
F	<i>Ipomopsis aggregata</i>	3
F	<i>Lomatium sp.</i>	3
F	<i>Machaeranthera canescens</i>	95
F	<i>Penstemon cyananthus</i>	69
F	<i>Penstemon humilis</i>	31
F	<i>Phlox hoodii</i>	154
F	<i>Phlox longifolia</i>	4
F	<i>Senecio multilobatus</i>	8
F	<i>Viguiera multiflora</i>	1
Total for Annual Forbs		0
Total for Perennial Forbs		546
Total for Forbs		546

BASIC COVER--

Management unit 16B, Study no: 8

Cover Type	Average Cover % '89
Vegetation	16.00
Rock	1.00
Pavement	.50
Litter	64.75
Cryptogams	.75
Bare Ground	17.00

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	2733	88	5	7	200	12	0	5	31/18	
<i>Artemisia tridentata vaseyana</i>										
89	799	50	8	42	-	58	0	0	18/22	
<i>Cercocarpus ledifolius</i>										
89	1066	62	38	-	1200	0	0	0	235/146	
<i>Cercocarpus montanus</i>										
89	2799	76	21	2	133	36	2	0	30/20	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	5599	71	21	7	-	0	0	1	11/12	
<i>Gutierrezia sarothrae</i>										
89	399	33	67	-	-	0	0	0	8/7	
<i>Juniperus scopulorum</i>										
89	0	0	0	-	66	0	0	0	-/-	
<i>Mahonia repens</i>										
89	13999	87	13	-	666	0	0	0	4/4	

WILDLIFE MANAGEMENT UNIT 16

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Pinus edulis</i>									
89	66	100	0	-	-	0	0	100	-/-
<i>Purshia tridentata</i>									
89	200	0	100	-	-	0	67	33	14/23
<i>Quercus gambelii</i>									
89	1132	59	6	35	133	0	0	0	177/39
<i>Symphoricarpos oreophilus</i>									
89	10599	56	29	15	-	10	0	.62	17/20
<i>Tetradymia canescens</i>									
89	399	33	33	33	-	0	0	0	16/12

STARVATION MOUNTAIN BRUSH – STUDY NO. 16B-9

HERBACEOUS TRENDS--

Management unit 16B, Study no: 9

Type	Species	Nested Frequency '89
G	Agropyron cristatum	78
G	Agropyron intermedium	6
G	Agropyron spicatum	55
G	Bromus inermis	4
G	Poa fendleriana	26
G	Sitanion hystrix	21
G	Stipa lettermani	1
Total for Annual Grasses		0
Total for Perennial Grasses		191
Total for Grasses		191
F	Astragalus sp.	8
F	Chaenactis douglasii	14
F	Cirsium sp.	8
F	Cynoglossum officinale	2
F	Eriogonum racemosum	1
F	Eriogonum umbellatum	2
F	Machaeranthera canescens	91
F	Penstemon cyananthus	30
F	Penstemon humilis	11
F	Penstemon sp.	14
F	Phlox hoodii	16
F	Phlox longifolia	51
F	Streptanthus cordatus	4
F	Taraxacum officinale	1
F	Verbascum thapsus	1
Total for Annual Forbs		0
Total for Perennial Forbs		254
Total for Forbs		254

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16B, Study no: 9

Cover Type	Average Cover % '89
Vegetation	12.50
Rock	12.00
Pavement	11.50
Litter	54.25
Cryptogams	.50
Bare Ground	4.00

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 9

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Amelanchier utahensis</i>									
89	4732	72	15	13	733	41	34	3	28/27
<i>Artemisia tridentata vaseyana</i>									
89	2666	23	42	35	66	25	48	0	21/22
<i>Cercocarpus montanus</i>									
89	399	33	67	-	66	17	67	0	25/27
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
89	4332	12	78	9	-	0	0	2	12/15
<i>Juniperus osteosperma</i>									
89	0	0	0	-	66	0	0	0	-/-
<i>Mahonia repens</i>									
89	200	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
89	132	50	50	-	66	50	0	0	17/19
<i>Symphoricarpos oreophilus</i>									
89	8332	18	71	10	200	4	.80	10	16/21

DAIRY FORK BURN – STUDY NO. 16B-10

HERBACEOUS TRENDS--

Management unit 16B, Study no: 10

Type	Species	Nested Frequency '89
G	<i>Agropyron cristatum</i>	11
G	<i>Agropyron intermedium</i>	1
G	<i>Bromus inermis</i>	1
G	<i>Dactylis glomerata</i>	9
G	<i>Oryzopsis hymenoides</i>	1
G	<i>Poa fendleriana</i>	1
G	<i>Poa pratensis</i>	2
G	<i>Sitanion hystrix</i>	69
Total for Annual Grasses		0
Total for Perennial Grasses		95
Total for Grasses		95
F	<i>Achillea millefolium</i>	3
F	<i>Astragalus cibarius</i>	3
F	<i>Astragalus convallarius</i>	113
F	<i>Astragalus tenellus</i>	9
F	<i>Carduus nutans</i> (a)	230
F	<i>Chaenactis douglasii</i>	145
F	<i>Grindelia squarrosa</i>	6
F	<i>Lactuca serriola</i> (a)	217
F	<i>Machaeranthera canescens</i>	5
F	<i>Penstemon caespitosus</i>	7
F	<i>Sanguisorba minor</i>	5
F	<i>Taraxacum officinale</i>	11
F	<i>Tragopogon dubius</i> (a)	23
Total for Annual Forbs		470
Total for Perennial Forbs		307
Total for Forbs		777

BASIC COVER--

Management unit 16B, Study no: 10

Cover Type	Average Cover % '89
Vegetation	4.00
Rock	0
Pavement	0
Litter	58.25
Cryptogams	0
Bare Ground	37.75

HILLTOP – STUDY NO. 16B-11

HERBACEOUS TRENDS--

Management unit 16B, Study no: 11

Type	Species	Nested Frequency '89
G	Agropyron cristatum	203
G	Agropyron intermedium	182
G	Agropyron spicatum	3
G	Elymus junceus	7
G	Oryzopsis hymenoides	4
G	Poa secunda	4
G	Sitanion hystrix	24
Total for Annual Grasses		0
Total for Perennial Grasses		427
Total for Grasses		427
F	Astragalus convallarius	3
F	Phlox hoodii	11
F	Phlox longifolia	2
F	Sphaeralcea coccinea	1
Total for Annual Forbs		0
Total for Perennial Forbs		17
Total for Forbs		17

BASIC COVER--

Management unit 16B, Study no: 11

Cover Type	Average Cover % '89
Vegetation	10.50
Rock	4.75
Pavement	11.25
Litter	46.75
Cryptogams	0
Bare Ground	26.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 11

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	299	11	78	11	-	89	0	0	33/30	
<i>Chrysothamnus nauseosus albicaulis</i>										
89	33	0	100	-	-	100	0	0	47/91	
<i>Gutierrezia sarothrae</i>										
89	133	0	100	-	-	0	0	0	7/10	
<i>Juniperus osteosperma</i>										
89	33	0	100	-	-	0	0	0	69/35	
<i>Opuntia sp.</i>										
89	33	0	100	-	-	0	0	0	7/20	

OAK CREEK – STUDY NO. 16B-12

HERBACEOUS TRENDS--

Management unit 16B, Study no: 12

Type	Species	Nested Frequency '89
G	Agropyron smithii	29
G	Agropyron spicatum	3
G	Oryzopsis hymenoides	38
G	Poa pratensis	141
G	Sitanion hystrix	14
Total for Annual Grasses		0
Total for Perennial Grasses		225
Total for Grasses		225
F	Achillea millefolium	2
F	Arabis sp.	5
F	Astragalus convallarius	4
F	Chaenactis douglasii	1
F	Cirsium sp.	1
F	Cryptantha sp.	2
F	Cynoglossum officinale	1
F	Hackelia patens	3
F	Phlox longifolia	46
F	Senecio multilobatus	5
F	Streptanthus cordatus	8
Total for Annual Forbs		0
Total for Perennial Forbs		78
Total for Forbs		78

BASIC COVER--

Management unit 16B, Study no: 12

Cover Type	Average Cover % '89
Vegetation	3.00
Rock	1.75
Pavement	11.75
Litter	63.00
Cryptogams	.75
Bare Ground	19.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Cercocarpus montanus										
89	199	50	33	17	-	67	17	17	25/47	
Chrysothamnus viscidiflorus viscidiflorus										
89	33	100	0	-	-	0	0	0	-/-	
Juniperus osteosperma										
89	499	67	33	-	66	0	0	0	128/79	
Purshia tridentata										
89	665	5	85	10	-	80	10	5	10/23	
Quercus gambelii										
89	2499	43	24	33	233	55	1	1	58/28	
Rhus trilobata										
89	66	0	0	100	-	100	0	0	-/-	
Symphoricarpos oreophilus										
89	266	100	0	-	-	0	0	0	-/-	

OAK CREEK RIDGE ASPEN – STUDY NO. 16B-13

HERBACEOUS TRENDS--

Management unit 16B, Study no: 13

Type	Species	Nested Frequency '89
G	<i>Agropyron trachycaulum</i>	141
G	<i>Bromus carinatus</i>	301
Total for Annual Grasses		0
Total for Perennial Grasses		442
Total for Grasses		442
F	<i>Descurainia californica</i> (a)	125
F	<i>Hackelia patens</i>	66
F	<i>Helenium hoopesii</i>	9
F	<i>Medicago sativa</i>	2
F	<i>Osmorhiza occidentalis</i>	60
F	<i>Rudbeckia occidentalis</i>	175
F	<i>Senecio serra</i>	4
F	<i>Stellaria jamesiana</i>	242
F	<i>Taraxacum officinale</i>	3
F	<i>Thalictrum fendleri</i>	6
F	<i>Vicia americana</i>	107
F	<i>Viguiera multiflora</i>	13
F	<i>Viola</i> sp.	54
Total for Annual Forbs		125
Total for Perennial Forbs		741
Total for Forbs		866

BASIC COVER--

Management unit 16B, Study no: 13

Cover Type	Average Cover % '89
Vegetation	15.25
Rock	.25
Pavement	0
Litter	64.50
Cryptogams	0
Bare Ground	20.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 13

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Populus tremuloides									
89	499	27	73	-	33	0	0	0	393/158
Sambucus racemosa									
89	1132	79	21	-	-	21	0	0	79/39

OAK CREEK RIDGE SEEDING – 16B-14

HERBACEOUS TRENDS--

Management unit 16B, Study no: 14

Type	Species	Nested Frequency '89
G	Agropyron intermedium	87
G	Bromus japonicus (a)	1
G	Bromus sp.	1
G	Lolium perenne	26
G	Phleum pratense	42
Total for Annual Grasses		1
Total for Perennial Grasses		156
Total for Grasses		157
F	Achillea millefolium	2
F	Cirsium undulatum	1
F	Cynoglossum officinale	10
F	Descurainia californica (a)	14
F	Epilobium sp.	2
F	Eriogonum caespitosum	4
F	Hedysarum boreale	6
F	Lactuca serriola (a)	8
F	Linum lewisii	7
F	Madia glomerata (a)	25
F	Melilotus officinalis	8
F	Oenothera flava	11
F	Senecio multilobatus	1
F	Tragopogon dubius (a)	1
F	Viola sp.	6
Total for Annual Forbs		48
Total for Perennial Forbs		58
Total for Forbs		106

BASIC COVER--

Management unit 16B, Study no: 14

Cover Type	Average Cover % '89
Vegetation	13.25
Rock	1.50
Pavement	0
Litter	1.50
Cryptogams	0
Bare Ground	83.75

FORD RIDGE – STUDY NO. 16B-15

HERBACEOUS TRENDS--

Management unit 16B, Study no: 15

Type	Species	Nested Frequency '88
G	Agropyron spicatum	25
G	Elymus salina	299
G	Festuca ovina	1
G	Poa fendleriana	117
G	Stipa sp.	15
Total for Annual Grasses		0
Total for Perennial Grasses		457
Total for Grasses		457
F	Achillea millefolium	56
F	Antennaria sp.	24
F	Arabis sp.	9
F	Astragalus argophyllus	22
F	Astragalus coltoni	16
F	Astragalus convallarius	12
F	Astragalus tenellus	27
F	Calochortus nuttallii	1
F	Castilleja flava	34
F	Chaenactis douglasii	26
F	Erigeron sp.	4
F	Hymenoxys richardsonii	47
F	Machaeranthera canescens	7
F	Penstemon sp.	1
F	Penstemon watsonii	92
F	Phlox longifolia	67
F	Senecio multilobatus	20
F	Taraxacum officinale	4
Total for Annual Forbs		0
Total for Perennial Forbs		469
Total for Forbs		469

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16B, Study no: 15

Cover Type	Average Cover % '88
Vegetation	9.25
Rock	8.50
Pavement	11.25
Litter	48.75
Cryptogams	0
Bare Ground	22.25

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 15

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	466	100	0	-	-	0	43	29	-/-	
<i>Artemisia tridentata vaseyana</i>										
88	11066	89	10	2	10866	6	2	25	14/19	
<i>Chrysothamnus viscidiflorus</i>										
88	9999	35	53	12	666	6	0	.66	7/9	
<i>Opuntia sp.</i>										
88	399	67	0	33	133	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
88	4399	59	33	8	866	9	8	32	12/18	
<i>Tetradymia canescens</i>										
88	66	0	100	-	-	0	0	0	11/15	

HARDSCRABBLE – STUDY NO. 16B-16

HERBACEOUS TRENDS--

Management unit 16B, Study no: 16

Type	Species	Nested Frequency '88
G	Agropyron spicatum	151
G	Elymus salina	198
G	Poa fendleriana	191
Total for Annual Grasses		0
Total for Perennial Grasses		540
Total for Grasses		540
F	Arabis sp.	1
F	Astragalus sp.	128
F	Erigeron eatonii	1
F	Machaeranthera grindelioides	8
Total for Annual Forbs		0
Total for Perennial Forbs		138
Total for Forbs		138

BASIC COVER--

Management unit 16B, Study no: 16

Cover Type	Average Cover % '88
Vegetation	14.75
Rock	16.75
Pavement	18.00
Litter	40.25
Cryptogams	2.50
Bare Ground	7.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 16

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
8 8	199	33	67	-	-	0	0	0	9/3	
<i>Artemisia nova</i>										
8 8	5932	10	31	58	66	28	51	3	8/14	
<i>Artemisia tridentata vaseyana</i>										
8 8	1533	35	39	26	66	22	17	4	8/12	
<i>Chrysothamnus depressus</i>										
8 8	133	0	100	-	-	50	0	0	4/13	
<i>Eriogonum corymbosum</i>										
8 8	133	0	100	-	-	100	0	0	8/16	
<i>Gutierrezia sarothrae</i>										
8 8	599	22	78	-	-	0	0	0	10/5	
<i>Symphoricarpos oreophilus</i>										
8 8	66	0	100	-	-	100	0	0	9/8	

SLACKPILE – STUDY NO. 16B-17

HERBACEOUS TRENDS--

Management unit 16B, Study no: 17

Type	Species	Nested Frequency '88
G	Agropyron spicatum	127
G	Oryzopsis hymenoides	95
G	Sitanion hystrix	172
G	Stipa comata	15
Total for Annual Grasses		0
Total for Perennial Grasses		409
Total for Grasses		409
F	Arabis sp.	6
F	Astragalus convallarius	44
F	Calochortus nuttallii	1
F	Castilleja linariaefolia	1
F	Machaeranthera grindelioides	9
F	Orthocarpus sp. (a)	46
F	Penstemon caespitosus	43
F	Phlox austromontana	3
F	Phlox longifolia	235
F	Sphaeralcea coccinea	44
F	Trifolium gymnocarpon	59
Total for Annual Forbs		46
Total for Perennial Forbs		445
Total for Forbs		491

BASIC COVER--

Management unit 16B, Study no: 17

Cover Type	Average Cover % '88
Vegetation	4.50
Rock	0
Pavement	.50
Litter	29.25
Cryptogams	10.00
Bare Ground	55.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
88	2999	27	31	42	200	40	44	4	13/18	
<i>Ceratoides lanata</i>										
88	66	100	0	-	66	100	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	53799	82	17	0	1999	3	.12	0	6/9	
<i>Gutierrezia sarothrae</i>										
88	13398	18	78	3	133	0	0	.99	7/7	
<i>Opuntia sp.</i>										
88	399	67	33	-	66	0	0	33	3/7	
<i>Pinus edulis</i>										
88	0	0	0	-	66	0	0	0	-/-	

PORYPHYRY BENCH – STUDY NO. 16B-18

HERBACEOUS TRENDS--

Management unit 16B, Study no: 18

Type	Species	Nested Frequency '88
G	Agropyron smithii	21
G	Bouteloua gracilis	1
G	Oryzopsis hymenoides	59
G	Sitanion hystrix	43
G	Sporobolus cryptandrus	3
G	Stipa comata	262
Total for Annual Grasses		0
Total for Perennial Grasses		389
Total for Grasses		389
F	Astragalus convallarius	10
F	Cruciferae	6
F	Lesquerella sp.	5
F	Machaeranthera canescens	2
F	Orobanche sp.	1
F	Penstemon caespitosus	1
F	Senecio multilobatus	6
F	Sphaeralcea coccinea	94
F	Tragopogon dubius (a)	3
Total for Annual Forbs		3
Total for Perennial Forbs		125
Total for Forbs		128

BASIC COVER--

Management unit 16B, Study no: 18

Cover Type	Average Cover % '88
Vegetation	5.50
Rock	0
Pavement	0
Litter	49.50
Cryptogams	2.25
Bare Ground	42.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
88	6933	19	35	46	66	35	48	13	17/21	
<i>Ceratoides lanata</i>										
88	199	33	67	-	-	33	33	0	15/8	
<i>Gutierrezia sarothrae</i>										
88	1066	25	75	-	-	0	0	0	8/4	
<i>Opuntia fragilis</i>										
88	8133	43	52	5	266	0	0	4	3/9	

NORTH SPRING BENCH – STUDY NO. 16B-19

HERBACEOUS TRENDS--

Management unit 16B, Study no: 19

Type	Species	Nested Frequency '88
G	Agropyron smithii	99
G	Bouteloua gracilis	213
G	Oryzopsis hymenoides	37
G	Sitanion hystrix	153
G	Stipa comata	35
Total for Annual Grasses		0
Total for Perennial Grasses		537
Total for Grasses		537
F	Caulanthus crassicaulis	2
F	Erigeron sp.	3
F	Phlox longifolia	11
F	Sphaeralcea coccinea	23
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		40
Total for Forbs		40

BASIC COVER--

Management unit 16B, Study no: 19

Cover Type	Average Cover % '88
Vegetation	12.25
Rock	1.25
Pavement	.25
Litter	27.25
Cryptogams	6.50
Bare Ground	52.50

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 19

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
8 8	6065	4	44	52	-	53	32	10	14/18	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
8 8	199	33	67	-	-	67	0	33	6/5	
<i>Gutierrezia sarothrae</i>										
8 8	17266	27	69	3	1200	4	.77	.38	7/5	
<i>Opuntia fragilis</i>										
8 8	7199	32	52	16	-	0	0	22	2/4	
<i>Pinus edulis</i>										
8 8	266	75	25	-	-	75	0	0	109/118	

TELEPHONE BENCH – STUDY NO. 16B-20

HERBACEOUS TRENDS--

Management unit 16B, Study no: 20

Type	Species	Nested Frequency '88
G	<i>Agropyron smithii</i>	265
G	<i>Bouteloua gracilis</i>	15
G	<i>Poa fendleriana</i>	95
G	<i>Sitanion hystrix</i>	16
G	<i>Stipa comata</i>	4
Total for Annual Grasses		0
Total for Perennial Grasses		395
Total for Grasses		395
F	<i>Antennaria</i> sp.	59
F	<i>Arabis</i> sp.	8
F	<i>Astragalus convallarius</i>	91
F	<i>Astragalus tenellus</i>	10
F	<i>Balsamorhiza hookeri</i>	22
F	<i>Castilleja linariaefolia</i>	137
F	<i>Comandra pallida</i>	20
F	<i>Crepis acuminata</i>	2
F	<i>Erigeron eatonii</i>	64
F	<i>Eriogonum jamesii</i>	11
F	<i>Hymenoxys acaulis</i>	10
F	<i>Lesquerella</i> sp.	20
F	<i>Machaeranthera grindelioides</i>	26
F	<i>Paronychia sessiliflora</i>	10
F	<i>Penstemon watsonii</i>	45
F	<i>Phlox longifolia</i>	175
F	<i>Senecio multilobatus</i>	2
F	<i>Sphaeralcea coccinea</i>	1
F	<i>Trifolium gymnocarpon</i>	30
Total for Annual Forbs		0
Total for Perennial Forbs		743
Total for Forbs		743

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16B, Study no: 20

Cover Type	Average Cover % '88
Vegetation	14.00
Rock	4.25
Pavement	1.00
Litter	42.00
Cryptogams	3.75
Bare Ground	35.00

BROWSE CHARACTERISTICS--

Management unit 16B, Study no: 20

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	466	100	0	-	66	29	57	0	-/-	
<i>Artemisia nova</i>										
88	6932	27	28	45	2400	11	0	10	10/12	
<i>Artemisia tridentata vaseyana</i>										
88	466	43	29	29	66	14	57	0	11/12	
<i>Chrysothamnus depressus</i>										
88	5133	43	55	3	200	1	1	4	5/7	
<i>Chrysothamnus nauseosus</i>										
88	66	0	0	100	-	0	100	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	5599	35	63	2	133	2	0	0	4/6	
<i>Gutierrezia sarothrae</i>										
88	800	50	50	-	-	0	0	0	5/4	
<i>Tetradymia canescens</i>										
88	66	0	100	-	-	100	0	0	12/16	

HUNTINGTON CANYON – STUDY NO. 16B-21

HERBACEOUS TRENDS--

Management unit 16B, Study no: 21

Type	Species	Nested Frequency '88
G	Elymus salina	222
Total for Annual Grasses		0
Total for Perennial Grasses		222
Total for Grasses		222
F	Agoseris sp.	7
F	Antennaria microphylla	4
F	Arenaria fendleri	8
F	Astragalus coltoni	82
F	Astragalus tenellus	12
F	Chaenactis douglasii	11
F	Hymenoxys acaulis	65
F	Hymenoxys richardsonii	63
F	Machaeranthera grindelioides	14
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		267
Total for Forbs		267

BASIC COVER--

Management unit 16B, Study no: 21

Cover Type	Average Cover % '88
Vegetation	13.25
Rock	21.75
Pavement	16.50
Litter	23.50
Cryptogams	0
Bare Ground	25.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 21

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
8 8	1165	57	43	-	166	6	0	0	4/6	
<i>Artemisia tridentata vaseyana</i>										
8 8	465	36	57	7	66	0	0	0	19/28	
<i>Cercocarpus ledifolius</i>										
8 8	433	100	0	-	66	31	62	0	-/-	
<i>Chrysothamnus nauseosus glabratus</i>										
8 8	1166	9	74	17	-	17	0	0	11/13	
<i>Gutierrezia sarothrae</i>										
8 8	3866	60	36	3	700	4	.86	.86	8/7	
<i>Juniperus osteosperma</i>										
8 8	33	100	0	-	-	0	0	0	-/-	
<i>Pinus longaeva</i>										
8 8	0	0	0	-	33	0	0	0	-/-	

POISON SPRING BENCH – STUDY NO. 16B-22

HERBACEOUS TRENDS--

Management unit 16B, Study no: 22

Type	Species	Nested Frequency '88
G	Agropyron cristatum	172
G	Sitanion hystrix	6
Total for Annual Grasses		0
Total for Perennial Grasses		178
Total for Grasses		178
F	Arabis sp.	4
F	Cirsium sp.	5
F	Cruciferae	8
F	Cryptantha confertiflora	44
F	Ipomopsis aggregata	9
F	Lepidium montanum	2
F	Medicago sativa	3
F	Penstemon caespitosus	18
F	Penstemon carnosus	22
F	Senecio multilobatus	4
Total for Annual Forbs		0
Total for Perennial Forbs		119
Total for Forbs		119

BASIC COVER--

Management unit 16B, Study no: 22

Cover Type	Average Cover % '88
Vegetation	6.00
Rock	12.25
Pavement	7.00
Litter	56.75
Cryptogams	0
Bare Ground	18.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16B, Study no: 22

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
88	15333	78	17	5	1400	9	0	.86	9/19	
<i>Chrysothamnus viscidiflorus</i>										
88	66	100	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
88	933	43	57	-	333	0	0	21	3/3	
<i>Juniperus osteosperma</i>										
88	0	0	0	-	200	0	0	0	-/-	
<i>Opuntia polyacantha</i>										
88	333	0	100	-	-	0	0	0	3/4	

MANTI FACE CHAINING – STUDY NO. 16C-1

HERBACEOUS TRENDS--

Management unit 16C, Study no: 1

Type	Species	Nested Frequency '89
G	Agropyron cristatum	125
G	Agropyron intermedium	118
G	Agropyron spicatum	47
G	Bromus inermis	1
G	Elymus junceus	18
G	Festuca ovina	21
G	Oryzopsis hymenoides	1
G	Poa secunda	129
G	Sitanion hystrix	130
Total for Annual Grasses		0
Total for Perennial Grasses		590
Total for Grasses		590
F	Arabis sp.	1
F	Astragalus sp.	3
F	Cryptantha sp.	14
F	Lactuca serriola (a)	3
F	Medicago sativa	23
F	Penstemon pachyphyllus	3
F	Phlox hoodii	7
F	Sanguisorba minor	8
F	Sisymbrium sp. (a)	7
F	Streptanthus cordatus	3
F	Tragopogon dubius (a)	19
Total for Annual Forbs		29
Total for Perennial Forbs		62
Total for Forbs		91

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16C, Study no: 1

Cover Type	Average Cover % '89
Vegetation	13.50
Rock	7.00
Pavement	47.00
Litter	25.25
Cryptogams	.25
Bare Ground	7.00

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
89	832	8	72	20	33	16	8	12	7/13	
<i>Gutierrezia sarothrae</i>										
89	1765	9	76	15	-	0	0	6	7/10	
<i>Juniperus osteosperma</i>										
89	466	64	29	7	166	0	0	7	54/44	
<i>Pinus edulis</i>										
89	66	100	0	-	66	0	0	0	-/-	

WILLOW CREEK – STUDY NO. 16C-2

HERBACEOUS TRENDS--

Management unit 16C, Study no: 2

Type	Species	Nested Frequency '89
G	Agropyron cristatum	190
G	Agropyron intermedium	159
G	Agropyron spicatum	20
G	Bromus inermis	8
G	Elymus junceus	17
G	Festuca ovina	40
G	Oryzopsis hymenoides	6
G	Poa secunda	31
Total for Annual Grasses		0
Total for Perennial Grasses		471
Total for Grasses		471
F	Cirsium sp.	1
F	Convolvulus arvensis	3
F	Medicago sativa	33
F	Phlox hoodii	4
F	Phlox longifolia	3
Total for Annual Forbs		0
Total for Perennial Forbs		44
Total for Forbs		44

BASIC COVER--

Management unit 16C, Study no: 2

Cover Type	Average Cover % '89
Vegetation	8.00
Rock	9.00
Pavement	8.00
Litter	47.25
Cryptogams	0
Bare Ground	27.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 2

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
89	66	0	0	100	-	0	0	0	-/-
<i>Cercocarpus montanus</i>									
89	133	0	100	-	-	0	75	0	8/9
<i>Chrysothamnus nauseosus albicaulis</i>									
89	133	25	75	-	-	25	0	0	22/24
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
89	1399	21	69	10	-	0	0	5	14/17
<i>Cowania mexicana stansburiana</i>									
89	33	0	100	-	-	100	0	0	13/14
<i>Ephedra viridis</i>									
89	33	0	100	-	-	100	0	0	17/15
<i>Gutierrezia sarothrae</i>									
89	1399	19	81	-	-	0	0	0	9/11
<i>Juniperus osteosperma</i>									
89	199	83	17	-	-	0	0	0	33/59
<i>Pinus edulis</i>									
89	66	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
89	532	6	69	25	-	75	19	6	8/23
<i>Quercus gambelii</i>									
89	33	100	0	-	-	100	0	0	-/-

NORTH MANTI FACE – STUDY NO. 16C-3

HERBACEOUS TRENDS--

Management unit 16C, Study no: 3

Type	Species	Nested Frequency '89
G	Agropyron spicatum	287
G	Poa fendleriana	60
G	Poa secunda	105
Total for Annual Grasses		0
Total for Perennial Grasses		452
Total for Grasses		452
F	Astragalus megacarpus	24
F	Cirsium sp.	18
F	Crepis acuminata	12
F	Cryptantha sp.	16
F	Eriogonum jamesii	13
F	Haplopappus acaulis	6
F	Helianthus annuus (a)	1
F	Leucelene ericoides	21
F	Penstemon sp.	50
F	Petradoria pumila	46
F	Phlox hoodii	182
F	Phlox longifolia	10
F	Tragopogon dubius (a)	1
Total for Annual Forbs		2
Total for Perennial Forbs		398
Total for Forbs		400

BASIC COVER--

Management unit 16C, Study no: 3

Cover Type	Average Cover % '89
Vegetation	13.00
Rock	18.00
Pavement	41.25
Litter	23.00
Cryptogams	0
Bare Ground	4.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	2865	5	58	37	-	2	93	2	23/27	
<i>Chrysothamnus depressus</i>										
89	132	50	50	-	-	0	0	0	3/6	
<i>Chrysothamnus nauseosus hololeucus</i>										
89	199	0	67	33	-	33	67	0	19/14	
<i>Gutierrezia sarothrae</i>										
89	3532	13	75	11	66	0	0	6	7/7	
<i>Juniperus osteosperma</i>										
89	66	0	100	-	-	100	0	0	79/98	
<i>Peraphyllum ramosissimum</i>										
89	332	20	80	-	-	0	80	0	24/16	

BALD MOUNTAIN – STUDY NO. 16C-4

HERBACEOUS TRENDS--

Management unit 16C, Study no: 4

Type	Species	Nested Frequency '89
G	Agropyron spicatum	69
G	Poa fendleriana	169
G	Poa secunda	13
G	Sitanion hystrix	6
Total for Annual Grasses		0
Total for Perennial Grasses		257
Total for Grasses		257
F	Allium sp.	1
F	Chaenactis douglasii	11
F	Cirsium sp.	11
F	Cymopterus sp.	9
F	Machaeranthera canescens	35
F	Penstemon humilis	92
F	Phlox longifolia	51
F	Streptanthus cordatus	1
F	Taraxacum officinale	1
Total for Annual Forbs		0
Total for Perennial Forbs		212
Total for Forbs		212

BASIC COVER--

Management unit 16C, Study no: 4

Cover Type	Average Cover % '89
Vegetation	10.75
Rock	10.25
Pavement	21.00
Litter	43.50
Cryptogams	.75
Bare Ground	13.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	66	0	0	100	-	0	100	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
89	1332	0	5	95	-	25	70	15	20/12	
<i>Cercocarpus montanus</i>										
89	66	0	100	-	-	0	100	0	22/25	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	132	0	50	50	-	0	0	0	12/8	
<i>Juniperus osteosperma</i>										
89	132	50	50	-	-	0	0	0	85/79	
<i>Peraphyllum ramosissimum</i>										
89	2533	16	68	16	-	13	66	3	16/30	
<i>Pinus edulis</i>										
89	333	40	60	-	-	0	0	0	113/89	
<i>Quercus gambelii</i>										
89	1798	56	41	4	333	63	0	0	75/30	
<i>Symphoricarpos oreophilus</i>										
89	3199	35	50	15	200	44	17	2	8/11	

CANE VALLEY – STUDY NO. 16C-5

HERBACEOUS TRENDS--

Management unit 16C, Study no: 5

Type	Species	Nested Frequency '89
G	<i>Agropyron cristatum</i>	5
G	<i>Agropyron intermedium</i>	18
G	<i>Agropyron spicatum</i>	61
G	<i>Dactylis glomerata</i>	3
G	<i>Elymus junceus</i>	1
G	<i>Oryzopsis hymenoides</i>	47
G	<i>Poa fendleriana</i>	7
G	<i>Poa secunda</i>	30
G	<i>Sitanion hystrix</i>	230
Total for Annual Grasses		0
Total for Perennial Grasses		402
Total for Grasses		402
F	<i>Arabis</i> sp.	1
F	<i>Astragalus</i> sp.	5
F	<i>Cirsium</i> sp.	7
F	<i>Convolvulus arvensis</i>	8
F	<i>Cryptantha</i> sp.	33
F	<i>Eriogonum</i> sp.	3
F	<i>Haplopappus acaulis</i>	5
F	<i>Lactuca serriola</i> (a)	12
F	<i>Machaeranthera canescens</i>	8
F	<i>Penstemon humilis</i>	8
F	<i>Petradoria pumila</i>	1
F	<i>Phlox hoodii</i>	107
F	<i>Sanguisorba minor</i>	19
F	<i>Sphaeralcea coccinea</i>	3
F	<i>Streptanthus cordatus</i>	5
F	<i>Tragopogon dubius</i> (a)	31
Total for Annual Forbs		43
Total for Perennial Forbs		213
Total for Forbs		256

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16C, Study no: 5

Cover Type	Average Cover % '89
Vegetation	11.50
Rock	11.75
Pavement	15.25
Litter	48.50
Cryptogams	0
Bare Ground	13.00

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Atriplex canescens</i>										
89	33	0	100	-	-	0	0	0	37/26	
<i>Chrysothamnus depressus</i>										
89	33	0	100	-	-	0	0	0	4/9	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
89	566	6	94	-	-	0	0	0	8/10	
<i>Gutierrezia sarothrae</i>										
89	366	0	91	9	-	0	0	0	9/12	
<i>Juniperus osteosperma</i>										
89	266	88	12	-	133	0	0	0	71/52	

BLACK HILL – STUDY NO. 16C-6

HERBACEOUS TRENDS--

Management unit 16C, Study no: 6

Type	Species	Nested Frequency '89
G	Agropyron cristatum	16
G	Agropyron intermedium	93
G	Oryzopsis hymenoides	52
G	Poa fendleriana	1
G	Poa pratensis	1
G	Poa secunda	9
G	Sitanion hystrix	46
Total for Annual Grasses		0
Total for Perennial Grasses		218
Total for Grasses		218
F	Astragalus sp.	3
F	Cirsium sp.	6
F	Lactuca serriola (a)	14
F	Linum lewisii	1
F	Medicago sativa	7
F	Sanguisorba minor	88
F	Sisymbrium altissimum (a)	3
F	Tragopogon dubius (a)	3
Total for Annual Forbs		20
Total for Perennial Forbs		105
Total for Forbs		125

BASIC COVER--

Management unit 16C, Study no: 6

Cover Type	Average Cover % '89
Vegetation	4.50
Rock	2.50
Pavement	13.75
Litter	63.25
Cryptogams	1.00
Bare Ground	15.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
89	732	14	50	36	66	41	9	5	12/12	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
89	1832	4	64	33	-	0	0	93	15/22	
<i>Juniperus osteosperma</i>										
89	199	33	0	67	33	0	0	17	-/-	
<i>Opuntia sp.</i>										
89	66	50	50	-	-	0	0	0	4/15	

MAYFIELD MOUNTAIN FACE – STUDY NO. 16C-7

HERBACEOUS TRENDS--

Management unit 16C, Study no: 7

Type	Species	Nested Frequency '89
G	Agropyron cristatum	94
G	Agropyron intermedium	7
G	Agropyron spicatum	226
G	Bromus inermis	27
G	Oryzopsis hymenoides	1
G	Poa secunda	196
Total for Annual Grasses		0
Total for Perennial Grasses		551
Total for Grasses		551
F	Antennaria sp.	1
F	Arabis sp.	5
F	Astragalus utahensis	2
F	Cryptantha sp.	4
F	Medicago sativa	2
F	Phlox hoodii	22
Total for Annual Forbs		0
Total for Perennial Forbs		36
Total for Forbs		36

BASIC COVER--

Management unit 16C, Study no: 7

Cover Type	Average Cover % '89
Vegetation	10.00
Rock	7.75
Pavement	46.00
Litter	27.25
Cryptogams	0
Bare Ground	9.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
 Management unit 16C, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
89	5466	13	55	32	266	40	5	33	14/16	
<i>Gutierrezia sarothrae</i>										
89	600	0	100	-	-	0	0	0	8/5	
<i>Juniperus osteosperma</i>										
89	66	100	0	-	-	0	0	0	-/-	

POLE CANYON CHAINING – STUDY NO. 16C-8

HERBACEOUS TRENDS--

Management unit 16C, Study no: 8

Type	Species	Nested Frequency '89
G	Agropyron cristatum	278
G	Poa fendleriana	4
G	Poa secunda	3
G	Sitanion hystrix	5
Total for Annual Grasses		0
Total for Perennial Grasses		290
Total for Grasses		290
F	Astragalus utahensis	10
F	Cryptantha sp.	18
F	Haplopappus acaulis	2
F	Lactuca serriola (a)	20
F	Lithospermum sp.	7
F	Machaeranthera canescens	13
F	Senecio multilobatus	2
F	Streptanthus cordatus	14
F	Tragopogon dubius (a)	1
Total for Annual Forbs		21
Total for Perennial Forbs		66
Total for Forbs		87

BASIC COVER--

Management unit 16C, Study no: 8

Cover Type	Average Cover % '89
Vegetation	4.00
Rock	5.75
Pavement	19.25
Litter	44.25
Cryptogams	0
Bare Ground	26.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus albicaulis</i>										
89	932	50	46	4	133	4	4	0	28/25	
<i>Gutierrezia sarothrae</i>										
89	8732	15	84	1	25966	0	0	0	10/9	
<i>Juniperus osteosperma</i>										
89	133	75	25	-	33	0	0	0	91/71	
<i>Pinus edulis</i>										
89	33	0	100	-	-	0	0	0	71/79	

POLE CANYON OAK – STUDY NO. 16C-9

HERBACEOUS TRENDS--

Management unit 16C, Study no: 9

Type	Species	Nested Frequency '89
G	Agropyron spicatum	9
G	Oryzopsis hymenoides	42
G	Poa fendleriana	143
G	Poa secunda	21
G	Stipa comata	6
Total for Annual Grasses		0
Total for Perennial Grasses		221
Total for Grasses		221
F	Agoseris glauca	1
F	Astragalus consobrinus	2
F	Astragalus sp.	2
F	Balsamorhiza sagittata	3
F	Castilleja linariaefolia	1
F	Chaenactis douglasii	5
F	Eriogonum umbellatum	7
F	Lomatium sp.	66
F	Phlox longifolia	12
F	Senecio multilobatus	5
F	Tragopogon dubius (a)	1
F	Zigadenus paniculatus	1
Total for Annual Forbs		1
Total for Perennial Forbs		105
Total for Forbs		106

BASIC COVER--

Management unit 16C, Study no: 9

Cover Type	Average Cover % '89
Vegetation	5.00
Rock	2.75
Pavement	13.75
Litter	67.00
Cryptogams	.50
Bare Ground	11.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	1233	0	3	97	-	0	100	73	19/28	
<i>Cercocarpus montanus</i>										
89	66	0	50	50	-	0	100	0	60/55	
<i>Chrysothamnus viscidiflorus</i>										
89	233	0	43	57	-	0	100	43	3/2	
<i>Gutierrezia sarothrae</i>										
89	1165	3	92	6	-	0	0	3	9/9	
<i>Juniperus osteosperma</i>										
89	133	100	0	-	-	0	0	25	-/-	
<i>Pinus edulis</i>										
89	66	50	50	-	66	0	0	0	177/171	
<i>Purshia tridentata</i>										
89	233	14	86	-	-	0	100	0	13/18	
<i>Quercus gambelii</i>										
89	3265	72	16	11	1633	16	0	0	39/30	
<i>Tetradymia canescens</i>										
89	33	100	0	-	-	0	0	0	-/-	

JULIUS PASTURE – STUDY NO. 16C-10

HERBACEOUS TRENDS--

Management unit 16C, Study no: 10

Type	Species	Nested Frequency '89
G	<i>Agropyron trachycaulum</i>	146
G	<i>Bromus carinatus</i>	93
G	<i>Carex</i> sp.	15
G	<i>Dactylis glomerata</i>	19
G	<i>Phleum pratense</i>	5
G	<i>Poa pratensis</i>	285
G	<i>Stipa lettermani</i>	41
Total for Annual Grasses		0
Total for Perennial Grasses		604
Total for Grasses		604
F	<i>Achillea millefolium</i>	213
F	<i>Agoseris glauca</i>	14
F	<i>Allium</i> sp.	3
F	<i>Arabis</i> sp.	81
F	<i>Aster</i> sp.	69
F	<i>Cirsium</i> sp.	29
F	<i>Cynoglossum officinale</i>	1
F	<i>Fragaria virginiana</i>	27
F	<i>Madia glomerata</i> (a)	218
F	<i>Rudbeckia occidentalis</i>	26
F	<i>Taraxacum officinale</i>	159
F	<i>Tragopogon dubius</i> (a)	1
F	<i>Trifolium</i> sp.	208
F	<i>Vicia americana</i>	7
F	<i>Viola</i> sp.	7
Total for Annual Forbs		219
Total for Perennial Forbs		844
Total for Forbs		1063

BASIC COVER--

Management unit 16C, Study no: 10

Cover Type	Average Cover % '89
Vegetation	26.75
Rock	.25
Pavement	0
Litter	40.50
Cryptogams	.25
Bare Ground	32.25

ABOVE SOUTH HOLLOW – STUDY NO. 16C-11

HERBACEOUS TRENDS--

Management unit 16C, Study no: 11

Type	Species	Nested Frequency '89
G	Agropyron cristatum	94
G	Agropyron intermedium	48
G	Bromus inermis	231
G	Carex sp.	13
G	Oryzopsis hymenoides	13
G	Poa fendleriana	50
Total for Annual Grasses		0
Total for Perennial Grasses		449
Total for Grasses		449
F	Astragalus sp.	1
F	Convolvulus arvensis	1
F	Cryptantha sp.	6
F	Medicago sativa	11
F	Penstemon humilis	9
F	Phlox longifolia	24
F	Senecio multilobatus	3
F	Tragopogon dubius (a)	1
Total for Annual Forbs		1
Total for Perennial Forbs		55
Total for Forbs		56

BASIC COVER--

Management unit 16C, Study no: 11

Cover Type	Average Cover % '89
Vegetation	9.00
Rock	8.00
Pavement	11.50
Litter	60.75
Cryptogams	0
Bare Ground	10.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 11

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
8 9	33	0	0	100	-	0	100	100	-/-	
<i>Cowania mexicana stansburiana</i>										
8 9	33	0	100	-	-	0	0	0	30/33	
<i>Juniperus osteosperma</i>										
8 9	232	28	72	-	-	0	0	0	61/67	
<i>Pinus edulis</i>										
8 9	66	100	0	-	-	0	0	0	-/-	
<i>Pseudotsuga menziesii</i>										
8 9	33	100	0	-	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
8 9	2598	64	33	3	100	1	28	0	71/33	

MANTI DUMP – STUDY NO. 16C-12

HERBACEOUS TRENDS--

Management unit 16C, Study no: 12

Type	Species	Nested Frequency '89
G	Agropyron cristatum	174
G	Agropyron intermedium	168
G	Poa secunda	3
G	Sitanion hystrix	13
Total for Annual Grasses		0
Total for Perennial Grasses		358
Total for Grasses		358
F	Penstemon sp.	1
Total for Annual Forbs		0
Total for Perennial Forbs		1
Total for Forbs		1

BASIC COVER--

Management unit 16C, Study no: 12

Cover Type	Average Cover % '89
Vegetation	9.00
Rock	1.00
Pavement	29.00
Litter	55.00
Cryptogams	.75
Bare Ground	5.25

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
89	1132	18	77	6	-	53	0	0	16/25	
<i>Artemisia tridentata wyomingensis</i>										
89	4066	5	57	38	266	25	70	0	27/29	
<i>Gutierrezia sarothrae</i>										
89	199	33	67	-	-	0	0	0	12/6	
<i>Juniperus osteosperma</i>										
89	0	0	0	-	66	0	0	0	-/-	

WEST HUNTINGTON CANYON – STUDY NO. 16C-13

HERBACEOUS TRENDS--

Management unit 16C, Study no: 13

Type	Species	Nested Frequency '88
G	Agropyron spicatum	40
G	Carex sp.	15
G	Elymus salina	279
Total for Annual Grasses		0
Total for Perennial Grasses		334
Total for Grasses		334
F	Aster sp.	39
F	Astragalus convallarius	2
F	Hymenoxys richardsonii	1
F	Machaeranthera canescens	4
F	Taraxacum officinale	1
Total for Annual Forbs		0
Total for Perennial Forbs		47
Total for Forbs		47

BASIC COVER--

Management unit 16C, Study no: 13

Cover Type	Average Cover % '88
Vegetation	10.25
Rock	10.00
Pavement	1.25
Litter	53.00
Cryptogams	0
Bare Ground	25.50

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
88	3465	58	37	6	1600	2	0	4	13/21	
<i>Cercocarpus ledifolius</i>										
88	66	100	0	-	-	100	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	132	50	50	-	-	0	0	0	10/10	
<i>Mahonia repens</i>										
88	43466	22	78	-	12666	0	0	0	5/4	
<i>Symphoricarpos oreophilus</i>										
88	200	100	0	-	-	0	0	0	-/-	

RED POINT – STUDY NO. 16C-14

HERBACEOUS TRENDS--

Management unit 16C, Study no: 14

Type	Species	Nested Frequency '88
G	Agropyron cristatum	270
G	Agropyron intermedium	50
G	Elymus junceus	2
G	Oryzopsis hymenoides	24
G	Sitanion hystrix	45
Total for Annual Grasses		0
Total for Perennial Grasses		391
Total for Grasses		391
F	Cryptantha sp.	74
F	Erigeron sp.	4
F	Euphorbia sp.	137
F	Gilia sp. (a)	4
F	Lepidium montanum	2
F	Medicago sativa	5
F	Penstemon cyananthus	32
F	Schoenocrambe linifolia	10
F	Thelesperma subnudum	15
F	Townsendia incana	6
F	Unknown forb-perennial	3
Total for Annual Forbs		4
Total for Perennial Forbs		288
Total for Forbs		292

BASIC COVER--

Management unit 16C, Study no: 14

Cover Type	Average Cover % '88
Vegetation	3.50
Rock	14.25
Pavement	7.00
Litter	37.25
Cryptogams	0
Bare Ground	38.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 14

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Cercocarpus montanus									
88	400	0	100	-	-	33	50	0	50/41
Ephedra viridis									
88	866	54	46	-	-	85	8	0	24/30
Eriogonum microthecum									
88	533	38	62	-	-	0	0	0	2/2
Juniperus osteosperma									
88	200	100	0	-	-	0	0	0	-/-
Pinus edulis									
88	400	100	0	-	-	0	0	0	-/-
Purshia tridentata									
88	66	100	0	-	-	0	0	0	-/-
Yucca harrimaniae									
88	2133	25	75	-	-	0	0	0	17/15

HOWARD FS CHAINING – STUDY NO. 16C-15

HERBACEOUS TRENDS--

Management unit 16C, Study no: 15

Type	Species	Nested Frequency '88
G	Agropyron cristatum	246
G	Agropyron intermedium	6
G	Bromus inermis	4
G	Elymus junceus	35
G	Oryzopsis hymenoides	7
G	Sitanion hystrix	28
Total for Annual Grasses		0
Total for Perennial Grasses		326
Total for Grasses		326
F	Arabis sp.	15
F	Cirsium sp.	1
F	Cryptantha sp.	100
F	Eriogonum umbellatum	16
F	Medicago sativa	3
F	Penstemon carnosus	18
F	Schoenocrambe linifolia	16
F	Taraxacum officinale	2
F	Townsendia incana	2
F	Unknown forb-perennial	4
Total for Annual Forbs		0
Total for Perennial Forbs		177
Total for Forbs		177

BASIC COVER--

Management unit 16C, Study no: 15

Cover Type	Average Cover % '88
Vegetation	3.25
Rock	12.25
Pavement	4.00
Litter	52.50
Cryptogams	0
Bare Ground	28.00

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 15

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
8 8	66	0	100	-	-	0	0	0	6/14	
<i>Artemisia tridentata tridentata</i>										
8 8	5132	87	9	4	1866	19	4	5	30/28	
<i>Chrysothamnus nauseosus hololeucus</i>										
8 8	1998	90	3	7	466	37	7	7	29/21	
<i>Juniperus osteosperma</i>										
8 8	933	100	0	-	-	0	0	21	-/-	
<i>Pinus edulis</i>										
8 8	200	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis chained</i>										
8 8	66	0	0	100	-	0	0	0	-/-	

CHURCH MINE ROAD – STUDY NO. 16C-16

HERBACEOUS TRENDS--

Management unit 16C, Study no: 16

Type	Species	Nested Frequency '88
G	Agropyron cristatum	219
G	Elymus junceus	3
G	Oryzopsis hymenoides	7
G	Sitanion hystrix	25
Total for Annual Grasses		0
Total for Perennial Grasses		254
Total for Grasses		254
F	Cryptantha confertiflora	51
F	Eriogonum alatum	2
F	Euphorbia fendleri	45
F	Gilia congesta	5
F	Hymenoxys acaulis	29
F	Penstemon pachyphyllus	10
F	Thelesperma subnudum	35
F	Townsendia incana	6
Total for Annual Forbs		0
Total for Perennial Forbs		183
Total for Forbs		183

BASIC COVER--

Management unit 16C, Study no: 16

Cover Type	Average Cover % '88
Vegetation	2.25
Rock	9.25
Pavement	30.00
Litter	42.25
Cryptogams	0
Bare Ground	16.25

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 16

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Cercocarpus montanus</i>									
88	166	0	100	-	-	20	60	0	44/37
<i>Chrysothamnus viscidiflorus</i>									
88	2233	100	0	-	600	3	66	1	-/-
<i>Eriogonum microthecum</i>									
88	2232	64	34	1	433	3	0	7	3/2
<i>Gutierrezia sarothrae</i>									
88	432	54	38	8	66	0	0	8	5/4
<i>Juniperus osteosperma</i>									
88	33	100	0	-	33	0	0	0	-/-
<i>Opuntia sp.</i>									
88	66	0	100	-	-	0	0	0	3/8

MIDDLE MOUNTAIN – STUDY NO. 16C-17

HERBACEOUS TRENDS--

Management unit 16C, Study no: 17

Type	Species	Nested Frequency '88
G	<i>Agropyron spicatum</i>	44
G	<i>Carex</i> sp.	9
G	<i>Elymus salina</i>	244
G	<i>Koeleria cristata</i>	52
G	<i>Poa fendleriana</i>	56
Total for Annual Grasses		0
Total for Perennial Grasses		405
Total for Grasses		405
F	<i>Allium</i> sp.	54
F	<i>Antennaria</i> sp.	18
F	<i>Aster</i> sp.	54
F	<i>Astragalus</i> sp.	2
F	<i>Castilleja linariaefolia</i>	5
F	<i>Cirsium</i> sp.	105
F	<i>Comandra pallida</i>	60
F	<i>Crepis acuminata</i>	5
F	<i>Cryptantha</i> sp.	2
F	<i>Erigeron eatonii</i>	159
F	<i>Eriogonum umbellatum</i>	2
F	<i>Hymenopappus filifolius</i>	6
F	<i>Lomatium grayi</i>	38
F	<i>Penstemon caespitosus</i>	76
F	<i>Penstemon lentus</i>	4
F	<i>Phlox austromontana</i>	14
F	<i>Senecio multilobatus</i>	3
F	<i>Sphaeralcea coccinea</i>	10
F	<i>Taraxacum officinale</i>	8
Total for Annual Forbs		0
Total for Perennial Forbs		625
Total for Forbs		625

WILDLIFE MANAGEMENT UNIT 16

BASIC COVER--

Management unit 16C, Study no: 17

Cover Type	Average Cover % '88
Vegetation	5.75
Rock	6.50
Pavement	0
Litter	74.25
Cryptogams	0
Bare Ground	13.50

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 17

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	1200	100	0	-	33	3	67	11	-/-	
<i>Artemisia nova</i>										
88	599	56	22	22	-	28	6	6	7/8	
<i>Artemisia tridentata vaseyana</i>										
88	1933	21	41	38	633	28	45	7	17/23	
<i>Cercocarpus montanus</i>										
88	366	82	18	-	-	9	82	0	28/37	
<i>Chrysothamnus depressus</i>										
88	3199	57	41	2	-	26	18	1	4/10	
<i>Chrysothamnus nauseosus</i>										
88	33	0	100	-	-	0	0	100	20/19	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	365	36	45	18	-	18	9	0	9/12	
<i>Gutierrezia sarothrae</i>										
88	899	22	74	4	-	4	0	4	5/4	
<i>Opuntia sp.</i>										
88	33	0	0	100	-	0	0	100	-/-	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Pinus edulis										
8 8	33	100	0	-	-	0	0	0	-/-	
Quercus gambelii										
8 8	33	100	0	-	-	0	0	0	-/-	
Symphoricarpos oreophilus										
8 8	698	71	19	9	66	24	57	0	11/19	
Tetradymia canescens										
8 8	33	0	100	-	-	100	0	0	9/10	

EAST MOUNTAIN – STUDY NO. 16C-18

HERBACEOUS TRENDS--

Management unit 16C, Study no: 18

Type	Species	Nested Frequency '88
G	Agropyron smithii	69
G	Bromus anomalus	12
G	Carex sp.	24
G	Elymus salina	115
G	Poa fendleriana	68
G	Poa secunda	92
G	Stipa lettermani	15
Total for Annual Grasses		0
Total for Perennial Grasses		395
Total for Grasses		395
F	Arabis sp.	7
F	Astragalus megacarpus	9
F	Astragalus tenellus	26
F	Castilleja linariaefolia	88
F	Caulanthus crassicaulis	5
F	Chaenactis douglasii	17
F	Comandra pallida	3
F	Crepis acuminata	1
F	Erigeron pumilus	12
F	Eriogonum umbellatum	14
F	Hymenoxys richardsonii	39
F	Ipomopsis aggregata	9
F	Lesquerella alpina	11
F	Linum lewisii	5
F	Lupinus sericeus	71
F	Machaeranthera grindelioides	11
F	Penstemon comarrhenus	23
F	Penstemon watsonii	13
F	Phlox austromontana	160
F	Phlox longifolia	42
F	Senecio multilobatus	11
F	Taraxacum officinale	8
F	Tragopogon dubius (a)	1
Total for Annual Forbs		1
Total for Perennial Forbs		585
Total for Forbs		586

BASIC COVER--

Management unit 16C, Study no: 18

Cover Type	Average Cover % '88
Vegetation	10.75
Rock	2.50
Pavement	0
Litter	45.25
Cryptogams	0
Bare Ground	41.50

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 18

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
88	266	0	75	25	-	25	25	25	4/2	
<i>Artemisia tridentata vaseyana</i>										
88	4265	30	48	22	133	38	5	2	13/31	
<i>Chrysothamnus viscidiflorus</i>										
88	2465	38	41	22	333	22	14	0	5/5	
<i>Symphoricarpos oreophilus</i>										
88	866	69	23	8	200	23	0	0	13/21	
<i>Tetradymia canescens</i>										
88	0	0	0	-	66	0	0	0	-/-	

TRAIL MOUNTAIN ENCLOSURE – STUDY NO. 16C-19

HERBACEOUS TRENDS--

Management unit 16C, Study no: 19

Type	Species	Nested Frequency '88
G	Agropyron intermedium	7
G	Agropyron spicatum	61
G	Bromus inermis	32
G	Elymus salina	79
G	Poa fendleriana	173
G	Stipa pinetorum	60
Total for Annual Grasses		0
Total for Perennial Grasses		412
Total for Grasses		412
F	Antennaria parvifolia	25
F	Arabis sp.	12
F	Aster sp.	43
F	Astragalus tenellus	25
F	Calochortus nuttallii	7
F	Castilleja linariaefolia	11
F	Cirsium sp.	6
F	Comandra pallida	34
F	Crepis acuminata	4
F	Erigeron eatonii	52
F	Eriogonum umbellatum	17
F	Hedysarum boreale	3
F	Hymenoxys acaulis	10
F	Lesquerella sp.	7
F	Lupinus sp.	50
F	Machaeranthera canescens	10
F	Penstemon caespitosus	131
F	Penstemon sp.	41
F	Penstemon watsonii	4
F	Phlox austromontana	116
F	Senecio multilobatus	15
F	Taraxacum officinale	4
F	Unknown forb-perennial	7
F	Zigadenus paniculatus	1
Total for Annual Forbs		0
Total for Perennial Forbs		635
Total for Forbs		635

BASIC COVER--

Management unit 16C, Study no: 19

Cover Type	Average Cover % '88
Vegetation	9.00
Rock	0
Pavement	2.25
Litter	59.00
Cryptogams	1.00
Bare Ground	28.75

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 19

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	399	83	0	17	133	67	0	17	-/-	
<i>Artemisia tridentata vaseyana</i>										
88	4531	10	40	50	733	43	4	0	22/28	
<i>Ceratoides lanata</i>										
88	265	25	25	50	-	0	0	0	3/3	
<i>Chrysothamnus depressus</i>										
88	3599	6	85	9	-	30	2	0	4/9	
<i>Chrysothamnus viscidiflorus</i>										
88	533	0	100	-	-	0	0	0	6/7	
<i>Juniperus osteosperma</i>										
88	66	0	100	-	-	0	0	0	69/72	
<i>Pinus edulis</i>										
88	0	0	0	-	66	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
88	0	0	0	-	66	0	0	0	-/-	
<i>Tetradymia canescens</i>										
88	199	33	67	-	-	33	0	0	12/7	

MILES POINT – STUDY NO. 16C-20

HERBACEOUS TRENDS--

Management unit 16C, Study no: 20

Type	Species	Nested Frequency '88
G	Agropyron spicatum	212
G	Elymus salina	64
G	Poa fendleriana	7
G	Stipa lettermani	21
Total for Annual Grasses		0
Total for Perennial Grasses		304
Total for Grasses		304
F	Aster sp.	2
F	Astragalus convallarius	147
F	Calochortus nuttallii	1
F	Castilleja linariaefolia	13
F	Cirsium neomexicanum	4
F	Crepis acuminata	7
F	Machaeranthera canescens	9
F	Phlox longifolia	3
F	Tragopogon dubius (a)	4
F	Unknown forb-perennial	4
Total for Annual Forbs		4
Total for Perennial Forbs		190
Total for Forbs		194

BASIC COVER--

Management unit 16C, Study no: 20

Cover Type	Average Cover % '88
Vegetation	13.50
Rock	3.75
Pavement	3.50
Litter	58.75
Cryptogams	0
Bare Ground	20.50

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 20

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
88	2799	67	26	7	66	33	7	0	22/32	
<i>Chrysothamnus depressus</i>										
88	4731	6	80	14	-	42	17	3	3/7	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	5666	26	74	-	-	0	0	0	10/12	
<i>Symphoricarpos oreophilus</i>										
88	1800	67	33	-	200	41	30	4	13/33	
<i>Tetradymia canescens</i>										
88	332	20	80	-	-	40	20	0	7/10	

NORTH HORN CAP – STUDY NO. 16C-21

HERBACEOUS TRENDS--

Management unit 16C, Study no: 21

Type	Species	Nested Frequency '88
G	Carex sp.	3
G	Elymus salina	244
Total for Annual Grasses		0
Total for Perennial Grasses		247
Total for Grasses		247
F	Lomatium nuttallii	6
F	Penstemon caespitosus	1
F	Penstemon sp.	1
F	Phlox austromontana	2
F	Physaria chambersii	8
F	Schoenocrambe linifolia	7
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		27
Total for Forbs		27

BASIC COVER--

Management unit 16C, Study no: 21

Cover Type	Average Cover % '88
Vegetation	6.50
Rock	12.75
Pavement	1.50
Litter	47.75
Cryptogams	0
Bare Ground	31.50

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 21

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
8 8	66	50	0	50	33	50	50	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
8 8	233	0	57	43	-	29	29	0	8/18	
<i>Cercocarpus montanus</i>										
8 8	1532	52	43	4	66	9	76	0	39/45	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
8 8	466	21	79	-	-	7	7	0	7/9	
<i>Eriogonum corymbosum</i>										
8 8	533	6	19	75	33	25	63	0	9/13	
<i>Gutierrezia sarothrae</i>										
8 8	532	31	69	-	-	0	0	0	5/6	
<i>Symphoricarpos oreophilus</i>										
8 8	466	71	29	-	-	36	0	0	12/10	
<i>Tetradymia canescens</i>										
8 8	399	50	42	8	-	0	8	0	6/7	

NORTH HORN-ROCK CANYON – STUDY NO. 16C-22

HERBACEOUS TRENDS--

Management unit 16C, Study no: 22

Type	Species	Nested Frequency '88
G	Agropyron smithii	206
G	Bouteloua gracilis	66
G	Poa fendleriana	89
G	Sitanion hystrix	85
G	Stipa comata	47
Total for Annual Grasses		0
Total for Perennial Grasses		493
Total for Grasses		493
F	Allium sp.	3
F	Arabis sp.	1
F	Castilleja linariaefolia	36
F	Chaenactis douglasii	19
F	Crepis acuminata	22
F	Erigeron eatonii	7
F	Erigeron pumilus	7
F	Eriogonum racemosum	14
F	Haplopappus acaulis	4
F	Machaeranthera canescens	31
F	Penstemon watsonii	2
F	Phlox austromontana	18
F	Senecio multilobatus	29
F	Sphaeralcea coccinea	1
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		195
Total for Forbs		195

BASIC COVER--

Management unit 16C, Study no: 22

Cover Type	Average Cover % '88
Vegetation	6.25
Rock	.25
Pavement	12.25
Litter	45.00
Cryptogams	1.50
Bare Ground	34.75

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 22

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
88	533	38	62	-	-	50	25	0	19/12	
<i>Artemisia nova</i>										
88	11266	8	55	37	400	6	.59	12	7/11	
<i>Artemisia tridentata vaseyana</i>										
88	5132	17	51	32	466	21	12	8	10/15	
<i>Chrysothamnus depressus</i>										
88	6332	14	77	9	600	18	3	4	3/6	
<i>Gutierrezia sarothrae</i>										
88	399	33	67	-	-	0	0	0	6/7	
<i>Pinus edulis</i>										
88	0	0	0	-	66	0	0	0	-/-	
<i>Purshia tridentata</i>										
88	0	0	0	-	66	0	0	0	-/-	

BLACK DRAGON – STUDY NO. 16C-23

HERBACEOUS TRENDS--

Management unit 16C, Study no: 23

Type	Species	Nested Frequency '88
G	Agropyron cristatum	256
G	Agropyron intermedium	63
G	Agropyron spicatum	6
G	Oryzopsis hymenoides	51
G	Sitanion hystrix	17
G	Stipa comata	50
Total for Annual Grasses		0
Total for Perennial Grasses		443
Total for Grasses		443
F	Astragalus calycosus	19
F	Calochortus nuttallii	3
F	Erigeron pumilus	21
F	Machaeranthera canescens	37
F	Phlox longifolia	164
F	Senecio multilobatus	1
F	Sphaeralcea coccinea	66
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		312
Total for Forbs		312

BASIC COVER--

Management unit 16C, Study no: 23

Cover Type	Average Cover % '88
Vegetation	6.75
Rock	.75
Pavement	10.00
Litter	37.25
Cryptogams	1.00
Bare Ground	44.25

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 23

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
8 8	199	33	67	-	-	0	0	33	6/15	
Artemisia tridentata vaseyana										
8 8	49799	90	5	6	4333	3	6	1	8/12	
Ceratooides lanata										
8 8	1466	14	86	-	-	36	59	0	4/3	
Chrysothamnus viscidiflorus viscidiflorus										
8 8	13933	84	16	-	1933	1	0	0	5/8	
Opuntia sp.										
8 8	999	53	40	7	133	0	0	27	3/7	

SOUTH HORN ENCLOSURE – STUDY NO. 16C-24

HERBACEOUS TRENDS--

Management unit 16C, Study no: 24

Type	Species	Nested Frequency '88
G	Agropyron intermedium	144
G	Carex sp.	46
G	Poa secunda	60
G	Stipa comata	56
G	Stipa lettermani	11
Total for Annual Grasses		0
Total for Perennial Grasses		317
Total for Grasses		317
F	Arabis sp.	61
F	Comandra pallida	29
F	Crepis acuminata	57
F	Cryptantha sp.	38
F	Delphinium nuttallianum	13
F	Erigeron eatonii	75
F	Eriogonum alatum	23
F	Eriogonum umbellatum	13
F	Lupinus sp.	4
F	Machaeranthera canescens	18
F	Penstemon humilis	25
F	Phlox austromontana	49
F	Senecio multilobatus	24
F	Townsendia sp.	24
Total for Annual Forbs		0
Total for Perennial Forbs		453
Total for Forbs		453

BASIC COVER--

Management unit 16C, Study no: 24

Cover Type	Average Cover % '88
Vegetation	2.50
Rock	.75
Pavement	.75
Litter	75.00
Cryptogams	1.00
Bare Ground	20.00

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 24

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
8 8	333	60	40	-	200	40	0	0	42/31	
Artemisia tridentata vaseyana										
8 8	1866	11	68	21	533	14	4	4	16/22	
Cercocarpus montanus										
8 8	1799	44	56	-	1333	48	7	0	51/58	
Chrysothamnus viscidiflorus viscidiflorus										
8 8	1599	46	42	13	66	8	0	4	8/11	
Gutierrezia sarothrae										
8 8	1733	42	46	12	400	4	0	15	3/4	
Opuntia sp.										
8 8	7532	24	68	8	133	0	0	39	2/4	
Pinus edulis										
8 8	0	0	0	-	66	0	0	0	-/-	
Sclerocactus whipplei										
8 8	66	0	100	-	-	0	0	0	1/3	
Symphoricarpos oreophilus										
8 8	1666	84	16	-	266	12	8	0	15/9	

SOUTH HORN ¼ CORNER – STUDY NO. 16C-25

HERBACEOUS TRENDS--

Management unit 16C, Study no: 25

Type	Species	Nested Frequency '88
G	<i>Bouteloua gracilis</i>	9
G	<i>Elymus salina</i>	19
G	<i>Koeleria cristata</i>	91
G	<i>Poa fendleriana</i>	254
G	<i>Poa secunda</i>	64
G	<i>Sitanion hystrix</i>	52
G	<i>Stipa comata</i>	143
Total for Annual Grasses		0
Total for Perennial Grasses		632
Total for Grasses		632
F	<i>Allium</i> sp.	14
F	<i>Antennaria</i> sp.	4
F	<i>Arabis</i> sp.	73
F	<i>Aster</i> sp.	1
F	<i>Astragalus</i> sp.	1
F	<i>Castilleja chromosa</i>	183
F	<i>Castilleja linariaefolia</i>	3
F	<i>Crepis acuminata</i>	169
F	<i>Cryptantha</i> sp.	51
F	<i>Delphinium nuttallianum</i>	14
F	<i>Erigeron eatonii</i>	113
F	<i>Erigeron pumilus</i>	16
F	<i>Eriogonum racemosum</i>	19
F	<i>Eriogonum umbellatum</i>	166
F	<i>Linum lewisii</i>	1
F	<i>Lithospermum ruderales</i>	8
F	<i>Machaeranthera grindelioides</i>	22
F	<i>Penstemon humilis</i>	36
F	<i>Phlox austromontana</i>	121
F	<i>Senecio multilobatus</i>	23
F	<i>Townsendia</i> sp.	2
F	<i>Trifolium</i> sp.	75
F	<i>Zigadenus paniculatus</i>	15
Total for Annual Forbs		0
Total for Perennial Forbs		1130
Total for Forbs		1130

BASIC COVER--

Management unit 16C, Study no: 25

Cover Type	Average Cover % '88
Vegetation	12.50
Rock	.25
Pavement	1.50
Litter	44.25
Cryptogams	4.00
Bare Ground	37.50

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 25

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
88	0	0	0	-	133	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
88	10132	33	22	45	133	33	14	10	10/13	
<i>Chrysothamnus depressus</i>										
88	4399	42	36	21	133	21	15	8	3/5	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	1666	76	24	-	-	12	20	0	6/6	
<i>Gutierrezia sarothrae</i>										
88	266	50	50	-	-	0	0	0	3/4	
<i>Leptodactylon pungens</i>										
88	9598	18	77	5	466	.69	0	1	4/4	

DRY MOUNTAIN – STUDY NO. 16C-26

HERBACEOUS TRENDS--

Management unit 16C, Study no: 26

Type	Species	Nested Frequency '88
G	Agropyron smithii	105
G	Bouteloua gracilis	64
G	Carex sp.	1
G	Oryzopsis hymenoides	6
G	Poa fendleriana	12
G	Sporobolus cryptandrus	3
G	Stipa comata	117
Total for Annual Grasses		0
Total for Perennial Grasses		308
Total for Grasses		308
F	Antennaria sp.	2
F	Arabis perennans	13
F	Arabis sp.	23
F	Astragalus convallarius	2
F	Chaenactis douglasii	12
F	Crepis acuminata	4
F	Erigeron pumilus	3
F	Eriogonum racemosum	4
F	Oenothera caespitosa	3
F	Schoenocrambe linifolia	22
F	Senecio multilobatus	36
Total for Annual Forbs		0
Total for Perennial Forbs		124
Total for Forbs		124

BASIC COVER--

Management unit 16C, Study no: 26

Cover Type	Average Cover % '88
Vegetation	5.75
Rock	2.25
Pavement	.25
Litter	69.50
Cryptogams	2.50
Bare Ground	19.75

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 26

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
8 8	7199	27	42	31	999	61	7	2	19/29	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
8 8	5065	25	71	4	133	1	1	0	8/9	
<i>Juniperus osteosperma</i>										
8 8	66	100	0	-	-	0	0	0	-/-	
<i>Leptodactylon pungens</i>										
8 8	2465	38	59	3	133	0	0	0	5/5	
<i>Opuntia sp.</i>										
8 8	200	0	100	-	-	0	0	0	2/2	
<i>Pinus edulis</i>										
8 8	266	100	0	-	133	0	0	0	-/-	
<i>Purshia tridentata</i>										
8 8	999	27	60	13	66	67	0	0	14/28	

BIRCH CREEK CHAINING – STUDY NO. 16C-27

HERBACEOUS TRENDS--

Management unit 16C, Study no: 27

Type	Species	Nested Frequency '88
G	Agropyron cristatum	159
G	Agropyron intermedium	162
G	Bromus inermis	77
G	Oryzopsis hymenoides	37
G	Sitanion hystrix	23
G	Stipa pinetorum	9
Total for Annual Grasses		0
Total for Perennial Grasses		467
Total for Grasses		467
F	Chenopodium glaucum (a)	9
F	Cryptantha sp.	1
F	Ipomopsis aggregata	3
F	Penstemon caespitosus	5
F	Senecio multilobatus	11
Total for Annual Forbs		9
Total for Perennial Forbs		20
Total for Forbs		29

BASIC COVER--

Management unit 16C, Study no: 27

Cover Type	Average Cover % '88
Vegetation	2.50
Rock	1.75
Pavement	2.00
Litter	65.00
Cryptogams	0
Bare Ground	28.75

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 27

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
8 8	3132	34	53	13	600	43	28	4	12/18	
<i>Gutierrezia sarothrae</i>										
8 8	66	0	100	-	-	0	0	0	27/11	
<i>Juniperus osteosperma</i>										
8 8	132	50	50	-	-	0	0	0	47/19	
<i>Opuntia sp.</i>										
8 8	66	0	0	100	-	0	0	100	-/-	
<i>Pinus edulis</i>										
8 8	332	80	20	-	-	0	0	20	43/57	

SOUTH OF DRY WASH – STUDY NO. 16C-28

HERBACEOUS TRENDS--

Management unit 16C, Study no: 28

Type	Species	Nested Frequency '88
G	Agropyron cristatum	4
G	Oryzopsis hymenoides	116
G	Sitanion hystrix	20
Total for Annual Grasses		0
Total for Perennial Grasses		140
Total for Grasses		140
F	Cryptantha sp.	45
F	Eriogonum ovalifolium	4
F	Machaeranthera canescens	2
F	Penstemon carnosus	23
F	Phlox austromontana	4
F	Thelesperma subnudum	14
F	Thelypodopsis saggittata	12
F	Townsendia incana	3
Total for Annual Forbs		0
Total for Perennial Forbs		107
Total for Forbs		107

BASIC COVER--

Management unit 16C, Study no: 28

Cover Type	Average Cover % '88
Vegetation	2.25
Rock	6.00
Pavement	16.25
Litter	52.00
Cryptogams	.25
Bare Ground	23.25

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 28

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
88	2332	36	53	11	233	19	0	3	8/17	
<i>Cercocarpus montanus</i>										
88	232	28	57	14	1166	0	0	14	45/47	
<i>Ephedra viridis</i>										
88	832	20	52	28	100	4	8	4	27/22	
<i>Eriogonum microthecum</i>										
88	966	14	83	3	66	0	0	0	2/2	
<i>Juniperus osteosperma</i>										
88	199	83	17	-	33	0	0	0	63/41	
<i>Opuntia polyacantha</i>										
88	399	33	58	8	-	0	0	8	2/5	
<i>Pinus edulis</i>										
88	399	83	17	-	166	0	0	8	44/52	

SCAB HOLLOW – STUDY NO. 16C-29

HERBACEOUS TRENDS--

Management unit 16C, Study no: 29

Type	Species	Nested Frequency '88
G	Agropyron trachycaulum	18
G	Carex sp.	4
G	Elymus salina	286
G	Oryzopsis hymenoides	27
G	Poa sp.	3
Total for Annual Grasses		0
Total for Perennial Grasses		338
Total for Grasses		338
F	Astragalus convallarius	3
F	Calochortus nuttallii	1
F	Castilleja linariaefolia	3
F	Chaenactis douglasii	3
F	Comandra pallida	61
F	Erigeron sp.	2
F	Hymenopappus filifolius	8
F	Hymenoxys richardsonii	12
F	Lesquerella sp.	28
F	Lithospermum ruderales	3
F	Machaeranthera canescens	9
F	Machaeranthera grindelioides	51
F	Penstemon caespitosus	6
F	Petradoria pumila	8
F	Phlox hoodii	14
F	Senecio multilobatus	1
Total for Annual Forbs		0
Total for Perennial Forbs		213
Total for Forbs		213

BASIC COVER--

Management unit 16C, Study no: 29

Cover Type	Average Cover % '88
Vegetation	5.50
Rock	6.50
Pavement	13.25
Litter	51.00
Cryptogams	0
Bare Ground	23.75

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 29

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
88	66	0	100	-	-	0	0	0	12/15	
<i>Cercocarpus ledifolius</i>										
88	165	40	40	20	33	20	0	0	119/116	
<i>Eriogonum corymbosum</i>										
88	66	50	0	50	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
88	1499	9	91	-	-	0	0	0	8/10	
<i>Juniperus scopulorum</i>										
88	33	100	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
88	899	96	0	4	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
88	66	100	0	-	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
88	66	50	50	-	33	0	0	0	8/11	

UPPER HOLE TRAIL – STUDY NO. 16C-30

HERBACEOUS TRENDS--

Management unit 16C, Study no: 30

Type	Species	Nested Frequency '88
G	Agropyron smithii	32
G	Carex sp.	6
G	Elymus salina	251
G	Koeleria cristata	10
G	Oryzopsis hymenoides	10
G	Poa fendleriana	63
G	Sitanion hystrix	1
G	Stipa comata	7
Total for Annual Grasses		0
Total for Perennial Grasses		380
Total for Grasses		380
F	Astragalus convallarius	2
F	Astragalus tenellus	10
F	Castilleja linariaefolia	62
F	Caulanthus crassicaulis	3
F	Chaenactis douglasii	23
F	Cirsium sp.	1
F	Crepis acuminata	13
F	Cryptantha sp.	1
F	Cymopterus sp.	2
F	Erigeron eatonii	40
F	Erigeron pumilus	8
F	Erigeron speciosus	16
F	Hymenopappus filifolius	10
F	Hymenoxys richardsonii	28
F	Lesquerella sp.	7
F	Lupinus argenteus	2
F	Machaeranthera canescens	46
F	Machaeranthera grindelioides	37
F	Oxytropis lambertii	22
F	Penstemon carnosus	34
F	Penstemon sp.	33
F	Petradoria pumila	19
F	Senecio multilobatus	3
F	Taraxacum officinale	4
Total for Annual Forbs		0

Type	Species	Nested Frequency '88
Total for Perennial Forbs		426
Total for Forbs		426

BASIC COVER--

Management unit 16C, Study no: 30

Cover Type	Average Cover % '88
Vegetation	13.25
Rock	.50
Pavement	0
Litter	55.50
Cryptogams	.25
Bare Ground	30.50

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 30

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
88	4799	99	1	-	1333	7	0	0	27/12
<i>Artemisia nova</i>									
88	265	25	50	25	-	0	0	25	7/8
<i>Artemisia tridentata vaseyana</i>									
88	2132	41	44	16	800	9	3	38	20/21
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
88	1065	31	63	6	-	6	6	56	2/4
<i>Gutierrezia sarothrae</i>									
88	66	0	100	-	-	0	0	0	6/2
<i>Purshia tridentata</i>									
88	1132	53	41	6	-	41	0	0	12/39

WILDLIFE MANAGEMENT UNIT 16

		Age class distribution					Utilization		
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Symphoricarpos oreophilus</i>									
8 8	1532	96	4	-	733	0	0	0	64/43
<i>Tetradymia canescens</i>									
8 8	666	70	30	-	-	0	0	0	5/6
<i>Yucca baileyi navajoa</i>									
8 8	66	0	100	-	-	0	0	0	9/10

BOX CANYON KNOLLS – STUDY NO. 16C-31

HERBACEOUS TRENDS--

Management unit 16C, Study no: 31

Type	Species	Nested Frequency '88
G	<i>Agropyron trachycaulum</i>	121
G	<i>Festuca ovina</i>	26
G	<i>Poa fendleriana</i>	130
G	<i>Sitanion hystrix</i>	27
G	<i>Stipa pinetorum</i>	236
Total for Annual Grasses		0
Total for Perennial Grasses		540
Total for Grasses		540
F	<i>Antennaria parvifolia</i>	5
F	<i>Arabis</i> sp.	18
F	<i>Astragalus agrestis</i>	8
F	<i>Calochortus nuttallii</i>	20
F	<i>Castilleja linariaefolia</i>	46
F	<i>Chaenactis douglasii</i>	21
F	<i>Crepis acuminata</i>	11
F	<i>Erigeron eatonii</i>	197
F	<i>Erigeron pumilus</i>	7
F	<i>Eriogonum racemosum</i>	72
F	<i>Eriogonum umbellatum</i>	24
F	<i>Hymenoxys richardsonii</i>	9
F	<i>Lupinus argenteus</i>	3
F	<i>Machaeranthera canescens</i>	9
F	<i>Penstemon caespitosus</i>	31
F	<i>Townsendia incana</i>	1
F	<i>Tragopogon dubius</i> (a)	2
Total for Annual Forbs		2
Total for Perennial Forbs		482
Total for Forbs		484

BASIC COVER--

Management unit 16C, Study no: 31

Cover Type	Average Cover % '88
Vegetation	8.75
Rock	1.25
Pavement	.25
Litter	35.75
Cryptogams	.50
Bare Ground	53.50

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 31

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
88	10332	36	30	34	6133	17	2	9	8/13	
<i>Artemisia tridentata vaseyana</i>										
88	333	60	0	40	-	40	0	0	-/-	
<i>Ceratoides lanata</i>										
88	1265	16	79	5	66	0	0	0	6/6	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
88	32599	22	64	14	1200	7	0	4	3/6	
<i>Opuntia polyacantha</i>										
88	133	0	100	-	-	0	0	0	2/6	

MUDDY CREEK – STUDY NO. 16C-32

HERBACEOUS TRENDS--

Management unit 16C, Study no: 32

Type	Species	Nested Frequency '88
G	Bouteloua gracilis	2
G	Oryzopsis hymenoides	64
G	Sitanion hystrix	94
G	Sporobolus cryptandrus	5
Total for Annual Grasses		0
Total for Perennial Grasses		165
Total for Grasses		165
F	Arabis sp.	1
F	Astragalus sp.	23
F	Erigeron pumilus	7
F	Machaeranthera canescens	11
F	Sphaeralcea coccinea	5
F	Townsendia incana	54
Total for Annual Forbs		0
Total for Perennial Forbs		101
Total for Forbs		101

BASIC COVER--

Management unit 16C, Study no: 32

Cover Type	Average Cover % '88
Vegetation	2.50
Rock	0
Pavement	.75
Litter	20.00
Cryptogams	10.00
Bare Ground	66.75

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 32

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia spinescens</i>									
88	1399	57	38	5	66	0	0	0	3/5
<i>Artemisia tridentata wyomingensis</i>									
88	7532	52	34	14	666	25	11	0	15/19
<i>Atriplex confertifolia</i>									
88	7865	46	36	18	999	11	6	0	9/10
<i>Ceratoides lanata</i>									
88	600	33	67	-	-	11	33	0	6/6
<i>Chrysothamnus viscidiflorus</i>									
88	9466	51	49	-	66	4	.70	.70	7/9
<i>Opuntia sp.</i>									
88	133	0	100	-	-	0	0	0	6/16
<i>Sarcobatus vermiculatus</i>									
88	399	83	17	-	-	0	17	0	19/31
<i>Sclerocactus sp.</i>									
88	666	0	100	-	-	0	0	0	3/0
<i>Tetradymia spinosa</i>									
88	66	0	100	-	-	0	0	0	12/16

PLEASANT CREEK – STUDY NO. 16C-38

HERBACEOUS TRENDS--

Management unit 16C, Study no: 38

Type	Species	Nested Frequency '89
G	<i>Agropyron spicatum</i>	166
G	<i>Melica bulbosa</i>	1
G	<i>Poa fendleriana</i>	8
G	<i>Poa pratensis</i>	115
G	<i>Poa secunda</i>	10
G	<i>Sitanion hystrix</i>	16
G	<i>Stipa lettermani</i>	15
Total for Annual Grasses		0
Total for Perennial Grasses		331
Total for Grasses		331
F	<i>Allium sp.</i>	3
F	<i>Arabis sp.</i>	4
F	<i>Aster sp.</i>	79
F	<i>Astragalus convallarius</i>	40
F	<i>Astragalus sp.</i>	14
F	<i>Chaenactis douglasii</i>	13
F	<i>Cirsium sp.</i>	13
F	<i>Cynoglossum officinale</i>	94
F	<i>Eriogonum umbellatum</i>	28
F	<i>Hackelia patens</i>	97
F	<i>Linum kingii</i>	7
F	<i>Lithospermum ruderales</i>	3
F	<i>Machaeranthera canescens</i>	79
F	<i>Penstemon humilis</i>	242
F	<i>Phlox longifolia</i>	123
F	<i>Sphaeralcea coccinea</i>	10
F	<i>Taraxacum officinale</i>	1
F	<i>Tragopogon dubius (a)</i>	4
F	<i>Viguiera multiflora</i>	35
Total for Annual Forbs		4
Total for Perennial Forbs		885
Total for Forbs		889

BASIC COVER--

Management unit 16C, Study no: 38

Cover Type	Average Cover % '89
Vegetation	16.50
Rock	1.75
Pavement	2.75
Litter	54.00
Cryptogams	0
Bare Ground	25.00

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 38

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
89	133	0	100	-	-	50	50	0	17/15	
<i>Artemisia tridentata vaseyana</i>										
89	1799	19	59	22	66	15	0	4	27/34	
<i>Chrysothamnus nauseosus albicaulis</i>										
89	866	23	46	31	-	15	0	0	35/22	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
89	18065	34	54	13	66	21	8	0	11/12	
<i>Juniperus osteosperma</i>										
89	66	0	100	-	-	0	0	0	93/89	
<i>Purshia tridentata</i>										
89	66	0	100	-	-	100	0	0	16/26	
<i>Rosa woodsii</i>										
89	2333	51	49	-	-	0	0	0	14/16	
<i>Symphoricarpos oreophilus</i>										
89	3866	34	57	9	266	12	0	3	17/17	

COVE CREEK – STUDY NO. 16C-39

HERBACEOUS TRENDS--

Management unit 16C, Study no: 39

Type	Species	Nested Frequency '89
G	Agropyron spicatum	15
G	Oryzopsis hymenoides	1
G	Poa pratensis	19
G	Poa secunda	23
G	Sporobolus cryptandrus	22
G	Stipa comata	27
Total for Annual Grasses		0
Total for Perennial Grasses		107
Total for Grasses		107
F	Artemisia ludoviciana	3
F	Cirsium sp.	1
F	Convolvulus arvensis	234
F	Cynoglossum officinale	16
F	Eriogonum racemosum	9
F	Erodium cicutarium (a)	127
F	Lactuca serriola (a)	9
F	Lithospermum ruderales	4
F	Machaeranthera canescens	23
F	Phlox longifolia	3
F	Sisymbrium altissimum (a)	6
Total for Annual Forbs		142
Total for Perennial Forbs		293
Total for Forbs		435

BASIC COVER--

Management unit 16C, Study no: 39

Cover Type	Average Cover % '89
Vegetation	20.50
Rock	3.75
Pavement	0
Litter	53.25
Cryptogams	0
Bare Ground	22.50

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
Management unit 16C, Study no: 39

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata tridentata									
89	1266	92	8	-	600	32	11	5	28/30
Gutierrezia sarothrae									
89	33	0	100	-	-	0	0	0	5/4
Opuntia sp.									
89	732	23	59	18	-	0	0	5	9/52
Purshia tridentata									
89	832	48	44	8	100	28	56	0	38/53

CEDAR MOUNTAIN – 16C-40

HERBACEOUS TRENDS--

Management unit 16C, Study no: 40

Type	Species	Nested Frequency '85
G	Agropyron cristatum	111
G	Agropyron intermedium	248
G	Bromus inermis	113
G	Elymus salina	3
G	Festuca ovina	4
G	Hordeum jubatum jubatum	6
G	Koeleria cristata	7
G	Oryzopsis hymenoides	6
Total for Annual Grasses		0
Total for Perennial Grasses		498
Total for Grasses		498
F	Arabis sp.	5
F	Astragalus marianus	3
F	Carduus nutans (a)	1
F	Cryptantha sp.	7
F	Eriogonum umbellatum	11
F	Gilia sp. (a)	1
F	Penstemon pachyphyllus	3
F	Phlox austromontana	19
F	Tragopogon dubius (a)	4
Total for Annual Forbs		6
Total for Perennial Forbs		48
Total for Forbs		54

BASIC COVER--

Management unit 16C, Study no: 40

Cover Type	Average Cover % '85
Vegetation	7.25
Rock	5.50
Pavement	9.25
Litter	63.25
Cryptogams	.25
Bare Ground	14.50

WILDLIFE MANAGEMENT UNIT 16

BROWSE CHARACTERISTICS--
 Management unit 16C, Study no: 40

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Juniperus osteosperma									
85	132	0	50	50	-	0	0	0	47/43

TROUGH HOLLOW – STUDY NO. 16C-41

HERBACEOUS TRENDS--

Management unit 16C, Study no: 41

Type	Species	Nested Frequency '85
G	<i>Agropyron smithii</i>	99
G	<i>Bouteloua gracilis</i>	12
G	<i>Bromus ciliatus</i>	16
G	<i>Bromus inermis</i>	5
G	<i>Carex</i> sp.	5
G	<i>Festuca ovina</i>	13
G	<i>Poa fendleriana</i>	227
G	<i>Poa pratensis</i>	13
G	<i>Sitanion hystrix</i>	162
G	<i>Stipa columbiana</i>	2
G	<i>Stipa lettermani</i>	119
Total for Annual Grasses		0
Total for Perennial Grasses		673
Total for Grasses		673
F	<i>Antennaria</i> sp.	14
F	<i>Aster</i> sp.	4
F	<i>Astragalus convallarius</i>	113
F	<i>Astragalus</i> sp.	4
F	<i>Calochortus nuttallii</i>	90
F	<i>Castilleja chromosa</i>	5
F	<i>Cirsium wheeleri</i>	3
F	<i>Crepis acuminata</i>	12
F	<i>Erigeron caespitosus</i>	10
F	<i>Erigeron eatonii</i>	105
F	<i>Erigeron flagellaris</i>	16
F	<i>Erigeron pumilus</i>	5
F	<i>Eriogonum racemosum</i>	112
F	<i>Eriogonum umbellatum</i>	9
F	<i>Ipomopsis aggregata</i>	5
F	<i>Lupinus argenteus</i>	8
F	<i>Oxybaphus linearis</i>	12
F	<i>Penstemon pachyphyllus</i>	5
F	<i>Penstemon palmeri</i>	2
F	<i>Penstemon watsonii</i>	5
F	<i>Taraxacum officinale</i>	23

WILDLIFE MANAGEMENT UNIT 16

Type	Species	Nested Frequency '85
F	Trifolium sp.	6
F	Unknown forb-perennial	34
F	Vicia americana	18
F	Zigadenus paniculatus	6
Total for Annual Forbs		0
Total for Perennial Forbs		626
Total for Forbs		626

BASIC COVER--

Management unit 16C, Study no: 41

Cover Type	Average Cover % '85
Vegetation	13.25
Rock	0
Pavement	0
Litter	73.00
Cryptogams	.75
Bare Ground	13.00

BROWSE CHARACTERISTICS--

Management unit 16C, Study no: 41

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Amelanchier utahensis									
85	599	89	11	-	66	33	0	0	10/15
Artemisia tridentata vaseyana									
85	4332	9	46	45	666	40	0	14	26/25
Chrysothamnus viscidiflorus viscidiflorus									
85	1800	33	67	-	-	0	0	0	5/8
Mahonia repens									
85	1666	16	84	-	-	0	0	0	3/3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
85	1932	21	76	3	200	45	21	0	19/28	
<i>Symphoricarpos oreophilus</i>										
85	733	73	27	-	200	0	0	0	9/10	

WILDLIFE MANAGEMENT UNIT 17

NORTH MILL CREEK – STUDY NO. 17-1

HERBACEOUS TRENDS--

Management unit 17, Study no: 1

Type	Species	Nested Frequency '83
G	Agropyron spicatum	195
G	Poa pratensis	3
Total for Annual Grasses		0
Total for Perennial Grasses		198
Total for Grasses		198
F	Achillea millefolium	29
F	Agoseris glauca	42
F	Allium campanulatum	14
F	Artemisia ludoviciana	4
F	Aster chilensis	1
F	Calochortus nuttallii	4
F	Cirsium sp.	9
F	Comandra pallida	9
F	Crepis acuminata	17
F	Cymopterus sp.	15
F	Hedysarum boreale	27
F	Heterotheca villosa	-
F	Lactuca serriola (a)	36
F	Lomatium sp.	3
F	Phlox longifolia	47
F	Taraxacum officinale	6
F	Tragopogon dubius (a)	60
F	Zigadenus sp.	3
Total for Annual Forbs		96
Total for Perennial Forbs		230
Total for Forbs		326

BASIC COVER--

Management unit 17, Study no: 1

Cover Type	Average Cover % '83
Vegetation	8.50
Rock	9.25
Pavement	1.00
Litter	74.75
Cryptogams	1.00
Bare Ground	5.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
83	398	17	17	67	-	0	100	33	10/13	
Quercus gambelii										
83	17198	47	52	2	4866	7	37	0	50/28	

HOLLADAY GUN CLUB – STUDY NO. 17-2

HERBACEOUS TRENDS--

Management unit 17, Study no: 2

Type	Species	Nested Frequency '83
G	Poa fendleriana	32
G	Poa sp.	3
Total for Annual Grasses		0
Total for Perennial Grasses		35
Total for Grasses		35
F	Achillea millefolium	107
F	Agoseris glauca	13
F	Allium campanulatum	4
F	Allium sp.	28
F	Brodiaea douglasii	4
F	Collomia linearis (a)	23
F	Crepis acuminata	3
F	Cymopterus sp.	7
F	Lactuca serriola (a)	10
F	Montia perfoliata (a)	-
F	Petradoria pumila	3
F	Plectritis macrocera (a)	3
F	Unknown forb-perennial	18
F	Viola sp.	1
F	Wyethia amplexicaulis	37
Total for Annual Forbs		36
Total for Perennial Forbs		225
Total for Forbs		261

BASIC COVER--

Management unit 17, Study no: 2

Cover Type	Average Cover % '83
Vegetation	2.00
Rock	1.25
Pavement	4.00
Litter	89.50
Cryptogams	.25
Bare Ground	3.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	266	0	25	75	-	0	100	100	4/9	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	-	0	0	0	67/67	
<i>Quercus gambelii</i>										
83	9132	56	39	4	1066	39	4	15	39/23	

DEAF SMITH FORK – STUDY NO. 17-3

HERBACEOUS TRENDS--

Management unit 17, Study no: 3

Type	Species	Nested Frequency '83
G	<i>Agropyron spicatum</i>	205
G	<i>Melica bulbosa</i>	3
G	<i>Poa fendleriana</i>	55
G	<i>Poa pratensis</i>	168
G	<i>Poa secunda</i>	24
Total for Annual Grasses		0
Total for Perennial Grasses		455
Total for Grasses		455
F	<i>Agoseris glauca</i>	43
F	<i>Allium sp.</i>	48
F	<i>Artemisia ludoviciana</i>	12
F	<i>Calochortus nuttallii</i>	19
F	<i>Cirsium vulgare</i>	5
F	<i>Comandra pallida</i>	24
F	<i>Crepis acuminata</i>	27
F	<i>Cryptantha sp.</i>	6
F	<i>Cymopterus longipes</i>	9
F	<i>Delphinium nuttallianum</i>	25
F	<i>Erigeron sp.</i>	1
F	<i>Hackelia patens</i>	15
F	<i>Lathyrus pauciflorus</i>	4
F	<i>Lomatium dissectum</i>	24
F	<i>Lomatium triternatum</i>	7
F	<i>Lupinus sericeus</i>	20
F	<i>Mertensia brevistyla</i>	46
F	<i>Montia perfoliata (a)</i>	2
F	<i>Phlox longifolia</i>	6
F	<i>Rumex crispus</i>	3
F	<i>Senecio integerrimus</i>	33
F	<i>Solidago sp.</i>	7
F	<i>Tragopogon dubius (a)</i>	5
F	Unknown forb-perennial	3
F	<i>Wyethia amplexicaulis</i>	233
F	<i>Zigadenus paniculatus</i>	5
Total for Annual Forbs		7
Total for Perennial Forbs		625
Total for Forbs		632

BASIC COVER--

Management unit 17, Study no: 3

Cover Type	Average Cover % '83
Vegetation	6.25
Rock	16.25
Pavement	1.25
Litter	69.00
Cryptogams	0
Bare Ground	7.25

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata tridentata										
83	1000	0	70	30	-	100	0	57	19/30	
Rosa woodsii										
83	33	0	100	-	-	0	100	100	21/12	

CHERRY CANYON – STUDY NO. 17-4

HERBACEOUS TRENDS--

Management unit 17, Study no: 4

Type	Species	Nested Frequency '83
G	Agropyron spicatum	133
G	Poa secunda	40
Total for Annual Grasses		0
Total for Perennial Grasses		173
Total for Grasses		173
F	Artemisia ludoviciana	16
F	Aster sp.	1
F	Eriogonum sp.	1
Total for Annual Forbs		0
Total for Perennial Forbs		18
Total for Forbs		18

BASIC COVER--

Management unit 17, Study no: 4

Cover Type	Average Cover % '83
Vegetation	8.75
Rock	13.00
Pavement	26.50
Litter	50.75
Cryptogams	0
Bare Ground	1.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 4

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata tridentata									
83	1766	15	74	11	166	2	0	6	31/37
Gutierrezia sarothrae									
83	233	14	86	-	-	0	0	0	9/11

DEER CREEK DAM – STUDY NO. 17-5

HERBACEOUS TRENDS--

Management unit 17, Study no: 5

Type	Species	Nested Frequency '83
G	Agropyron spicatum	5
G	Poa fendleriana	3
G	Poa pratensis	96
G	Poa secunda	1
Total for Annual Grasses		0
Total for Perennial Grasses		105
Total for Grasses		105
F	Allium sp.	31
F	Artemisia ludoviciana	3
F	Astragalus convallarius	13
F	Calochortus nuttallii	14
F	Cirsium undulatum	21
F	Hedysarum boreale	69
F	Lithospermum ruderales	1
F	Lupinus argenteus	8
F	Machaeranthera canescens	2
F	Oenothera sp.	4
F	Phlox longifolia	26
F	Solidago sp.	3
Total for Annual Forbs		0
Total for Perennial Forbs		195
Total for Forbs		195

BASIC COVER--

Management unit 17, Study no: 5

Cover Type	Average Cover % '83
Vegetation	4.25
Rock	1.25
Pavement	5.50
Litter	82.75
Cryptogams	.25
Bare Ground	6.00

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 5

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	2532	5	71	24	-	32	18	53	23/33

DANIELS CANYON – STUDY NO. 17-6

HERBACEOUS TRENDS--

Management unit 17, Study no: 6

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron spicatum	2	5
G	Oryzopsis hymenoides	9	29
G	Poa fendleriana	-	4
G	Poa pratensis	-	1
G	Poa secunda	-	2
G	Sporobolus cryptandrus	45	39
Total for Annual Grasses		0	0
Total for Perennial Grasses		56	80
Total for Grasses		56	80
F	Agoseris glauca	3	-
F	Antennaria sp.	-	-
F	Artemisia ludoviciana	34	31
F	Astragalus utahensis	-	1
F	Calochortus nuttallii	5	6
F	Chaenactis douglasii	-	1
F	Cirsium sp.	1	17
F	Erigeron sp.	3	-
F	Eriogonum racemosum	-	14
F	Helianthus annuus (a)	-	41
F	Heterotheca villosa	8	23
F	Lactuca serriola (a)	14	4
F	Oenothera albicaulis (a)	13	13
F	Penstemon sp.	-	1
F	Phlox longifolia	-	2
F	Sphaeralcea coccinea	16	2
F	Taraxacum officinale	-	1
F	Tragopogon dubius (a)	37	13
F	Trifolium sp.	-	63
F	Verbascum thapsus	-	3
F	Vicia americana	-	2
F	Viguiera multiflora	19	57
Total for Annual Forbs		64	71
Total for Perennial Forbs		89	224
Total for Forbs		153	295

WILDLIFE MANAGEMENT UNIT 17

BASIC COVER--

Management unit 17, Study no: 6

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.00	7.00
Rock	12.75	18.00
Pavement	28.50	48.75
Litter	51.25	23.00
Cryptogams	3.25	0
Bare Ground	1.25	3.25

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	4265	16	72	12	-	33	0	0	14/17	
89	3465	19	71	10	-	23	56	0	12/13	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	66	0	100	-	-	0	0	0	41/39	
89	66	0	100	-	-	0	0	0	47/39	
<i>Gutierrezia sarothrae</i>										
83	2266	6	94	-	-	0	0	0	14/15	
89	11799	2	98	-	899	0	0	0	8/9	
<i>Opuntia sp.</i>										
83	533	0	100	0	-	0	0	0	7/10	
89	732	45	45	9	-	0	0	12	3/6	

WHISKEY SPRINGS – STUDY NO. 17-8

HERBACEOUS TRENDS--

Management unit 17, Study no: 8

Type	Species	Nested Frequency '83
G	Agropyron spicatum	125
G	Poa fendleriana	68
G	Poa pratensis	15
G	Poa secunda	20
Total for Annual Grasses		0
Total for Perennial Grasses		228
Total for Grasses		228
F	Arabis sp.	6
F	Artemisia ludoviciana	51
F	Aster chilensis	5
F	Astragalus utahensis	6
F	Calochortus nuttallii	5
F	Chaenactis douglasii	2
F	Cirsium undulatum	28
F	Lathyrus sp.	161
F	Oenothera sp.	3
F	Tragopogon dubius (a)	75
F	Viguiera multiflora	12
Total for Annual Forbs		75
Total for Perennial Forbs		279
Total for Forbs		354

BASIC COVER--

Management unit 17, Study no: 8

Cover Type	Average Cover % '83
Vegetation	.50
Rock	18.00
Pavement	3.75
Litter	66.75
Cryptogams	3.25
Bare Ground	7.75

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	33	0	100	-	-	100	0	0	67/59	
<i>Artemisia tridentata vaseyana</i>										
83	99	0	67	33	-	33	67	0	20/27	
<i>Cercocarpus montanus</i>										
83	232	28	72	-	-	43	29	0	56/55	
<i>Quercus gambelii</i>										
83	3999	38	60	2	166	58	12	0	40/24	

LOWER BIG HOLLOW – STUDY NO. 17-9

HERBACEOUS TRENDS--

Management unit 17, Study no: 9

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	8	15
G	<i>Bromus inermis</i>	-	2
G	<i>Dactylis glomerata</i>	-	3
G	<i>Poa fendleriana</i>	1	8
G	<i>Poa pratensis</i>	6	19
G	<i>Poa secunda</i>	10	48
Total for Annual Grasses		0	0
Total for Perennial Grasses		25	95
Total for Grasses		25	95
F	<i>Agoseris glauca</i>	-	1
F	<i>Arabis sp.</i>	28	17
F	<i>Aster sp.</i>	-	7
F	<i>Astragalus sp.</i>	-	2
F	<i>Balsamorhiza sagittata</i>	-	7
F	<i>Calochortus nuttallii</i>	-	3
F	<i>Castilleja chromosa</i>	3	2
F	<i>Collomia linearis (a)</i>	5	-
F	<i>Hackelia patens</i>	9	26
F	<i>Ipomopsis aggregata</i>	-	6
F	<i>Lactuca serriola (a)</i>	-	7
F	<i>Machaeranthera canescens</i>	-	16
F	<i>Senecio multilobatus</i>	25	25
F	<i>Solidago sparsiflora</i>	3	-
F	<i>Tragopogon dubius (a)</i>	7	10
Total for Annual Forbs		12	17
Total for Perennial Forbs		68	112
Total for Forbs		80	129

BASIC COVER--

Management unit 17, Study no: 9

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	5.50
Rock	7.75	13.75
Pavement	1.75	9.50
Litter	79.00	65.00
Cryptogams	1.50	.75
Bare Ground	9.50	5.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 9

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	266	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
83	1599	8	71	21	-	25	0	4	31/46	
89	1932	10	14	76	-	66	0	28	28/30	
<i>Cercocarpus montanus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	66	0	100	-	-	100	0	0	45/39	
<i>Gutierrezia sarothrae</i>										
83	200	0	100	-	-	0	0	0	13/6	
89	1666	0	100	-	-	0	0	0	11/12	
<i>Opuntia sp.</i>										
83	933	0	100	-	-	0	0	0	6/8	
89	1200	50	50	-	-	0	0	0	6/14	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
8 3	66	0	100	-	-	0	0	0	16/24	
8 9	133	0	100	-	-	100	0	0	12/18	

UPPER BIG HOLLOW – STUDY NO. 17-10

HERBACEOUS TRENDS--

Management unit 17, Study no: 10

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	5	3
G	Agropyron intermedium	83	159
G	Agropyron spicatum	6	2
G	Bromus inermis	132	191
G	Dactylis glomerata	89	111
G	Festuca ovina	45	66
G	Poa fendleriana	17	30
G	Poa pratensis	42	32
G	Poa secunda	-	40
Total for Annual Grasses		0	0
Total for Perennial Grasses		419	634
Total for Grasses		419	634
F	Achillea millefolium	34	21
F	Agoseris glauca	8	65
F	Allium sp.	53	199
F	Arabis sp.	16	64
F	Astragalus sp.	4	4
F	Calochortus nuttallii	10	8
F	Cirsium sp.	-	3
F	Crepis acuminata	-	16
F	Eriogonum racemosum	1	-
F	Helianthus annuus (a)	-	2
F	Lactuca serriola (a)	6	-
F	Lathyrus brachycalyx	3	12
F	Lathyrus pauciflorus	1	-
F	Lomatium triternatum	-	5
F	Machaeranthera canescens	-	2
F	Medicago sativa	78	99
F	Orthocarpus sp. (a)	3	-
F	Phlox longifolia	25	99
F	Taraxacum officinale	2	-
F	Tragopogon dubius (a)	6	2
F	Viguiera multiflora	86	40
F	Zigadenus paniculatus	1	4
Total for Annual Forbs		15	4
Total for Perennial Forbs		322	641
Total for Forbs		337	645

BASIC COVER--

Management unit 17, Study no: 10

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.50	14.50
Rock	8.25	6.25
Pavement	7.75	16.75
Litter	49.00	42.25
Cryptogams	.25	.50
Bare Ground	30.25	19.75

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 10

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	133	0	100	-	-	50	0	0	24/20	
89	200	0	100	-	-	33	0	0	19/16	
<i>Artemisia tridentata vaseyana</i>										
83	566	0	100	0	-	12	0	0	15/16	
89	1732	35	52	13	33	52	0	0	20/28	
<i>Chrysothamnus nauseosus consimilis</i>										
83	33	0	100	-	-	0	0	0	20/14	
89	33	0	100	-	-	0	0	0	20/21	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	266	0	100	-	-	0	0	0	11/14	
89	333	0	100	-	-	0	0	0	13/17	
<i>Quercus gambelii</i>										
83	1999	17	83	0	-	13	0	0	36/29	
89	4265	55	23	22	366	55	0	0	46/28	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
83	599	11	89	-	-	22	0	6	19/23	
89	1100	0	100	-	-	0	0	0	22/26	

WALLSBURG TURN – STUDY NO. 17-11

HERBACEOUS TRENDS--

Management unit 17, Study no: 11

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	169	195
G	Agropyron intermedium	84	260
G	Agropyron spicatum	53	-
G	Festuca ovina	3	-
G	Poa secunda	54	178
Total for Annual Grasses		0	0
Total for Perennial Grasses		363	633
Total for Grasses		363	633
F	Allium sp.	1	2
F	Artemisia ludoviciana	-	1
F	Calochortus nuttallii	1	-
F	Eriogonum racemosum	8	16
F	Helianthus annuus (a)	3	23
F	Lactuca serriola (a)	16	-
F	Medicago sativa	22	77
F	Sanguisorba minor	2	-
F	Sphaeralcea coccinea	3	-
Total for Annual Forbs		19	23
Total for Perennial Forbs		37	96
Total for Forbs		56	119

BASIC COVER--

Management unit 17, Study no: 11

Cover Type	Average Cover %	
	'83	'89
Vegetation	5.75	18.75
Rock	10.75	15.50
Pavement	19.00	32.00
Litter	39.25	27.00
Cryptogams	18.50	1.50
Bare Ground	6.75	5.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 11

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
83	1366	17	83	-	33	0	0	0	14/13
89	1532	30	70	-	-	48	4	0	18/19
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	66	50	50	0	-	0	0	0	10/17
89	266	75	12	12	-	0	0	0	5/5
<i>Gutierrezia sarothrae</i>									
83	133	0	100	-	-	0	0	0	10/13
89	0	0	0	-	-	0	0	0	-/-
<i>Opuntia sp.</i>									
83	100	0	100	-	-	0	0	0	6/8
89	100	0	100	-	-	0	0	0	6/14
<i>Purshia tridentata</i>									
83	566	0	100	-	-	94	0	0	16/20
89	733	14	86	-	-	27	23	0	15/32

NORTH WALLSBURG RESEEDING – STUDY NO. 17-12

HERBACEOUS TRENDS--

Management unit 17, Study no: 12

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	90	148
G	Agropyron intermedium	117	192
G	Dactylis glomerata	8	7
G	Festuca ovina	42	96
G	Oryzopsis hymenoides	2	7
G	Poa fendleriana	-	8
G	Poa pratensis	27	8
G	Poa secunda	-	3
G	Sitanion hystrix	-	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		286	475
Total for Grasses		286	475
F	Allium sp.	-	2
F	Astragalus sp.	-	2
F	Astragalus utahensis	3	1
F	Calochortus nuttallii	5	-
F	Chaenactis douglasii	-	2
F	Cirsium sp.	2	-
F	Lactuca serriola (a)	8	-
F	Medicago sativa	3	1
F	Phlox longifolia	-	2
F	Sphaeralcea coccinea	3	3
F	Tragopogon dubius (a)	28	7
F	Viguiera multiflora	11	7
F	Zigadenus paniculatus	2	-
Total for Annual Forbs		36	7
Total for Perennial Forbs		29	20
Total for Forbs		65	27

WILDLIFE MANAGEMENT UNIT 17

BASIC COVER--

Management unit 17, Study no: 12

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.50	4.25
Rock	5.75	5.50
Pavement	6.25	10.75
Litter	65.00	59.75
Cryptogams	1.50	.25
Bare Ground	20.00	19.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1433	84	16	0	-	0	0	0	26/30	
89	932	68	18	14	-	39	0	4	28/36	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	5333	8	92	0	-	0	0	0	8/7	
89	7766	3	89	8	33	0	0	18	10/13	
<i>Gutierrezia sarothrae</i>										
83	4933	17	83	0	-	0	0	0	8/9	
89	7532	1	97	2	-	0	0	15	9/9	
<i>Opuntia sp.</i>										
83	266	0	100	-	-	0	0	0	6/8	
89	200	0	100	-	-	0	0	33	6/18	
<i>Quercus gambelii</i>										
83	666	0	100	-	-	0	0	0	53/34	
89	899	48	52	-	133	93	7	0	89/37	

NORTH WALLSBURG – STUDY NO. 17-13

HERBACEOUS TRENDS--

Management unit 17, Study no: 13

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron smithii	10	14
G	Oryzopsis hymenoides	10	13
G	Poa bulbosa	5	69
G	Poa secunda	2	53
Total for Annual Grasses		0	0
Total for Perennial Grasses		27	149
Total for Grasses		27	149
F	Arabis sp.	-	3
F	Astragalus sp.	3	3
F	Astragalus utahensis	3	-
F	Calochortus nuttallii	25	112
F	Eriogonum racemosum	2	6
F	Machaeranthera canescens	2	-
F	Phlox longifolia	-	21
F	Tragopogon dubius (a)	1	6
F	Zigadenus paniculatus	2	9
Total for Annual Forbs		1	6
Total for Perennial Forbs		37	154
Total for Forbs		38	160

BASIC COVER--

Management unit 17, Study no: 13

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.50	4.00
Rock	8.50	8.75
Pavement	3.75	14.00
Litter	64.75	53.25
Cryptogams	3.00	2.00
Bare Ground	18.50	18.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	2866	7	67	26	-	16	40	16	26/45	
89	1732	4	27	69	-	73	0	12	22/22	
<i>Gutierrezia sarothrae</i>										
83	399	33	67	-	66	0	0	0	11/11	
89	1266	0	100	-	-	0	0	0	10/15	
<i>Opuntia sp.</i>										
83	466	29	71	-	-	0	0	0	6/14	
89	799	17	83	-	-	8	0	0	7/22	

HOOVERS HOLLOW – STUDY NO. 17-14

HERBACEOUS TRENDS--

Management unit 17, Study no: 14

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	-	1
G	Agropyron spicatum	18	37
G	Poa secunda	35	180
Total for Annual Grasses		0	0
Total for Perennial Grasses		53	218
Total for Grasses		53	218
F	Allium acuminatum	-	3
F	Astragalus utahensis	2	2
F	Calochortus nuttallii	-	6
F	Castilleja linariaefolia	2	-
F	Cirsium sp.	65	78
F	Cynoglossum officinale	-	4
F	Eriogonum racemosum	-	1
F	Helianthus annuus (a)	6	173
F	Heterotheca villosa	5	18
F	Lactuca serriola (a)	-	3
F	Tragopogon dubius (a)	64	10
Total for Annual Forbs		70	186
Total for Perennial Forbs		74	112
Total for Forbs		144	298

BASIC COVER--

Management unit 17, Study no: 14

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.00	9.25
Rock	9.25	13.50
Pavement	12.25	41.75
Litter	62.75	20.50
Cryptogams	.25	.75
Bare Ground	13.50	14.25

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 14

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
83	266	50	12	38	-	0	50	25	20/22
89	399	42	33	25	-	25	58	8	15/18
<i>Chrysothamnus nauseosus albicaulis</i>									
83	533	0	100	0	-	0	0	0	24/30
89	366	9	36	55	-	45	9	18	18/20
<i>Gutierrezia sarothrae</i>									
83	3266	0	100	0	-	0	0	0	9/11
89	2465	4	69	27	3333	0	0	19	8/10
<i>Opuntia sp.</i>									
83	6100	0	100	0	-	0	0	0	6/6
89	733	45	41	14	100	0	0	27	5/22

ISLAND BOAT CAMP – STUDY NO. 17-15

HERBACEOUS TRENDS--

Management unit 17, Study no: 15

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron cristatum</i>	-	8
G	<i>Agropyron spicatum</i>	104	119
G	<i>Festuca ovina</i>	15	-
G	<i>Oryzopsis hymenoides</i>	19	46
G	<i>Poa fendleriana</i>	103	172
G	<i>Poa pratensis</i>	-	12
G	<i>Poa secunda</i>	-	30
G	<i>Stipa comata</i>	3	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		244	392
Total for Grasses		244	392
F	<i>Agoseris glauca</i>	5	-
F	<i>Allium sp.</i>	9	70
F	<i>Antennaria sp.</i>	-	21
F	<i>Arabis sp.</i>	5	-
F	<i>Astragalus convallarius</i>	13	9
F	<i>Balsamorhiza sagittata</i>	18	33
F	<i>Calochortus nuttallii</i>	7	15
F	<i>Castilleja linariaefolia</i>	-	3
F	<i>Cirsium sp.</i>	2	-
F	<i>Comandra pallida</i>	24	27
F	<i>Crepis acuminata</i>	-	4
F	<i>Cryptantha sp.</i>	2	-
F	<i>Erigeron pumilus</i>	-	6
F	<i>Eriogonum racemosum</i>	25	25
F	<i>Eriogonum umbellatum</i>	74	80
F	<i>Hackelia patens</i>	5	16
F	<i>Lactuca serriola (a)</i>	2	-
F	<i>Linum lewisii</i>	3	3
F	<i>Lomatium triternatum</i>	-	24
F	<i>Lupinus argenteus</i>	21	34
F	<i>Machaeranthera canescens</i>	11	22
F	<i>Machaeranthera sp.</i>	5	-
F	<i>Penstemon humilis</i>	-	3
F	<i>Phlox longifolia</i>	-	90

WILDLIFE MANAGEMENT UNIT 17

Type	Species	Nested Frequency	
		'83	'89
F	Senecio multilobatus	23	6
F	Tragopogon dubius (a)	23	23
F	Vicia americana	-	6
Total for Annual Forbs		25	23
Total for Perennial Forbs		252	497
Total for Forbs		277	520

BASIC COVER--

Management unit 17, Study no: 15

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	12.00
Rock	1.00	1.25
Pavement	2.75	17.25
Litter	75.75	58.75
Cryptogams	.75	1.25
Bare Ground	19.25	9.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 15

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Amelanchier alnifolia</i>									
83	532	0	50	50	-	75	13	25	26/18
89	1532	30	13	57	200	48	17	48	47/43
<i>Artemisia tridentata vaseyana</i>									
83	3199	19	60	21	-	27	2	0	24/26
89	2532	8	50	42	-	37	0	29	25/30
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	4066	0	100	0	-	0	0	0	9/9
89	4466	3	84	13	66	0	0	9	13/16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
83	932	29	43	29	-	50	14	0	43/54	
89	999	27	33	40	66	93	7	0	38/47	
<i>Symphoricarpos oreophilus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	0	0	0	-	66	0	0	0	-/-	
<i>Tetradymia canescens</i>										
83	466	43	43	14	-	0	0	0	12/12	
89	199	67	33	0	-	0	0	0	6/10	

RAINBOW BAY – STUDY NO. 17-16

HERBACEOUS TRENDS--

Management unit 17, Study no: 16

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	6	13
G	Agropyron intermedium	-	2
G	Agropyron spicatum	70	150
G	Oryzopsis hymenoides	-	11
G	Poa bulbosa	-	3
G	Poa secunda	5	26
G	Sitanion hystrix	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		81	206
Total for Grasses		81	206
F	Agoseris glauca	-	2
F	Arabis sp.	-	11
F	Artemisia ludoviciana	3	1
F	Astragalus utahensis	19	17
F	Balsamorhiza sagittata	7	44
F	Calochortus nuttallii	1	41
F	Chaenactis douglasii	-	3
F	Cirsium sp.	3	-
F	Comandra pallida	8	22
F	Crepis acuminata	4	20
F	Cymopterus longipes	-	22
F	Eriogonum racemosum	12	37
F	Helianthus annuus (a)	5	83
F	Lithospermum ruderales	-	3
F	Lupinus argenteus	3	4
F	Machaeranthera canescens	-	3
F	Medicago sativa	3	-
F	Penstemon sp.	1	66
F	Tragopogon dubius (a)	2	31
F	Unknown forb-perennial	-	7
F	Vicia americana	-	2
F	Viguiera multiflora	-	1
Total for Annual Forbs		7	114
Total for Perennial Forbs		64	306
Total for Forbs		71	420

BASIC COVER--

Management unit 17, Study no: 16

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.50	6.25
Rock	2.75	3.50
Pavement	33.25	36.75
Litter	57.75	46.25
Cryptogams	.25	3.25
Bare Ground	4.50	4.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 16

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	100	100	-/-	
<i>Artemisia tridentata vaseyana</i>										
83	4732	17	67	16	-	26	8	0	26/28	
89	3765	12	42	45	166	49	4	3	26/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	1766	0	100	0	-	0	0	0	9/9	
89	3166	25	74	1	33	0	0	1	12/13	
<i>Gutierrezia sarothrae</i>										
83	1932	0	98	2	-	0	0	2	10/13	
89	4732	12	83	5	100	0	0	0	11/11	
<i>Opuntia sp.</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
83	299	22	78	-	-	33	11	0	41/124	
89	699	38	62	-	33	19	5	0	41/81	

DUTCH CANYON – STUDY NO. 17-17

HERBACEOUS TRENDS--

Management unit 17, Study no: 17

Type	Species	Nested Frequency	
		'83	'89
G	Bromus inermis	-	5
G	Poa fendleriana	-	7
G	Poa pratensis	10	18
G	Poa secunda	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		10	31
Total for Grasses		10	31
F	Artemisia dracunculus	3	2
F	Artemisia ludoviciana	3	3
F	Calochortus nuttallii	5	21
F	Cryptantha sp.	-	2
F	Eriogonum racemosum	-	4
F	Lactuca serriola (a)	3	14
F	Tragopogon dubius (a)	2	17
F	Verbascum thapsus	2	7
F	Vicia americana	-	10
F	Viguiera multiflora	6	78
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		5	31
Total for Perennial Forbs		19	130
Total for Forbs		24	161

BASIC COVER--

Management unit 17, Study no: 17

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	3.25
Rock	5.00	2.25
Pavement	6.00	11.50
Litter	67.25	78.50
Cryptogams	.25	0
Bare Ground	21.50	4.50

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	2798	31	45	24	-	17	1	0	22/40	
89	1366	22	34	44	100	22	5	2	23/22	
<i>Gutierrezia sarothrae</i>										
83	499	27	73	0	366	0	0	0	9/11	
89	4565	1	91	8	100	0	0	0	11/13	
<i>Purshia tridentata</i>										
83	66	0	100	-	-	0	100	0	13/25	
89	100	0	100	-	-	33	67	0	15/31	
<i>Quercus gambelii</i>										
83	1533	87	7	7	533	37	0	0	39/21	
89	2832	59	28	13	433	42	1	0	30/13	

DANIELS – STUDY NO. 17-18

HERBACEOUS TRENDS--

Management unit 17, Study no: 18

Type	Species	Nested Frequency '89
G	Poa fendleriana	3
G	Poa secunda	252
G	Stipa sp.	34
Total for Annual Grasses		0
Total for Perennial Grasses		289
Total for Grasses		289
F	Arabis sp.	3
F	Artemisia ludoviciana	1
F	Calochortus nuttallii	2
F	Crepis acuminata	2
F	Eriogonum racemosum	3
F	Hackelia patens	6
F	Heterotheca villosa	4
F	Machaeranthera canescens	5
F	Tragopogon dubius (a)	1
F	Viguiera multiflora	72
Total for Annual Forbs		1
Total for Perennial Forbs		98
Total for Forbs		99

BASIC COVER--

Management unit 17, Study no: 18

Cover Type	Average Cover % '89
Vegetation	5.75
Rock	12.00
Pavement	13.00
Litter	58.00
Cryptogams	1.25
Bare Ground	10.00

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 18

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
89	399	0	33	67	-	17	67	50	13/12
<i>Artemisia tridentata vaseyana</i>									
89	2666	8	62	30	866	50	3	0	29/33
<i>Cercocarpus montanus</i>									
89	133	0	100	-	-	0	100	0	36/25
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
89	1132	12	82	6	-	29	0	0	14/11
<i>Opuntia sp.</i>									
89	66	100	0	-	66	0	0	0	-/-
<i>Quercus gambelii</i>									
89	5332	45	42	12	1333	61	5	0	44/15
<i>Symphoricarpos oreophilus</i>									
89	799	17	75	8	-	42	0	0	29/31

COYOTE CANYON – STUDY NO. 17-19

HERBACEOUS TRENDS--

Management unit 17, Study no: 19

Type	Species	Nested Frequency '84
G	Agropyron spicatum	8
G	Sitanion hystrix	33
Total for Annual Grasses		0
Total for Perennial Grasses		41
Total for Grasses		41
F	Allium acuminatum	6
Total for Annual Forbs		0
Total for Perennial Forbs		6
Total for Forbs		6

BASIC COVER--

Management unit 17, Study no: 19

Cover Type	Average Cover % '84
Vegetation	2.00
Rock	6.25
Pavement	3.50
Litter	71.00
Cryptogams	1.75
Bare Ground	15.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 19

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata vaseyana									
84	6865	0	58	42	-	35	4	9	26/32
Opuntia sp.									
84	1133	29	71	-	-	0	0	0	5/12
Purshia tridentata									
84	266	0	50	50	-	50	50	50	17/22

LAKE CREEK ROAD – STUDY NO. 17-20

HERBACEOUS TRENDS--

Management unit 17, Study no: 20

Type	Species	Nest Frequency	
		'84	'90
G	Agropyron spicatum	20	31
G	Carex sp.	1	4
G	Oryzopsis hymenoides	4	14
G	Poa fendleriana	3	1
G	Poa pratensis	8	13
G	Poa secunda	20	64
G	Sporobolus cryptandrus	5	6
G	Stipa comata	4	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		65	140
Total for Grasses		65	140
F	Arabis sp.	-	1
F	Erigeron pumilus	-	1
F	Hackelia patens	-	6
F	Heterotheca villosa	13	27
F	Lomatium sp.	-	3
F	Oxybaphus linearis	1	-
F	Solidago missouriensis	-	2
F	Tragopogon dubius (a)	-	3
F	Unknown forb-perennial	-	3
F	Viguiera multiflora	-	10
Total for Annual Forbs		0	3
Total for Perennial Forbs		14	53
Total for Forbs		14	56

BASIC COVER--

Management unit 17, Study no: 20

Cover Type	Average Cover %	
	'84	'90
Vegetation	1.00	5.00
Rock	25.25	35.75
Pavement	.25	.25
Litter	54.75	38.50
Cryptogams	12.75	9.25
Bare Ground	6.00	11.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 20

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Gutierrezia sarothrae</i>									
84	1133	0	100	0	-	6	0	0	10/12
90	1532	4	87	9	-	0	0	12	9/8
<i>Juniperus osteosperma</i>									
84	132	50	50	-	-	0	0	0	59/33
90	66	100	0	-	-	0	0	0	-/-
<i>Mahonia repens</i>									
84	4799	0	97	3	-	0	0	24	3/5
90	632	37	42	21	-	8	0	0	6/5
<i>Opuntia sp.</i>									
84	3199	17	81	2	-	0	0	8	8/20
90	3799	25	40	35	-	4	0	25	6/11
<i>Quercus gambelii</i>									
84	16399	61	29	10	200	31	28	7	23/17
90	14466	86	0	14	3333	57	15	5	-/-

BOX ELDER CANYON – STUDY NO. 17-21

HERBACEOUS TRENDS--

Management unit 17, Study no: 21

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron elongatum	14	-
G	Agropyron spicatum	127	176
G	Poa pratensis	-	2
G	Poa secunda	22	12
G	Stipa comata	20	36
Total for Annual Grasses		0	0
Total for Perennial Grasses		183	226
Total for Grasses		183	226
F	Ambrosia psilostachya	-	8
F	Artemisia ludoviciana	87	63
F	Asclepias labriformis	4	1
F	Cirsium arvense	14	4
F	Erigeron divergens	34	3
F	Euphorbia sp.	2	-
F	Hackelia patens	9	2
F	Machaeranthera canescens	3	3
F	Microseris nutans	8	3
F	Phlox longifolia	-	1
F	Tragopogon dubius (a)	19	4
F	Vicia americana	-	2
Total for Annual Forbs		19	4
Total for Perennial Forbs		161	90
Total for Forbs		180	94

BASIC COVER--

Management unit 17, Study no: 21

Cover Type	Average Cover %	
	'83	'89
Vegetation	6.00	3.50
Rock	13.25	19.00
Pavement	6.00	16.00
Litter	68.75	56.75
Cryptogams	1.50	.25
Bare Ground	4.50	4.50

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 21

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
83	233	0	100	-	-	29	71	29	46/39	
89	266	12	88	-	-	75	13	0	43/53	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
83	33	0	100	-	-	0	0	0	13/20	
89	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	1800	0	78	22	100	0	0	6	10/13	
<i>Quercus gambelii</i>										
83	2532	14	83	3	66	22	78	43	31/23	
89	4532	64	25	11	466	3	0	6	32/16	

SCHOOLHOUSE SPRINGS – STUDY NO. 17-22

HERBACEOUS TRENDS--

Management unit 17, Study no: 22

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	162	138
G	<i>Melica bulbosa</i>	-	1
G	<i>Poa fendleriana</i>	2	-
G	<i>Poa pratensis</i>	5	6
G	<i>Poa secunda</i>	23	19
Total for Annual Grasses		0	0
Total for Perennial Grasses		192	164
Total for Grasses		192	164
F	<i>Agoseris glauca</i>	2	-
F	<i>Agoseris grandiflora</i>	7	-
F	<i>Allium sp.</i>	77	71
F	<i>Artemisia ludoviciana</i>	41	14
F	<i>Balsamorhiza sagittata</i>	-	3
F	<i>Calochortus nuttallii</i>	4	-
F	<i>Collomia linearis (a)</i>	-	13
F	<i>Crepis acuminata</i>	3	-
F	<i>Erigeron pumilus</i>	-	9
F	<i>Erigeron sp.</i>	59	-
F	<i>Hackelia patens</i>	4	1
F	<i>Haplopappus sp.</i>	6	-
F	<i>Hydrophyllum capitatum</i>	3	-
F	<i>Lactuca serriola (a)</i>	-	41
F	<i>Lithophragma parviflora</i>	7	1
F	<i>Lithospermum ruderales</i>	3	-
F	<i>Montia perfoliata (a)</i>	28	-
F	<i>Petradoria pumila</i>	13	13
F	<i>Solidago sp.</i>	1	-
F	<i>Taraxacum officinale</i>	-	1
F	<i>Tragopogon dubius (a)</i>	53	34
F	Unknown forb-perennial	116	4
F	<i>Vicia americana</i>	-	1
F	<i>Zigadenus paniculatus</i>	-	5
Total for Annual Forbs		81	88
Total for Perennial Forbs		346	123
Total for Forbs		427	211

BASIC COVER--

Management unit 17, Study no: 22

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.00	4.00
Rock	4.00	6.25
Pavement	.50	22.75
Litter	75.50	58.00
Cryptogams	.50	0
Bare Ground	15.50	9.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 22

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
83	199	67	33	-	-	0	0	0	67/59	
89	199	67	33	-	-	0	0	0	256/185	
<i>Artemisia tridentata vaseyana</i>										
83	199	33	67	0	-	33	0	0	26/28	
89	198	33	33	33	-	0	0	0	15/6	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	2066	0	94	6	-	0	0	0	12/11	
<i>Purshia tridentata</i>										
83	1533	0	100	0	-	0	100	0	17/25	
89	2732	10	76	15	-	22	78	7	13/21	
<i>Quercus gambelii</i>										
83	3466	40	60	0	66	0	21	0	47/31	
89	5198	73	21	6	-	1	15	0	236/118	

OAK HOLLOW – STUDY NO. 17-23

HERBACEOUS TRENDS--

Management unit 17, Study no: 23

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron dasystachyum	1	10
G	Agropyron spicatum	20	29
G	Poa bulbosa	3	51
G	Poa fendleriana	22	44
G	Poa secunda	127	75
Total for Annual Grasses		0	0
Total for Perennial Grasses		173	209
Total for Grasses		173	209
F	Achillea millefolium	24	20
F	Agoseris glauca	21	11
F	Allium acuminatum	119	118
F	Artemisia ludoviciana	15	17
F	Calochortus nuttallii	-	2
F	Eriogonum racemosum	3	-
F	Grindelia squarrosa	-	1
F	Hydrophyllum capitatum	6	-
F	Lactuca serriola (a)	-	1
F	Lomatium dissectum	1	1
F	Montia perfoliata (a)	20	-
F	Phlox longifolia	-	18
F	Tragopogon dubius (a)	-	5
F	Vicia americana	-	86
F	Viola sp.	6	-
Total for Annual Forbs		20	6
Total for Perennial Forbs		195	274
Total for Forbs		215	280

BASIC COVER--

Management unit 17, Study no: 23

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	9.00
Rock	17.00	17.50
Pavement	1.75	4.00
Litter	79.25	66.50
Cryptogams	1.00	0
Bare Ground	.50	3.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 23

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
83	2065	3	74	23	66	61	35	0	41/43	
89	1599	25	33	42	133	38	0	0	33/26	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	133	0	100	0	-	0	0	0	43/13	
89	66	0	0	100	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	466	0	100	-	-	0	0	0	11/9	
<i>Purshia tridentata</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	133	0	100	-	-	100	0	0	20/51	
<i>Quercus gambelii</i>										
83	6865	48	52	0	2066	28	24	0	35/26	
89	6465	85	10	5	800	28	0	1	83/36	

HEISETTS HOLLOW – STUDY NO. 17-24

HERBACEOUS TRENDS--

Management unit 17, Study no: 24

Type	Species	Nestled Frequency	
		'83	'89
G	<i>Agropyron cristatum</i>	9	7
G	<i>Agropyron dasystachyum</i>	86	8
G	<i>Agropyron spicatum</i>	196	237
G	<i>Poa bulbosa</i>	284	120
G	<i>Poa secunda</i>	-	299
Total for Annual Grasses		0	0
Total for Perennial Grasses		575	671
Total for Grasses		575	671
F	<i>Ambrosia psilostachya</i>	-	52
F	<i>Artemisia ludoviciana</i>	3	2
F	<i>Astragalus</i> sp.	-	2
F	<i>Calochortus nuttallii</i>	7	1
F	<i>Castilleja chromosa</i>	7	1
F	<i>Cirsium undulatum</i>	-	2
F	<i>Comandra pallida</i>	4	8
F	<i>Hedysarum boreale</i>	12	11
F	<i>Helianthus annuus</i> (a)	-	17
F	<i>Lithospermum ruderale</i>	-	3
F	<i>Oenothera</i> sp.	2	-
F	<i>Orobancha</i> sp.	5	-
F	<i>Phlox longifolia</i>	3	6
F	<i>Sphaeralcea coccinea</i>	8	7
F	<i>Tragopogon dubius</i> (a)	2	-
F	Unknown forb-perennial	-	3
Total for Annual Forbs		2	17
Total for Perennial Forbs		51	98
Total for Forbs		53	115

BASIC COVER--

Management unit 17, Study no: 24

Cover Type	Average Cover %	
	'83	'89
Vegetation	7.00	22.25
Rock	3.00	4.50
Pavement	6.75	19.75
Litter	72.50	41.00
Cryptogams	.25	0
Bare Ground	10.50	12.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 24

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	33	0	100	-	-	0	100	100	30/35	
89	33	0	100	-	-	0	100	100	28/31	
<i>Artemisia tridentata vaseyana</i>										
83	865	4	77	19	-	35	54	35	22/28	
89	866	4	50	46	-	15	85	4	24/29	
<i>Cercocarpus montanus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	100	0	-/-	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	33	0	100	-	-	0	0	0	20/24	
89	66	0	100	-	-	0	0	0	26/26	
<i>Gutierrezia sarothrae</i>										
83	1232	59	41	0	4100	0	0	0	11/8	
89	1433	0	51	49	-	0	0	44	9/8	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Quercus gambelii										
83	133	25	75	-	-	25	75	50	33/35	
89	366	55	45	-	-	0	91	0	59/33	

NORTH BATTLE CREEK – STUDY NO. 17-25

HERBACEOUS TRENDS--

Management unit 17, Study no: 25

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	128	117
G	Poa secunda	15	13
G	Unknown grass - perennial	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		143	133
Total for Grasses		143	133
F	Allium sp.	20	6
F	Hedysarum boreale	57	52
F	Machaeranthera canescens	2	1
F	Oenothera latifolia	2	-
F	Phlox longifolia	6	13
F	Stanleya pinnata	24	12
Total for Annual Forbs		0	0
Total for Perennial Forbs		111	84
Total for Forbs		111	84

BASIC COVER--

Management unit 17, Study no: 25

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.50	7.00
Rock	8.75	20.50
Pavement	20.25	26.00
Litter	48.75	30.50
Cryptogams	.75	.25
Bare Ground	18.00	15.75

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1066	19	81	0	-	0	0	0	20/35	
89	1000	0	80	20	-	100	0	7	22/26	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	66	0	100	-	-	0	0	0	23/30	
89	66	0	100	-	-	100	0	0	20/37	
<i>Cowania mexicana stansburiana</i>										
83	332	0	80	20	-	60	40	40	50/60	
89	399	0	67	33	-	83	17	0	58/59	

OREM WATER TANK – STUDY NO. 17-26

HERBACEOUS TRENDS--

Management unit 17, Study no: 26

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	8	1
G	Agropyron intermedium	173	166
G	Bromus inermis	235	268
G	Poa pratensis	-	3
G	Poa secunda	3	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		419	445
Total for Grasses		419	445
F	Astragalus sp.	-	2
F	Calochortus nuttallii	20	1
F	Eriogonum racemosum	5	3
F	Hedysarum boreale	22	-
F	Medicago sativa	14	22
F	Sphaeralcea coccinea	6	8
F	Tragopogon dubius (a)	1	-
F	Zigadenus paniculatus	1	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		68	36
Total for Forbs		69	36

BASIC COVER--

Management unit 17, Study no: 26

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.50	3.00
Rock	.50	1.00
Pavement	.75	1.00
Litter	95.50	91.50
Cryptogams	.25	0
Bare Ground	1.50	3.50

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 26

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	399	0	33	67	66	0	100	0	31/26	
89	333	0	0	100	-	40	60	60	-/-	
<i>Gutierrezia sarothrae</i>										
83	133	0	0	100	-	0	0	0	-/-	
89	0	0	0	0	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
83	15333	27	71	1	1400	92	1	0	40/15	
89	14332	63	25	13	2666	13	0	7	46/19	

SOUTH FORK PROVO RIVER – STUDY NO. 17-27

HERBACEOUS TRENDS--

Management unit 17, Study no: 27

Type	Species	Nested Frequency '83
G	Agropyron spicatum	37
G	Poa secunda	1
Total for Annual Grasses		0
Total for Perennial Grasses		38
Total for Grasses		38
F	Allium sp.	50
F	Artemisia ludoviciana	8
F	Lathyrus brachycalyx	82
F	Tragopogon dubius (a)	4
Total for Annual Forbs		4
Total for Perennial Forbs		140
Total for Forbs		144

BASIC COVER--

Management unit 17, Study no: 27

Cover Type	Average Cover % '83
Vegetation	.50
Rock	19.25
Pavement	10.25
Litter	64.00
Cryptogams	0
Bare Ground	6.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 27

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Cercocarpus montanus									
83	132	50	50	-	-	0	100	0	17/27
Quercus gambelii									
83	12399	33	66	1	2200	46	4	0	50/17

SPRING HOLLOW – STUDY NO. 17-28

HERBACEOUS TRENDS--

Management unit 17, Study no: 28

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	72	93
G	Poa fendleriana	18	16
G	Poa secunda	22	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		112	121
Total for Grasses		112	121
F	Allium sp.	62	-
F	Castilleja chromosa	2	-
F	Cryptantha sp.	3	-
F	Cynoglossum officinale	-	2
F	Eriogonum brevicaule	30	31
F	Lathyrus brachycalyx	80	44
F	Machaeranthera canescens	-	1
F	Penstemon sp.	-	2
F	Tragopogon dubius (a)	2	-
Total for Annual Forbs		2	0
Total for Perennial Forbs		177	80
Total for Forbs		179	80

BASIC COVER--

Management unit 17, Study no: 28

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	3.00
Rock	40.75	54.50
Pavement	8.75	13.00
Litter	37.50	24.00
Cryptogams	4.00	.25
Bare Ground	7.75	5.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 28

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1231	30	30	41	133	0	70	70	5/8	
89	965	17	55	28	-	28	0	0	13/10	
<i>Cercocarpus montanus</i>										
83	499	40	53	7	66	7	53	40	44/32	
89	599	39	61	0	-	39	17	11	51/45	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	33	0	100	0	-	0	0	0	28/47	
89	66	0	50	50	-	0	0	50	25/24	
<i>Gutierrezia sarothrae</i>										
83	233	0	100	-	-	0	0	0	13/10	
89	1566	2	98	-	33	0	0	21	9/9	
<i>Purshia tridentata</i>										
83	33	0	100	-	-	0	100	0	28/75	
89	33	0	100	-	-	0	100	0	39/69	
<i>Quercus gambelii</i>										
83	3066	43	57	0	166	77	23	0	22/13	
89	3533	72	23	6	499	.94	0	8	37/30	

ABOVE EDGEMONT – STUDY NO. 17-29

HERBACEOUS TRENDS--

Management unit 17, Study no: 29

Type	Species	Nested Frequency	
		'83	'89
G	<i>Aegilops cylindrica</i> (a)	-	3
G	<i>Agropyron spicatum</i>	150	223
G	<i>Poa secunda</i>	8	104
G	<i>Sitanion hystrix</i>	-	2
Total for Annual Grasses		0	3
Total for Perennial Grasses		158	329
Total for Grasses		158	332
F	<i>Agoseris glauca</i>	1	-
F	<i>Artemisia ludoviciana</i>	17	-
F	<i>Balsamorhiza sagittata</i>	-	14
F	<i>Calochortus nuttallii</i>	1	41
F	<i>Collomia grandiflora</i> (a)	6	-
F	<i>Comandra pallida</i>	-	7
F	<i>Crepis acuminata</i>	52	-
F	<i>Eriogonum racemosum</i>	-	1
F	<i>Hedysarum boreale</i>	5	-
F	<i>Lactuca serriola</i> (a)	-	8
F	<i>Lomatium</i> sp.	-	5
F	<i>Lupinus argenteus</i>	-	1
F	<i>Penstemon</i> sp.	-	14
F	<i>Phlox longifolia</i>	38	113
F	<i>Senecio integerrimus</i>	1	-
F	<i>Tragopogon dubius</i> (a)	23	14
F	<i>Vicia americana</i>	-	74
F	<i>Zigadenus paniculatus</i>	-	30
Total for Annual Forbs		29	22
Total for Perennial Forbs		115	300
Total for Forbs		144	322

BASIC COVER--

Management unit 17, Study no: 29

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	6.00
Rock	18.50	13.50
Pavement	3.75	21.75
Litter	65.75	56.50
Cryptogams	0	0
Bare Ground	11.75	2.25

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 29

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	932	29	64	7	-	50	7	0	30/34	
89	1532	9	4	87	-	30	70	57	12/9	
<i>Cowania mexicana stansburiana</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	132	50	50	-	-	100	0	0	106/75	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	1732	4	92	4	-	0	0	4	14/11	
<i>Quercus gambelii</i>										
83	18599	94	4	3	3933	35	0	0	56/26	
89	999	60	13	27	66	27	20	0	110/63	

SPRING CANYON – STUDY NO. 17-30

HERBACEOUS TRENDS--

Management unit 17, Study no: 30

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	157	97
G	Poa bulbosa	294	320
Total for Annual Grasses		0	0
Total for Perennial Grasses		451	417
Total for Grasses		451	417
F	Artemisia ludoviciana	39	28
F	Cirsium undulatum	8	15
F	Eriogonum brevicaule	89	64
F	Machaeranthera canescens	-	1
F	Tragopogon dubius (a)	1	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		136	108
Total for Forbs		137	108

BASIC COVER--

Management unit 17, Study no: 30

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.50	8.25
Rock	14.00	12.50
Pavement	45.00	56.25
Litter	31.00	14.25
Cryptogams	.75	0
Bare Ground	4.75	8.75

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 30

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Celtis reticulata</i>									
83	0	0	0	-	-	0	0	0	-/-
89	33	0	100	-	-	100	0	0	46/67
<i>Cowania mexicana stansburiana</i>									
83	266	12	88	0	-	38	63	63	52/81
89	365	18	73	9	33	18	82	0	55/64
<i>Gutierrezia sarothrae</i>									
83	899	59	41	0	-	0	0	0	11/14
89	866	12	73	15	-	0	0	15	6/5

ROUND PEAK – STUDY NO. 17-31

HERBACEOUS TRENDS--

Management unit 17, Study no: 31

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	214	223
G	Avena fatua (a)	-	119
G	Bromus brizaeformis (a)	-	1
G	Poa bulbosa	-	304
Total for Annual Grasses		0	120
Total for Perennial Grasses		214	527
Total for Grasses		214	647
F	Artemisia ludoviciana	54	36
F	Cirsium undulatum	1	11
F	Cruciferae	-	10
F	Cryptantha nana	1	-
F	Erigeron divergens	1	-
F	Helianthus annuus (a)	-	19
F	Lathyrus brachycalyx	54	62
F	Lithospermum incisum	18	105
F	Lithospermum ruderae	5	16
F	Macheranthera commixta	3	-
F	Phlox longifolia	4	5
F	Tragopogon dubius (a)	29	-
Total for Annual Forbs		29	19
Total for Perennial Forbs		141	245
Total for Forbs		170	264

BASIC COVER--

Management unit 17, Study no: 31

Cover Type	Average Cover %	
	'83	'89
Vegetation	.75	9.00
Rock	30.25	26.50
Pavement	22.00	24.50
Litter	44.00	37.50
Cryptogams	.50	0
Bare Ground	2.50	2.50

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 31

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Celtis reticulata</i>										
83	33	0	100	-	-	0	0	0	39/26	
89	33	100	0	-	-	0	0	100	-/-	
<i>Gutierrezia sarothrae</i>										
83	1799	56	44	0	366	0	0	0	7/4	
89	1032	16	71	13	-	0	0	19	8/10	
<i>Rhus glabra cismontana</i>										
83	1433	7	93	0	33	19	79	0	50/34	
89	2298	22	72	6	-	45	16	0	66/41	

RIGHT FORK-HOBBLE CREEK – STUDY NO. 17-32

HERBACEOUS TRENDS--

Management unit 17, Study no: 32

Type	Species	Nested Frequency '83
G	Agropyron spicatum	22
G	Bromus carinatus	8
G	Elymus glaucus	215
G	Poa pratensis	72
Total for Annual Grasses		0
Total for Perennial Grasses		317
Total for Grasses		317
F	Achillea millefolium	12
F	Agoseris glauca	64
F	Agoseris grandiflora	14
F	Allium sp.	111
F	Apocynum sp.	10
F	Artemisia ludoviciana	27
F	Cirsium undulatum	3
F	Comandra pallida	1
F	Crepis acuminata	1
F	Cynoglossum officinale	26
F	Eriogonum racemosum	5
F	Lathyrus pauciflorus	5
F	Mertensia brevistyla	3
F	Rumex crispus	2
F	Senecio integerrimus	27
F	Taraxacum officinale	1
F	Tragopogon dubius (a)	22
Total for Annual Forbs		22
Total for Perennial Forbs		312
Total for Forbs		334

BASIC COVER--

Management unit 17, Study no: 32

Cover Type	Average Cover % '83
Vegetation	1.75
Rock	3.00
Pavement	2.50
Litter	85.50
Cryptogams	.25
Bare Ground	7.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 32

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Acer glabrum glabrum										
83	399	17	83	-	-	0	0	0	67/43	
Crataegus rivularis										
83	66	0	100	-	-	0	0	100	67/24	
Juniperus scopulorum										
83	0	0	0	-	66	0	0	0	-/-	
Mahonia repens										
83	17065	10	90	-	-	0	0	0	7/7	
Quercus gambelii										
83	8399	75	25	-	-	27	0	0	66/27	
Rosa woodsii										
83	200	100	0	-	-	0	0	0	-/-	

MAPLE CANYON – STUDY NO. 17-33

HERBACEOUS TRENDS--

Management unit 17, Study no: 33

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron intermedium	6	-
G	Agropyron smithii	17	-
G	Agropyron spicatum	86	105
G	Poa fendleriana	92	46
G	Poa secunda	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		201	153
Total for Grasses		201	153
F	Agoseris glauca	22	-
F	Allium sp.	13	6
F	Artemisia ludoviciana	4	15
F	Astragalus sp.	2	-
F	Balsamorhiza sagittata	15	2
F	Calochortus nuttallii	25	-
F	Cirsium undulatum	2	-
F	Erigeron divergens	5	2
F	Lactuca serriola (a)	-	10
F	Lithospermum incisum	3	-
F	Lomatium sp.	46	45
F	Tragopogon dubius (a)	14	-
F	Unknown forb-perennial	-	9
Total for Annual Forbs		14	10
Total for Perennial Forbs		137	79
Total for Forbs		151	89

BASIC COVER--

Management unit 17, Study no: 33

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.00	4.25
Rock	24.50	33.00
Pavement	3.00	5.25
Litter	52.75	47.50
Cryptogams	.25	0
Bare Ground	18.50	10.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 33

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Cercocarpus montanus									
83	66	0	100	-	-	0	0	0	67/138
89	66	0	100	-	-	0	0	0	126/118
Quercus gambelii									
83	12800	22	75	3	1133	48	30	.52	39/19
89	13732	88	10	2	600	31	.48	2	94/53

MAPLE MOUNTAIN FACE – STUDY NO. 17-34

HERBACEOUS TRENDS--

Management unit 17, Study no: 34

Type	Species	Nested Frequency	
		'83	'89
G	Elymus glaucus	2	-
G	Poa bulbosa	360	395
G	Poa pratensis	61	-
G	Poa secunda	24	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		447	395
Total for Grasses		447	395
F	Balsamorhiza sagittata	103	99
F	Calochortus nuttallii	5	-
F	Convolvulus arvensis	-	1
F	Erigeron divergens	7	1
F	Helianthus annuus (a)	-	5
F	Lactuca serriola (a)	-	15
F	Lathyrus brachycalyx	4	6
F	Tragopogon dubius (a)	18	-
F	Unknown forb-perennial	1	-
Total for Annual Forbs		18	20
Total for Perennial Forbs		120	107
Total for Forbs		138	127

BASIC COVER--

Management unit 17, Study no: 34

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.00	50.75
Rock	.75	.75
Pavement	3.00	6.75
Litter	91.00	28.75
Cryptogams	0	0
Bare Ground	1.25	13.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 34

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	500	0	60	40	-	60	20	0	23/32
89	432	0	15	85	-	0	15	15	13/16
<i>Gutierrezia sarothrae</i>									
83	33	0	100	0	-	0	0	0	14/28
89	166	20	20	60	-	0	0	0	14/15

HOBBLE CREEK GOLF COURSE – STUDY NO. 17-35

HERBACEOUS TRENDS--

Management unit 17, Study no: 35

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron spicatum	134	85
G	Oryzopsis hymenoides	-	7
G	Poa bulbosa	177	232
G	Poa secunda	-	76
Total for Annual Grasses		0	0
Total for Perennial Grasses		311	400
Total for Grasses		311	400
F	Artemisia ludoviciana	36	63
F	Aster chilensis	2	1
F	Eriogonum brevicaule	-	1
F	Lactuca serriola (a)	-	1
F	Lathyrus brachycalyx	12	-
F	Lomatium dissectum	6	8
F	Phlox longifolia	3	10
F	Tragopogon dubius (a)	8	2
Total for Annual Forbs		8	3
Total for Perennial Forbs		59	83
Total for Forbs		67	86

BASIC COVER--

Management unit 17, Study no: 35

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	8.50
Rock	39.50	46.75
Pavement	8.00	8.75
Litter	46.50	30.00
Cryptogams	1.00	0
Bare Ground	4.75	6.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 35

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	1599	71	29	0	33	10	90	44	24/14	
89	2098	41	48	11	-	44	21	22	16/10	
<i>Cercocarpus montanus</i>										
83	265	25	63	12	33	50	13	13	67/63	
89	399	58	42	0	33	25	0	0	87/94	
<i>Gutierrezia sarothrae</i>										
83	400	0	100	-	-	0	0	0	15/13	
89	466	0	100	-	-	0	0	0	11/15	
<i>Quercus gambelii</i>										
83	1565	68	32	0	66	94	2	0	58/23	
89	2866	43	45	12	33	15	0	6	30/20	

BIG SLIDE – STUDY NO. 17-36

HERBACEOUS TRENDS--

Management unit 17, Study no: 36

Type	Species	Nested Frequency '89
G	Agropyron spicatum	7
G	Aristida purpurea	21
G	Poa bulbosa	383
G	Poa pratensis	15
G	Sporobolus cryptandrus	6
Total for Annual Grasses		0
Total for Perennial Grasses		432
Total for Grasses		432
F	Ambrosia psilostachya	13
F	Artemisia ludoviciana	40
F	Cirsium undulatum	4
F	Eriogonum racemosum	2
F	Helianthus annuus (a)	57
F	Lactuca serriola (a)	24
F	Lithospermum sp.	39
F	Tragopogon dubius (a)	36
F	Unknown forb-perennial	6
F	Zigadenus paniculatus	1
Total for Annual Forbs		117
Total for Perennial Forbs		105
Total for Forbs		222

BASIC COVER--

Management unit 17, Study no: 36

Cover Type	Average Cover % '89
Vegetation	22.50
Rock	20.25
Pavement	13.00
Litter	36.25
Cryptogams	0
Bare Ground	8.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 36

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	699	5	9	86	-	81	0	19	22/24	
<i>Quercus gambelii</i>										
89	400	75	25	-	66	25	0	0	88/112	

COLD SPRING - STUDY NO. 17-37

HERBACEOUS TRENDS--

Management unit 17, Study no: 37

Type	Species	Nested Frequency '83
G	Agropyron spicatum	8
G	Poa pratensis	8
G	Poa secunda	39
Total for Annual Grasses		0
Total for Perennial Grasses		55
Total for Grasses		55
F	Agoseris glauca	41
F	Allium sp.	201
F	Artemisia ludoviciana	121
F	Cymopterus longipes	2
F	Erigeron sp.	3
F	Hydrophyllum capitatum	16
F	Lathyrus pauciflorus	23
F	Montia perfoliata (a)	17
F	Phlox longifolia	12
F	Solidago sparsiflora	7
F	Tragopogon dubius (a)	6
F	Viguiera multiflora	16
Total for Annual Forbs		23
Total for Perennial Forbs		442
Total for Forbs		465

BASIC COVER--

Management unit 17, Study no: 37

Cover Type	Average Cover % '83
Vegetation	2.25
Rock	14.50
Pavement	16.00
Litter	59.25
Cryptogams	1.75
Bare Ground	6.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 37

		Age class distribution			Utilization				
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Quercus gambelii									
8 3	10731	34	66	1	466	35	20	0	38/23

NORTH FORK DIAMOND CANYON – STUDY NO. 17-38

HERBACEOUS TRENDS--

Management unit 17, Study no: 38

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	3	-
G	Agropyron smithii	183	147
G	Bromus inermis	156	195
G	Oryzopsis hymenoides	1	-
G	Poa fendleriana	2	2
G	Poa pratensis	94	118
G	Poa secunda	5	17
Total for Annual Grasses		0	0
Total for Perennial Grasses		444	479
Total for Grasses		444	479
F	Artemisia ludoviciana	55	40
F	Aster chilensis	215	230
F	Astragalus convallarius	18	18
F	Calochortus nuttallii	55	9
F	Chaenactis douglasii	6	-
F	Cirsium undulatum	90	58
F	Lactuca serriola (a)	-	2
F	Lomatium sp.	-	5
F	Phlox longifolia	26	53
F	Sphaeralcea coccinea	58	85
F	Tragopogon dubius (a)	39	12
Total for Annual Forbs		39	14
Total for Perennial Forbs		523	498
Total for Forbs		562	512

BASIC COVER--

Management unit 17, Study no: 38

Cover Type	Average Cover %	
	'83	'89
Vegetation	.75	6.25
Rock	2.25	4.00
Pavement	3.25	5.75
Litter	48.00	50.25
Cryptogams	.50	0
Bare Ground	45.25	33.75

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 38

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1833	0	44	56	-	55	44	0	39/40	
89	766	17	13	70	-	43	0	39	26/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	0	100	-	-	0	0	0	14/16	
<i>Gutierrezia sarothrae</i>										
83	200	0	50	50	-	0	0	0	14/16	
89	333	0	100	0	-	0	0	0	8/9	
<i>Purshia tridentata</i>										
83	366	0	100	0	-	55	45	0	20/37	
89	332	10	70	20	-	10	90	0	13/33	
<i>Rhus trilobata</i>										
83	33	0	100	-	-	0	0	0	37/38	
89	33	0	100	-	-	100	0	0	48/35	

LITTLE DIAMOND FORK – STUDY NO. 17-39

HERBACEOUS TRENDS--

Management unit 17, Study no: 39

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron intermedium	-	267
G	Agropyron smithii	227	-
G	Bromus inermis	3	13
G	Poa bulbosa	364	240
G	Poa fendleriana	2	7
G	Poa pratensis	49	25
G	Poa secunda	-	189
G	Stipa lettermani	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		645	751
Total for Grasses		645	751
F	Agoseris grandiflora	8	3
F	Antennaria sp.	-	4
F	Arabis sp.	-	1
F	Aster chilensis	185	198
F	Astragalus convallarius	9	6
F	Brodiaea douglasii	2	-
F	Cirsium undulatum	10	4
F	Cynoglossum officinale	-	6
F	Erigeron divergens	49	44
F	Eriogonum racemosum	7	4
F	Lupinus argenteus	100	42
F	Tragopogon dubius (a)	62	41
F	Unknown forb-perennial	-	2
F	Verbascum thapsus	4	2
F	Vicia americana	50	-
F	Zigadenus paniculatus	3	1
Total for Annual Forbs		62	41
Total for Perennial Forbs		427	317
Total for Forbs		489	358

BASIC COVER--

Management unit 17, Study no: 39

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.50	16.00
Rock	0	.25
Pavement	0	.75
Litter	82.50	66.50
Cryptogams	.25	.25
Bare Ground	14.75	16.25

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 39

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	665	10	70	20	-	60	0	0	30/41
89	933	0	43	57	-	21	0	0	22/25
<i>Gutierrezia sarothrae</i>									
83	1399	81	19	0	-	0	0	0	11/13
89	3066	4	85	11	-	0	0	0	10/7
<i>Opuntia sp.</i>									
83	466	0	100	-	-	0	0	0	7/16
89	600	67	33	-	200	0	0	0	7/23

LONG HOLLOW – STUDY NO. 17-40

HERBACEOUS TRENDS--

Management unit 17, Study no: 40

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	27	50
G	Agropyron spicatum	18	21
G	Oryzopsis hymenoides	-	3
G	Poa bulbosa	6	16
G	Poa pratensis	1	2
G	Poa secunda	1	40
G	Sitanion hystrix	3	8
G	Sporobolus cryptandrus	76	91
Total for Annual Grasses		0	0
Total for Perennial Grasses		132	231
Total for Grasses		132	231
F	Arabis sp.	-	1
F	Artemisia dracuncululus	7	5
F	Artemisia ludoviciana	101	140
F	Aster sp.	-	8
F	Astragalus utahensis	4	6
F	Calochortus nuttallii	10	1
F	Cirsium sp.	14	26
F	Eriogonum racemosum	3	5
F	Hackelia patens	20	51
F	Helianthus annuus (a)	-	26
F	Lactuca pulchella	-	8
F	Lactuca serriola (a)	50	-
F	Lithospermum ruderales	-	4
F	Phlox longifolia	-	15
F	Solidago sp.	16	-
F	Sphaeralcea coccinea	44	69
F	Tragopogon dubius (a)	68	1
F	Zigadenus paniculatus	1	-
Total for Annual Forbs		118	27
Total for Perennial Forbs		220	339
Total for Forbs		338	366

BASIC COVER--

Management unit 17, Study no: 40

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	7.25
Rock	25.50	24.00
Pavement	1.50	4.25
Litter	64.25	59.00
Cryptogams	1.00	1.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 40

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
<i>Artemisia tridentata vaseyana</i>									
83	4599	51	38	12	-	16	4	0	26/15
89	4732	41	41	18	533	6	3	3	23/18
<i>Chrysothamnus nauseosus albicaulis</i>									
83	1532	0	43	57	-	0	0	0	25/21
89	1000	0	40	60	-	7	0	7	27/31
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	200	0	100	0	-	0	0	0	20/26
89	400	0	50	50	-	0	0	17	13/14
<i>Gutierrezia sarothrae</i>									
83	2999	2	98	0	-	0	0	0	13/9
89	6866	6	92	2	-	0	0	0	14/13
<i>Opuntia sp.</i>									
83	732	36	64	-	-	0	0	36	6/10
89	533	100	0	-	-	0	0	0	-/-

UPPER SHEEP CREEK – STUDY NO. 17-41

HERBACEOUS TRENDS--

Management unit 17, Study no: 41

Type	Species	Nested Frequency '83
G	Agropyron spicatum	84
G	Carex sp.	2
G	Oryzopsis hymenoides	2
G	Poa secunda	19
G	Sitanion hystrix	1
Total for Annual Grasses		0
Total for Perennial Grasses		108
Total for Grasses		108
F	Allium sp.	1
F	Aster chilensis	9
F	Balsamorhiza sagittata	7
F	Chaenactis douglasii	13
F	Cirsium sp.	3
F	Comandra pallida	16
F	Eriogonum umbellatum	9
F	Hackelia patens	3
F	Machaeranthera canescens	6
F	Orthocarpus tolmiei (a)	12
F	Penstemon humilis	7
F	Penstemon sp.	21
F	Streptanthus cordatus	1
Total for Annual Forbs		12
Total for Perennial Forbs		96
Total for Forbs		108

BASIC COVER--

Management unit 17, Study no: 41

Cover Type	Average Cover % '83
Vegetation	4.25
Rock	7.50
Pavement	16.50
Litter	53.50
Cryptogams	0
Bare Ground	18.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 41

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
83	1466	9	91	-	-	77	14	14	30/20
<i>Artemisia tridentata vaseyana</i>									
83	1132	0	88	12	-	18	0	41	29/35
<i>Cercocarpus montanus</i>									
83	66	0	100	-	-	100	0	0	67/77
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	3000	0	100	-	-	0	0	0	18/18
<i>Juniperus osteosperma</i>									
83	199	33	67	-	-	0	0	0	55/41
<i>Mahonia repens</i>									
83	932	7	93	-	-	0	0	0	4/6
<i>Purshia tridentata</i>									
83	1066	0	100	-	-	50	0	0	19/26
<i>Rosa woodsii</i>									
83	3732	93	7	-	-	0	0	18	30/10
<i>Symphoricarpos oreophilus</i>									
83	6066	15	85	-	-	14	0	3	19/17

TANK HOLLOW – STUDY NO. 17-42

HERBACEOUS TRENDS--

Management unit 17, Study no: 42

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	29	62
G	Agropyron intermedium	37	52
G	Agropyron spicatum	48	51
G	Bromus carinatus	6	3
G	Oryzopsis hymenoides	6	5
G	Poa fendleriana	14	13
G	Poa secunda	-	4
G	Sitanion hystrix	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		143	190
Total for Grasses		143	190
F	Allium sp.	10	83
F	Arabis sp.	29	4
F	Artemisia dracuncululus	3	-
F	Aster chilensis	23	17
F	Chaenactis douglasii	62	7
F	Cirsium sp.	55	36
F	Comandra pallida	19	27
F	Crepis acuminata	7	45
F	Cryptantha sp.	7	-
F	Cymopterus sp.	-	44
F	Eriogonum brevicaule	8	9
F	Hackelia patens	58	69
F	Linum lewisii	42	27
F	Lithospermum ruderales	6	16
F	Machaeranthera canescens	75	3
F	Penstemon humilis	19	11
F	Phlox longifolia	86	102
F	Senecio multilobatus	3	4
F	Streptanthus cordatus	6	4
F	Taraxacum officinale	-	3
F	Tragopogon dubius (a)	30	4
F	Vicia americana	21	23
F	Zigadenus paniculatus	2	9
Total for Annual Forbs		30	4
Total for Perennial Forbs		541	543
Total for Forbs		571	547

BASIC COVER--

Management unit 17, Study no: 42

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	14.00
Rock	4.50	5.75
Pavement	3.25	6.25
Litter	61.00	51.25
Cryptogams	0	0
Bare Ground	30.00	22.75

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 42

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	66	0	100	0	-	100	0	0	25/17	
89	132	0	50	50	-	50	0	0	23/15	
<i>Artemisia tridentata vaseyana</i>										
83	2399	0	72	28	-	50	36	0	31/37	
89	2999	4	40	56	-	27	56	13	24/43	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	400	0	100	-	-	0	0	0	10/17	
89	600	0	100	-	-	0	0	0	11/13	
<i>Gutierrezia sarothrae</i>										
83	2400	0	100	0	-	0	0	0	12/8	
89	3733	0	86	14	-	0	0	7	10/10	
<i>Juniperus osteosperma</i>										
83	133	0	100	-	-	0	50	0	67/12	
89	66	0	100	-	-	0	0	0	106/79	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
83	2066	10	90	0	-	13	13	0	16/19	
89	2065	3	74	23	-	48	45	0	15/24	
<i>Symphoricarpos oreophilus</i>										
83	2265	21	79	-	66	0	0	0	19/14	
89	2133	9	91	-	-	22	0	50	15/14	

TIE FORK – STUDY NO. 17-43

HERBACEOUS TRENDS--

Management unit 17, Study no: 43

Type	Species	Nested Frequency '83
G	Agropyron cristatum	3
G	Agropyron spicatum	79
G	Oryzopsis hymenoides	3
G	Poa pratensis	51
Total for Annual Grasses		0
Total for Perennial Grasses		136
Total for Grasses		136
F	Achillea millefolium	24
F	Androsace septentrionalis (a)	35
F	Arabis sp.	6
F	Astragalus convallarius	11
F	Cynoglossum officinale	8
F	Eriogonum umbellatum	4
F	Geranium sp.	12
F	Hackelia patens	3
F	Lathyrus pauciflorus	50
F	Machaeranthera canescens	7
F	Phlox hoodii	31
F	Phlox longifolia	20
F	Solidago sp.	26
Total for Annual Forbs		35
Total for Perennial Forbs		202
Total for Forbs		237

BASIC COVER--

Management unit 17, Study no: 43

Cover Type	Average Cover % '83
Vegetation	.50
Rock	4.00
Pavement	1.00
Litter	60.75
Cryptogams	1.50
Bare Ground	32.25

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 43

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
83	66	0	0	100	-	100	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
83	333	0	40	60	-	60	0	80	24/16
<i>Cercocarpus montanus</i>									
83	533	0	100	-	-	50	50	0	39/33
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	1466	9	91	-	-	0	0	0	17/19
<i>Juniperus osteosperma</i>									
83	133	0	100	-	-	0	0	100	67/44
<i>Opuntia sp.</i>									
83	399	17	83	-	-	0	0	0	3/12
<i>Pinus edulis</i>									
83	200	100	0	-	200	0	0	0	-/-
<i>Quercus gambelii</i>									
83	3999	37	63	-	133	30	0	5	67/20
<i>Rosa woodsii</i>									
83	666	90	10	-	-	0	0	0	17/12
<i>Symphoricarpos oreophilus</i>									
83	10733	48	52	-	200	17	0	6	21/16

BILLIES MOUNTAIN – STUDY NO. 17-44

HERBACEOUS TRENDS--

Management unit 17, Study no: 44

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron smithii</i>	-	6
G	<i>Agropyron spicatum</i>	149	182
G	<i>Agropyron trachycaulum</i>	9	22
G	<i>Carex</i> sp.	6	-
G	<i>Elymus glaucus</i>	9	-
G	<i>Koeleria cristata</i>	24	4
G	<i>Melica bulbosa</i>	14	24
G	<i>Oryzopsis hymenoides</i>	4	2
G	<i>Poa bulbosa</i>	5	7
G	<i>Poa fendleriana</i>	37	16
G	<i>Poa pratensis</i>	99	156
G	<i>Poa secunda</i>	-	1
G	<i>Sitanion hystrix</i>	16	23
G	<i>Stipa lettermani</i>	44	22
Total for Annual Grasses		0	0
Total for Perennial Grasses		416	465
Total for Grasses		416	465
F	<i>Achillea millefolium</i>	89	32
F	<i>Allium</i> sp.	3	15
F	<i>Antennaria</i> sp.	10	-
F	<i>Artemisia ludoviciana</i>	37	55
F	<i>Aster chilensis</i>	301	310
F	<i>Astragalus convallarius</i>	68	82
F	<i>Astragalus</i> sp.	3	7
F	<i>Astragalus utahensis</i>	12	14
F	<i>Calochortus nuttallii</i>	11	19
F	<i>Cirsium</i> sp.	7	21
F	<i>Eriogonum brevicaule</i>	4	6
F	<i>Eriogonum umbellatum</i>	-	3
F	<i>Hackelia patens</i>	11	2
F	<i>Helianthus annuus</i> (a)	1	-
F	<i>Lactuca serriola</i> (a)	-	12
F	<i>Medicago sativa</i>	113	10
F	<i>Phlox longifolia</i>	4	128
F	<i>Taraxacum officinale</i>	1	1
F	<i>Tragopogon dubius</i> (a)	12	16
F	<i>Viguiera multiflora</i>	17	22
Total for Annual Forbs		13	28

WILDLIFE MANAGEMENT UNIT 17

Type	Species	Nested Frequency	
		'83	'89
Total for Perennial Forbs		691	727
Total for Forbs		704	755

BASIC COVER--

Management unit 17, Study no: 44

Cover Type	Average Cover %	
	'83	'89
Vegetation	5.25	12.50
Rock	.50	.75
Pavement	1.25	4.75
Litter	64.00	58.25
Cryptogams	0	0
Bare Ground	29.00	23.75

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 44

		Age class distribution					Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)		
<i>Amelanchier alnifolia</i>											
83	99	33	67	-	-	33	67	0	34/40		
89	0	0	0	-	-	0	0	0	-/-		
<i>Artemisia tridentata vaseyana</i>											
83	2333	0	47	53	100	54	33	63	22/34		
89	2433	0	14	86	-	56	26	12	24/20		
<i>Chrysothamnus depressus</i>											
83	133	0	100	-	-	0	0	0	9/11		
89	0	0	0	-	-	0	0	0	-/-		
<i>Chrysothamnus nauseosus albicaulis</i>											
83	366	18	82	0	-	36	0	0	18/13		
89	732	23	45	32	-	5	0	0	20/17		

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	833	12	88	0	-	0	0	0	16/13	
89	1698	22	69	10	-	0	0	2	14/16	
<i>Gutierrezia sarothrae</i>										
83	399	17	83	0	-	0	0	0	9/8	
89	666	0	95	5	-	0	0	5	9/10	
<i>Prunus virginiana</i>										
83	133	100	0	-	33	100	0	25	-/-	
89	200	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
83	266	12	88	-	-	38	25	0	16/33	
89	300	0	100	-	-	11	0	0	16/29	
<i>Symphoricarpos oreophilus</i>										
83	1299	67	33	-	33	18	3	3	13/14	
89	1332	42	58	-	-	0	0	0	17/11	
<i>Tetradymia canescens</i>										
83	66	100	0	-	-	0	0	0	-/-	
89	0	0	0	-	-	0	0	0	-/-	

NORTH BENCH – STUDY NO. 17-45

HERBACEOUS TRENDS--

Management unit 17, Study no: 45

Type	Species	Nested Frequency '89
G	Agropyron cristatum	202
G	Dactylis glomerata	5
G	Poa bulbosa	144
G	Poa pratensis	43
G	Poa secunda	314
Total for Annual Grasses		0
Total for Perennial Grasses		708
Total for Grasses		708
F	Comandra pallida	1
F	Erigeron pumilus	1
F	Grindelia squarrosa	25
F	Helianthus annuus (a)	35
F	Lactuca serriola (a)	6
F	Lithospermum sp.	47
F	Medicago sativa	1
F	Tragopogon dubius (a)	61
Total for Annual Forbs		102
Total for Perennial Forbs		75
Total for Forbs		177

BASIC COVER--

Management unit 17, Study no: 45

Cover Type	Average Cover % '89
Vegetation	24.00
Rock	.75
Pavement	1.25
Litter	58.25
Cryptogams	0
Bare Ground	15.75

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 45

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
89	2999	2	40	58	266	16	0	4	29/31	
<i>Gutierrezia sarothrae</i>										
89	400	50	50	-	466	0	0	0	6/8	

LOWER TANK HOLLOW – STUDY NO. 17-46

HERBACEOUS TRENDS--

Management unit 17, Study no: 46

Type	Species	Nested Frequency '89
G	Agropyron cristatum	71
G	Agropyron intermedium	31
G	Agropyron spicatum	7
G	Bromus inermis	30
G	Leucopoa kingii	11
G	Oryzopsis hymenoides	56
G	Poa fendleriana	36
G	Stipa comata	4
Total for Annual Grasses		0
Total for Perennial Grasses		246
Total for Grasses		246
F	Aster chilensis	100
F	Astragalus convallarius	13
F	Astragalus sp.	3
F	Astragalus utahensis	5
F	Chaenactis douglasii	2
F	Cirsium sp.	39
F	Erigeron pumilus	27
F	Eriogonum brevicaule	21
F	Hackelia patens	4
F	Machaeranthera canescens	9
F	Phlox hoodii	15
F	Phlox longifolia	11
F	Salsola pestifer (a)	8
F	Tragopogon dubius (a)	2
Total for Annual Forbs		10
Total for Perennial Forbs		249
Total for Forbs		259

BASIC COVER--

Management unit 17, Study no: 46

Cover Type	Average Cover % '89
Vegetation	6.00
Rock	1.25
Pavement	9.75
Litter	45.25
Cryptogams	0
Bare Ground	37.75

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 46

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata tridentata										
89	99	33	33	33	-	0	67	33	26/22	
Chrysothamnus nauseosus albicaulis										
89	33	100	0	-	-	0	0	0	-/-	
Chrysothamnus viscidiflorus viscidiflorus										
89	3032	8	84	9	-	0	0	5	11/12	
Eriogonum microthecum										
89	33	0	100	-	-	0	0	0	4/8	
Opuntia sp.										
89	33	0	100	-	33	0	0	0	7/9	
Purshia tridentata										
89	33	0	100	-	-	0	100	0	10/35	
Symphoricarpos oreophilus										
89	66	0	50	50	-	50	50	50	15/17	

TIE FORK EAST – STUDY NO. 17-47

HERBACEOUS TRENDS--

Management unit 17, Study no: 47

Type	Species	Nested Frequency '89
G	Agropyron spicatum	8
G	Carex sp.	6
G	Oryzopsis hymenoides	121
G	Poa pratensis	24
G	Sitanion hystrix	7
G	Stipa columbiana	10
G	Stipa lettermani	1
Total for Annual Grasses		0
Total for Perennial Grasses		177
Total for Grasses		177
F	Achillea millefolium	5
F	Antennaria sp.	7
F	Astragalus convallarius	3
F	Castilleja linariaefolia	2
F	Chaenactis douglasii	7
F	Cirsium sp.	4
F	Cryptantha sp.	4
F	Cynoglossum officinale	107
F	Machaeranthera canescens	11
F	Penstemon cyananthus	58
F	Penstemon humilis	16
F	Phlox longifolia	3
F	Senecio multilobatus	3
F	Unknown forb-perennial	3
Total for Annual Forbs		0
Total for Perennial Forbs		233
Total for Forbs		233

BASIC COVER--

Management unit 17, Study no: 47

Cover Type	Average Cover % '89
Vegetation	7.25
Rock	2.25
Pavement	13.50
Litter	50.50
Cryptogams	0
Bare Ground	26.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 47

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Amelanchier alnifolia</i>									
89	433	54	23	23	-	23	8	8	27/20
<i>Artemisia tridentata vaseyana</i>									
89	499	33	20	47	66	7	7	7	20/10
<i>Cercocarpus montanus</i>									
89	633	32	53	16	33	5	63	5	67/79
<i>Chrysothamnus nauseosus albicaulis</i>									
89	199	17	33	50	-	17	33	0	35/22
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
89	1966	53	36	12	-	0	0	0	18/24
<i>Juniperus osteosperma</i>									
89	99	67	33	-	33	0	33	0	197/122
<i>Opuntia sp.</i>									
89	99	33	67	-	-	0	0	0	5/6
<i>Quercus gambelii</i>									
89	0	0	0	-	33	0	0	0	-/-

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Ribes sp.										
89	66	0	100	-	-	100	0	0	18/22	
Symphoricarpos oreophilus										
89	4732	16	82	2	33	22	5	0	20/26	

BLACKTAIL RIDGE – STUDY NO. 17-48

HERBACEOUS TRENDS--

Management unit 17, Study no: 48

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	184
G	Carex sp.	-	106
G	Poa fendleriana	-	116
G	Poa secunda	-	192
G	Sitanion hystrix	-	12
G	Stipa comata	-	285
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	895
Total for Grasses		0	895
F	Arabis sp.	-	6
F	Astragalus convallarius	-	41
F	Astragalus mollissimus	-	4
F	Chaenactis douglasii	-	2
F	Cryptantha sp.	-	5
F	Erigeron eatonii	-	22
F	Eriogonum sp.	-	6
F	Phlox hoodii	-	73
F	Phlox longifolia	-	3
F	Schoenocrambe linifolia	-	28
F	Senecio multilobatus	-	5
F	Sphaeralcea coccinea	-	17
F	Trifolium gymnocarpon	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	214
Total for Forbs		0	214

BASIC COVER--

Management unit 17, Study no: 48

Cover Type	Average Cover %	
	'82	'88
Vegetation	6.00	15.75
Rock	0	0
Pavement	0	0
Litter	64.75	48.00
Cryptogams	1.75	14.00
Bare Ground	27.50	22.25

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 48

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
82	666	0	100	0	-	10	0	0	13/22	
88	998	7	47	47	200	13	0	13	13/15	
Artemisia tridentata vaseyana										
82	3866	16	78	7	-	12	0	0	19/29	
88	0	0	0	0	-	0	0	0	-/-	
Artemisia tridentata wyomingensis										
82	0	0	0	0	-	0	0	0	-/-	
88	5865	28	12	59	66	14	57	20	16/14	
Leptodactylon pungens										
82	0	0	0	-	-	0	0	0	-/-	
88	2265	12	88	-	-	0	0	0	5/4	
Opuntia sp.										
82	133	0	100	0	-	0	0	0	1/6	
88	332	40	40	20	-	0	0	0	2/2	
Pinus edulis										
82	0	0	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	

GREY WOLF MOUNTAIN – STUDY NO. 17-49

HERBACEOUS TRENDS--

Management unit 17, Study no: 49

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	316
G	Agropyron dasystachyum	-	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	322
Total for Grasses		0	322
F	Astragalus convallarius	-	17
F	Astragalus tenellus	-	1
F	Machaeranthera canescens	-	21
F	Machaeranthera grindelioides	-	4
F	Penstemon humilis	-	10
F	Phlox hoodii	-	101
F	Phlox longifolia	-	70
F	Sphaeralcea coccinea	-	183
F	Tragopogon dubius (a)	-	4
F	Trifolium gymnocarpon	-	8
Total for Annual Forbs		0	4
Total for Perennial Forbs		0	415
Total for Forbs		0	419

BASIC COVER--

Management unit 17, Study no: 49

Cover Type	Average Cover %	
	'82	'88
Vegetation	6.25	8.00
Rock	0	0
Pavement	0	0
Litter	40.25	36.00
Cryptogams	0	6.25
Bare Ground	53.50	49.75

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 49

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	1265	11	84	5	1133	42	5	5	23/27	
88	6466	73	24	3	5600	14	11	10	20/17	
<i>Ceratoides lanata</i>										
82	332	20	80	-	-	40	0	0	8/8	
88	199	33	67	-	-	0	67	0	7/7	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	1933	0	100	0	-	0	0	0	10/12	
88	3533	26	34	40	400	21	4	9	7/5	
<i>Eriogonum corymbosum</i>										
82	2533	0	100	0	-	37	0	16	13/15	
88	3466	12	54	35	66	33	13	0	14/13	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	399	0	67	33	-	0	0	17	8/8	
<i>Opuntia sp.</i>										
82	600	0	100	0	-	0	0	0	3/7	
88	732	18	36	45	600	0	0	0	4/10	

LOWER SANTAQUIN DRAW – STUDY NO. 17-50

HERBACEOUS TRENDS--

Management unit 17, Study no: 50

Type	Species	Nestled Frequency	
		'82	'88
G	Agropyron cristatum	-	307
G	Carex sp.	-	37
G	Oryzopsis hymenoides	-	15
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	359
Total for Grasses		0	359
F	Astragalus convallarius	-	4
F	Machaeranthera canescens	-	2
F	Phlox hoodii	-	79
F	Phlox longifolia	-	20
F	Schoenocrambe linifolia	-	2
F	Senecio multilobatus	-	1
F	Sphaeralcea coccinea	-	143
F	Trifolium gymnocarpon	-	6
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	257
Total for Forbs		0	257

BASIC COVER--

Management unit 17, Study no: 50

Cover Type	Average Cover %	
	'82	'88
Vegetation	6.50	7.00
Rock	0	0
Pavement	0	0
Litter	58.50	53.00
Cryptogams	0	1.75
Bare Ground	35.00	38.25

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 50

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	5065	25	50	25	1866	41	28	34	20/23	
88	4999	27	29	44	733	45	13	3	19/23	
<i>Ceratoides lanata</i>										
82	866	0	77	23	-	46	31	8	10/8	
88	1333	45	40	15	66	20	25	10	6/8	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
82	133	0	100	0	-	0	0	0	14/9	
88	332	40	40	20	-	0	0	20	24/15	
<i>Leptodactylon pungens</i>										
82	2000	30	70	-	-	0	0	0	1/7	
88	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
82	533	0	100	0	-	0	0	0	3/7	
88	866	23	38	38	66	8	0	69	3/8	

SANTAQUINS CABIN – STUDY NO. 17-51

HERBACEOUS TRENDS--

Management unit 17, Study no: 51

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	172
G	Agropyron dasystachyum	-	152
G	Bromus inermis	-	75
G	Festuca ovina	-	32
G	Oryzopsis hymenoides	-	46
G	Sitanion hystrix	-	11
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	488
Total for Grasses		0	488
F	Astragalus tenellus	-	91
F	Cirsium sp.	-	1
F	Erigeron sp.	-	3
F	Machaeranthera canescens	-	21
F	Machaeranthera grindelioides	-	8
F	Medicago sativa	-	58
F	Phlox hoodii	-	8
F	Schoenocrambe linifolia	-	3
F	Senecio multilobatus	-	3
F	Sphaeralcea coccinea	-	24
F	Tragopogon dubius (a)	-	1
F	Unknown forb-perennial	-	4
Total for Annual Forbs		0	1
Total for Perennial Forbs		0	224
Total for Forbs		0	225

BASIC COVER--

Management unit 17, Study no: 51

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.50	2.25
Rock	0	.25
Pavement	0	0
Litter	56.00	55.75
Cryptogams	0	0
Bare Ground	35.50	41.75

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 51

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	5666	51	49	0	5533	13	4	0	20/20	
88	4399	48	42	9	-	55	23	11	22/23	
<i>Chrysothamnus nauseosus hololeucus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	200	100	0	-	-	0	33	33	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	66	0	100	-	-	0	0	0	6/10	
88	0	0	0	-	-	0	0	0	-/-	
<i>Eriogonum corymbosum</i>										
82	66	0	100	-	-	0	0	0	15/16	
88	66	0	100	-	-	0	0	0	15/13	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	200	0	100	-	-	0	0	0	6/9	
<i>Juniperus osteosperma</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	
<i>Leptodactylon pungens</i>										
82	533	0	100	-	-	0	0	0	2/7	
88	0	0	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia</i> sp.										
82	933	0	100	-	-	0	0	0	3/13	
88	1533	9	91	-	-	0	0	0	3/4	
<i>Pinus edulis</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	

CUTOFF – STUDY NO. 17-52

HERBACEOUS TRENDS--

Management unit 17, Study no: 52

Type	Species	Nestled Frequency	
		'82	'88
G	Agropyron dasystachyum	-	181
G	Carex sp.	-	3
G	Elymus salina	-	39
G	Oryzopsis hymenoides	-	145
G	Poa fendleriana	-	148
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	516
Total for Grasses		0	516
F	Antennaria sp.	-	68
F	Arabis sp.	-	6
F	Astragalus convallarius	-	83
F	Astragalus sp.	-	4
F	Castilleja chromosa	-	4
F	Chaenactis douglasii	-	25
F	Cirsium sp.	-	2
F	Cryptantha sp.	-	3
F	Erigeron pumilus	-	36
F	Lithospermum ruderales	-	1
F	Machaeranthera canescens	-	151
F	Phlox hoodii	-	142
F	Sphaeralcea coccinea	-	55
F	Trifolium gymnocarpon	-	5
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	585
Total for Forbs		0	585

BASIC COVER--

Management unit 17, Study no: 52

Cover Type	Average Cover %	
	'82	'88
Vegetation	11.50	13.00
Rock	.75	1.25
Pavement	.75	.25
Litter	45.00	38.50
Cryptogams	2.75	1.00
Bare Ground	39.25	46.00

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 52

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	133	0	100	-	-	100	0	0	16/22	
88	200	100	0	-	400	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
82	1866	4	75	21	-	46	0	0	18/26	
88	2199	6	24	70	-	39	0	24	18/23	
<i>Ceratoides lanata</i>										
82	66	0	100	-	-	0	0	0	14/9	
88	0	0	0	-	-	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
82	200	0	100	-	-	100	0	0	20/19	
88	400	100	0	-	66	100	0	0	-/-	
<i>Chrysothamnus depressus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	666	10	90	-	-	0	0	0	3/6	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	1533	0	100	0	-	0	0	0	12/15	
88	3132	11	79	11	-	0	0	4	8/8	
<i>Eriogonum corymbosum</i>										
82	733	0	100	0	-	0	0	0	17/15	
88	732	45	18	36	-	0	0	0	13/11	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Opuntia fragilis</i>									
82	200	0	100	0	-	0	0	0	3/5
88	999	33	47	20	533	0	0	0	1/2
<i>Purshia tridentata</i>									
82	66	0	100	-	-	100	0	0	14/30
88	133	0	100	-	-	50	0	0	19/39
<i>Tetradymia canescens</i>									
82	200	0	100	-	-	0	0	0	8/15
88	66	0	100	-	-	0	0	0	6/6

TWO BAR RANCH – STUDY NO. 17-53

HERBACEOUS TRENDS--

Management unit 17, Study no: 53

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	132
G	Carex sp.	-	73
G	Oryzopsis hymenoides	-	40
G	Sitanion hystrix	-	29
G	Stipa comata	-	29
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	303
Total for Grasses		0	303
F	Lychnis drummondii drummondii	-	1
F	Machaeranthera canescens	-	6
F	Phlox longifolia	-	3
F	Schoenocrambe linifolia	-	2
F	Sphaeralcea coccinea	-	52
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	64
Total for Forbs		0	64

BASIC COVER--

Management unit 17, Study no: 53

Cover Type	Average Cover %	
	'82	'88
Vegetation	5.50	2.00
Rock	0	1.00
Pavement	0	.50
Litter	45.25	31.50
Cryptogams	2.50	12.25
Bare Ground	46.75	52.75

WILDLIFE MANAGEMENT UNIT 17

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 53

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	2532	13	79	8	1999	13	0	0	25/29	
88	9865	66	21	14	1866	39	3	.67	22/21	
<i>Atriplex confertifolia</i>										
82	2599	49	51	0	1133	18	0	0	12/20	
88	3398	29	55	16	333	12	2	0	10/10	
<i>Opuntia sp.</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	2066	6	94	-	-	0	0	0	4/3	
<i>Pinus edulis</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	100	0	-	-	0	0	0	-/-	
<i>Sarcobatus vermiculatus</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	1399	52	38	10	-	0	0	0	39/27	

PEATROSS RANCH – STUDY NO. 17-54

HERBACEOUS TRENDS--

Management unit 17, Study no: 54

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron dasystachyum	-	62
G	Agropyron trachycaulum	-	191
G	Carex sp.	-	99
G	Elymus salina	-	53
G	Koeleria cristata	-	55
G	Oryzopsis hymenoides	-	92
G	Poa fendleriana	-	1
G	Stipa comata	-	88
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	641
Total for Grasses		0	641
F	Antennaria sp.	-	78
F	Astragalus convallarius	-	1
F	Astragalus purshii	-	13
F	Castilleja chromosa	-	19
F	Caulanthus crassicaulis	-	12
F	Cryptantha sp.	-	60
F	Eriogonum umbellatum	-	20
F	Hymenoxys acaulis	-	100
F	Linum lewisii	-	26
F	Machaeranthera canescens	-	4
F	Machaeranthera grindelioides	-	18
F	Phlox austromontana	-	166
F	Phlox longifolia	-	3
F	Sphaeralcea coccinea	-	28
F	Taraxacum officinale	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	549
Total for Forbs		0	549

WILDLIFE MANAGEMENT UNIT 17

BASIC COVER--

Management unit 17, Study no: 54

Cover Type	Average Cover %	
	'82	'88
Vegetation	12.25	10.25
Rock	4.00	6.25
Pavement	36.00	28.75
Litter	35.50	36.75
Cryptogams	.75	2.00
Bare Ground	11.50	16.00

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 54

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
82	999	13	87	-	-	53	33	0	22/18	
88	1666	100	0	-	133	12	76	4	-/-	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	100	0	-	-	0	0	0	-/-	
<i>Eriogonum corymbosum</i>										
82	2533	0	100	0	-	0	0	0	16/12	
88	2465	43	51	5	133	0	0	11	13/9	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	2465	14	84	3	66	0	3	0	8/6	
<i>Juniperus osteosperma</i>										
82	666	10	90	0	-	0	0	0	50/30	
88	266	75	0	25	-	25	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Juniperus scopulorum</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	400	50	50	-	133	0	0	0	96/43	
<i>Pinus edulis</i>										
82	200	0	100	-	-	0	0	0	16/6	
88	332	80	20	-	200	0	0	0	217/118	
<i>Symphoricarpos oreophilus</i>										
82	466	71	29	-	-	0	0	0	7/9	
88	666	100	0	-	-	10	0	40	-/-	

LOWER HORSE RIDGE – STUDY NO. 17-55

HERBACEOUS TRENDS--

Management unit 17, Study no: 55

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron spicatum	-	219
G	Carex sp.	-	62
G	Elymus salina	-	46
G	Oryzopsis hymenoides	-	81
G	Poa secunda	-	68
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	476
Total for Grasses		0	476
F	Achillea millefolium	-	3
F	Aster chilensis	-	86
F	Astragalus convallarius	-	2
F	Astragalus purshii	-	1
F	Astragalus tenellus	-	4
F	Castilleja chromosa	-	33
F	Comandra pallida	-	196
F	Crepis acuminata	-	4
F	Cryptantha sp.	-	9
F	Delphinium nuttallianum	-	1
F	Eriogonum alatum	-	6
F	Haplopappus acaulis	-	51
F	Ipomopsis aggregata	-	4
F	Linum lewisii	-	4
F	Lithospermum sp.	-	26
F	Machaeranthera canescens	-	37
F	Machaeranthera grindelioides	-	14
F	Penstemon caespitosus	-	15
F	Penstemon humilis	-	25
F	Phlox austromontana	-	62
F	Senecio multilobatus	-	18
F	Viguiera multiflora	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	604
Total for Forbs		0	604

BASIC COVER--

Management unit 17, Study no: 55

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.00	6.00
Rock	3.75	7.75
Pavement	19.50	21.25
Litter	41.50	43.50
Cryptogams	0	0
Bare Ground	28.25	21.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 55

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	532	12	38	50	800	38	63	50	22/25	
88	1932	72	14	14	-	14	0	3	14/17	
<i>Cercocarpus montanus</i>										
82	666	0	100	0	-	0	100	30	20/17	
88	1132	41	59	0	200	53	47	12	30/23	
<i>Chrysothamnus depressus</i>										
82	0	0	0	0	-	0	0	0	-/-	
88	465	29	57	14	-	29	0	14	4/6	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	2865	9	72	19	-	14	2	16	10/11	
88	5933	7	84	9	-	13	1	7	9/9	
<i>Eriogonum corymbosum</i>										
82	399	0	67	33	-	0	0	33	16/11	
88	932	36	36	29	66	7	0	14	11/11	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
8 2	2599	5	95	0	-	0	0	0	8/10	
8 8	6132	11	84	5	-	0	0	0	6/4	
<i>Juniperus osteosperma</i>										
8 2	66	100	0	-	-	0	0	0	-/-	
8 8	66	100	0	-	66	100	0	0	-/-	
<i>Juniperus scopulorum</i>										
8 2	66	0	100	-	-	0	0	0	67/45	
8 8	66	0	100	-	-	100	0	0	122/35	
<i>Pinus edulis</i>										
8 2	66	0	100	-	-	0	0	0	63/44	
8 8	66	0	100	-	-	0	0	0	79/55	
<i>Symphoricarpos oreophilus</i>										
8 2	199	67	33	-	-	0	33	0	7/9	
8 8	399	67	33	-	-	67	0	0	11/10	
<i>Tetradymia canescens</i>										
8 2	66	0	0	100	-	0	100	0	-/-	
8 8	332	80	20	0	-	20	0	0	6/10	

SAMS CANYON – STUDY NO. 17-56

HERBACEOUS TRENDS--

Management unit 17, Study no: 56

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron spicatum	-	201
G	Carex sp.	-	64
G	Elymus salina	-	74
G	Festuca ovina	-	1
G	Oryzopsis hymenoides	-	16
G	Poa fendleriana	-	18
G	Poa secunda	-	38
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	412
Total for Grasses		0	412
F	Antennaria sp.	-	2
F	Arabis perennans	-	5
F	Astragalus argophyllus	-	6
F	Astragalus convallarius	-	2
F	Astragalus tenellus	-	5
F	Balsamorhiza sagittata	-	1
F	Castilleja flava	-	7
F	Cryptantha sp.	-	19
F	Eriogonum alatum	-	13
F	Eriogonum umbellatum	-	56
F	Hymenoxys acaulis	-	2
F	Lesquerella sp.	-	3
F	Lithospermum multiflorum	-	7
F	Machaeranthera grindelioides	-	24
F	Penstemon humilis	-	92
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	245
Total for Forbs		0	245

BASIC COVER--

Management unit 17, Study no: 56

Cover Type	Average Cover %	
	'82	'88
Vegetation	6.25	6.50
Rock	1.25	1.00
Pavement	43.00	46.00
Litter	43.00	40.25
Cryptogams	0	0
Bare Ground	6.50	6.25

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 56

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	799	8	92	-	533	17	83	8	34/29	
88	932	71	29	-	-	36	43	0	40/35	
<i>Artemisia nova</i>										
82	3199	25	54	21	200	23	65	21	9/15	
88	5799	18	40	41	133	48	1	1	10/15	
<i>Artemisia tridentata vaseyana</i>										
82	599	33	44	22	-	78	22	11	19/19	
88	599	56	33	11	-	11	11	0	11/17	
<i>Cercocarpus montanus</i>										
82	3465	40	58	2	466	19	69	2	23/23	
88	4065	82	16	2	66	21	62	0	33/29	
<i>Chrysothamnus depressus</i>										
82	599	11	89	-	-	67	22	0	6/8	
88	533	75	25	-	-	0	0	0	3/6	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	3598	2	96	2	-	0	4	4	11/9	
88	3666	35	60	5	-	0	0	18	12/12	
<i>Eriogonum corymbosum</i>										
82	266	0	75	25	-	50	0	25	12/12	
88	266	75	25	0	-	25	0	25	10/8	
<i>Gutierrezia sarothrae</i>										
82	333	0	100	-	-	0	0	0	9/8	
88	600	0	100	-	-	0	0	0	6/3	
<i>Symphoricarpos oreophilus</i>										
82	3265	39	59	2	-	6	0	0	11/17	
88	4332	82	15	3	400	11	2	14	12/16	

SKITZY CANYON – STUDY NO. 17-57

HERBACEOUS TRENDS--

Management unit 17, Study no: 57

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	159
G	Agropyron intermedium	-	48
G	Agropyron trachycaulum	-	7
G	Bouteloua gracilis	-	1
G	Bromus inermis	-	60
G	Carex sp.	-	40
G	Elymus cinereus	-	4
G	Elymus junceus	-	23
G	Sitanion hystrix	-	101
G	Stipa lettermani	-	122
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	565
Total for Grasses		0	565
F	Arabis sp.	-	3
F	Astragalus convallarius	-	12
F	Astragalus tenellus	-	45
F	Erigeron eatonii	-	3
F	Eriogonum alatum	-	15
F	Ipomopsis aggregata	-	1
F	Penstemon caespitosus	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	80
Total for Forbs		0	80

BASIC COVER--

Management unit 17, Study no: 57

Cover Type	Average Cover %	
	'82	'88
Vegetation	7.50	4.75
Rock	3.25	4.50
Pavement	18.25	10.50
Litter	63.50	68.00
Cryptogams	.75	0
Bare Ground	6.75	12.25

BROWSE CHARACTERISTICS--
Management unit 17, Study no: 57

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	0	100	-	-	0	0	0	8/11	
<i>Artemisia tridentata vaseyana</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	66	0	100	-	-	0	0	0	15/10	
<i>Pinus edulis</i>										
82	66	0	100	-	-	0	0	0	41/24	
88	66	100	0	-	66	0	0	0	-/-	

BUCK KNOLL – STUDY NO. 17-58

HERBACEOUS TRENDS--

Management unit 17, Study no: 58

Type	Species	Nested Frequency	
		'82	'88
G	Agropyron cristatum	-	217
G	Agropyron dasystachyum	-	8
G	Agropyron intermedium	-	48
G	Bromus inermis	-	23
G	Carex sp.	-	18
G	Elymus cinereus	-	11
G	Elymus junceus	-	31
G	Elymus salina	-	47
G	Oryzopsis hymenoides	-	39
G	Poa fendleriana	-	33
G	Sitanion hystrix	-	43
G	Stipa comata	-	8
G	Unknown grass - perennial	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	528
Total for Grasses		0	528
F	Arabis drummondi	-	6
F	Astragalus argophyllus	-	13
F	Astragalus miser	-	35
F	Balsamorhiza sagittata	-	1
F	Chamaechaenactis scaposa	-	6
F	Cryptantha sp.	-	8
F	Hymenoxys acaulis	-	33
F	Lesquerella sp.	-	18
F	Linum lewisii	-	16
F	Machaeranthera grindelioides	-	17
F	Penstemon caespitosus	-	13
F	Phlox sp.	-	11
F	Senecio canus	-	11
F	Townsendia incana	-	4
F	Trifolium sp.	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	196
Total for Forbs		0	196

BASIC COVER--

Management unit 17, Study no: 58

Cover Type	Average Cover %	
	'82	'88
Vegetation	8.25	8.50
Rock	2.25	2.50
Pavement	18.00	18.25
Litter	57.50	59.00
Cryptogams	0	.25
Bare Ground	14.00	11.50

BROWSE CHARACTERISTICS--

Management unit 17, Study no: 58

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	66	0	100	-	-	100	0	0	12/6	
88	66	0	100	-	-	0	0	0	31/24	
<i>Cercocarpus montanus</i>										
82	465	72	14	14	66	29	71	14	25/33	
88	599	78	22	0	-	0	0	0	44/53	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	133	0	100	-	-	0	0	0	6/4	
<i>Gutierrezia sarothrae</i>										
82	600	0	100	0	-	0	0	0	11/19	
88	2332	0	86	14	-	0	0	0	7/4	
<i>Pinus edulis</i>										
82	66	100	0	-	-	0	0	100	-/-	
88	66	100	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 17

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Purshia tridentata										
8 2	66	100	0	-	-	0	0	0	-/-	
8 8	66	0	100	-	-	100	0	0	8/6	

WILDLIFE MANAGEMENT UNIT 18

SOUTH PALMER POINT – STUDY NO. 18A-23

HERBACEOUS TRENDS--

Management unit 18A, Study no: 23

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	12	6
G	Poa secunda	160	244
G	Sitanion hystrix	9	31
Total for Annual Grasses		0	0
Total for Perennial Grasses		181	281
Total for Grasses		181	281
F	Antennaria sp.	12	18
F	Astragalus cibarius	9	12
F	Astragalus utahensis	7	13
F	Calochortus nuttallii	11	19
F	Castilleja chromosa	3	-
F	Chaenactis douglasii	1	4
F	Cirsium undulatum	5	2
F	Cryptantha sp.	-	3
F	Lactuca serriola (a)	-	7
F	Lathyrus brachycalyx	10	24
F	Phlox longifolia	10	32
Total for Annual Forbs		0	7
Total for Perennial Forbs		68	127
Total for Forbs		68	134

BASIC COVER--

Management unit 18A, Study no: 23

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.50	6.00
Rock	3.25	6.25
Pavement	1.25	10.00
Litter	63.50	53.75
Cryptogams	.25	3.75
Bare Ground	30.25	20.25

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 23

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	2399	1	51	47	66	29	69	47	19/26	
89	966	7	10	83	-	83	0	72	39/29	
<i>Gutierrezia sarothrae</i>										
83	3199	40	60	0	1966	0	0	0	9/11	
89	3732	21	79	1	33	0	0	3	13/14	
<i>Juniperus osteosperma</i>										
83	166	20	80	-	66	0	0	0	62/44	
89	266	75	25	-	-	0	0	0	335/118	

SALT MOUNTAIN STOCK POND – STUDY NO. 18A-24

HERBACEOUS TRENDS--

Management unit 18A, Study no: 24

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron cristatum	102	145
G	Agropyron spicatum	10	3
G	Poa secunda	239	221
G	Sitanion hystrix	1	18
Total for Annual Grasses		0	0
Total for Perennial Grasses		352	387
Total for Grasses		352	387
F	Agoseris glauca	10	12
F	Antennaria sp.	25	24
F	Astragalus cibarius	36	-
F	Astragalus utahensis	1	2
F	Calochortus nuttallii	17	-
F	Castilleja linariaefolia	2	-
F	Chaenactis douglasii	5	1
F	Cirsium neomexicanum	6	5
F	Cryptantha sp.	-	2
F	Eriogonum sp.	2	-
F	Helianthus annuus (a)	-	9
F	Machaeranthera canescens	4	3
F	Oenothera sp.	2	-
F	Penstemon sp.	-	2
F	Senecio multilobatus	6	-
F	Tragopogon dubius (a)	4	-
Total for Annual Forbs		4	9
Total for Perennial Forbs		116	51
Total for Forbs		120	60

WILDLIFE MANAGEMENT UNIT 18

BASIC COVER--

Management unit 18A, Study no: 24

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.25	15.00
Rock	.25	.50
Pavement	10.00	7.25
Litter	52.00	49.50
Cryptogams	2.00	.50
Bare Ground	33.50	27.25

BROWSE CHARACTERISTICS--

Management unit 18A, Study no: 24

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	4731	1	58	40	-	42	44	23	24/42	
89	3066	0	57	43	1799	9	1	15	19/25	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	200	0	100	-	-	0	0	0	10/11	
<i>Juniperus osteosperma</i>										
83	300	33	67	-	-	0	0	22	56/56	
89	100	100	0	-	-	0	0	0	-/-	

BELOW CHOKECHERRY SPRING – STUDY NO. 18A-25

HERBACEOUS TRENDS--

Management unit 18A, Study no: 25

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	57	96
G	Agropyron spicatum	7	4
G	Poa fendleriana	-	37
G	Poa secunda	184	281
G	Sitanion hystrix	7	6
G	Sporobolus cryptandrus	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		255	426
Total for Grasses		255	426
F	Agoseris glauca	-	4
F	Allium sp.	8	81
F	Antennaria sp.	-	3
F	Artemisia ludoviciana	3	1
F	Calochortus nuttallii	7	6
F	Cirsium neomexicanum	3	-
F	Crepis acuminata	-	2
F	Hackelia patens	4	4
F	Helianthus sp.	-	4
F	Lactuca serriola (a)	-	26
F	Lathyrus brachycalyx	207	149
F	Phlox longifolia	13	55
F	Taraxacum officinale	3	4
F	Tragopogon dubius (a)	3	23
Total for Annual Forbs		3	49
Total for Perennial Forbs		248	313
Total for Forbs		251	362

BASIC COVER--

Management unit 18A, Study no: 25

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	10.25
Rock	1.75	3.00
Pavement	1.75	1.50
Litter	70.00	71.75
Cryptogams	0	3.25
Bare Ground	26.25	10.25

BROWSE CHARACTERISTICS--

Management unit 18A, Study no: 25

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	966	34	66	0	-	0	0	0	29/37	
89	1332	10	73	17	-	20	3	0	27/38	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	66	50	50	-	-	0	0	0	39/77	
89	133	25	75	-	-	0	0	0	41/63	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	66	0	100	-	-	0	0	0	16/14	
89	166	60	40	-	-	0	0	0	15/23	
<i>Gutierrezia sarothrae</i>										
83	15565	87	13	0	1733	0	0	0	13/13	
89	12999	18	59	23	800	0	0	11	13/11	
<i>Purshia tridentata</i>										
83	66	0	100	0	-	0	100	50	14/24	
89	33	0	0	100	-	0	100	100	-/-	

SALT MOUNTAIN – STUDY NO. 18A-26

HERBACEOUS TRENDS--

Management unit 18A, Study no: 26

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	183	222
G	Oryzopsis hymenoides	1	-
G	Poa secunda	73	198
Total for Annual Grasses		0	0
Total for Perennial Grasses		257	420
Total for Grasses		257	420
F	Agoseris glauca	-	4
F	Allium sp.	-	4
F	Calochortus nuttallii	1	-
F	Cirsium neomexicanum	4	-
F	Delphinium nuttallianum	-	1
F	Lactuca serriola (a)	-	8
F	Senecio sp.	2	-
Total for Annual Forbs		0	8
Total for Perennial Forbs		7	9
Total for Forbs		7	17

BASIC COVER--

Management unit 18A, Study no: 26

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	10.75
Rock	19.00	8.50
Pavement	15.50	33.25
Litter	41.75	34.50
Cryptogams	5.00	.50

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 26

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata wyomingensis</i>									
83	199	0	67	33	-	0	100	33	12/17
89	199	0	67	33	-	0	0	0	15/16
<i>Cowania mexicana stansburiana</i>									
83	599	17	78	6	-	50	33	11	56/47
89	133	0	0	100	-	75	25	0	-/-
<i>Gutierrezia sarothrae</i>									
83	1399	48	52	-	-	0	0	2	14/16
89	100	0	100	-	-	0	0	0	8/12
<i>Tetradymia canescens</i>									
83	100	0	100	0	-	0	0	0	22/30
89	99	0	33	67	-	0	0	33	22/23

SOUTH OF BROONS CANYON – STUDY NO. 18A-27

HERBACEOUS TRENDS--

Management unit 18A, Study no: 27

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron spicatum	138	109
G	Poa fendleriana	-	5
G	Poa secunda	138	159
Total for Annual Grasses		0	0
Total for Perennial Grasses		276	273
Total for Grasses		276	273
F	Agoseris glauca	-	18
F	Allium sp.	3	24
F	Antennaria sp.	2	-
F	Astragalus sp.	2	17
F	Balsamorhiza sagittata	-	1
F	Calochortus nuttallii	3	3
F	Cirsium neomexicanum	6	12
F	Crepis intermedia	5	7
F	Eriogonum racemosum	-	1
F	Galium boreale	-	33
F	Hackelia patens	39	28
F	Lithospermum ruderales	3	2
F	Lomatium grayi	17	22
F	Phlox longifolia	23	56
F	Tragopogon dubius (a)	48	4
F	Zigadenus paniculatus	-	4
Total for Annual Forbs		48	4
Total for Perennial Forbs		103	228
Total for Forbs		151	232

BASIC COVER--

Management unit 18A, Study no: 27

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.75	16.00
Rock	5.00	8.75
Pavement	.50	2.00
Litter	84.25	65.50
Cryptogams	1.00	.75
Bare Ground	6.50	7.00

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 27

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
83	733	55	41	5	-	36	5	5	30/40
89	532	6	69	25	-	38	6	0	21/24
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	66	50	50	-	-	50	0	0	20/31
89	132	50	50	-	100	25	0	0	12/12
<i>Gutierrezia sarothrae</i>									
83	3200	50	50	0	133	0	0	0	13/14
89	1932	19	48	33	-	2	0	17	8/10
<i>Juniperus osteosperma</i>									
83	66	0	50	50	-	0	0	0	67/51
89	66	0	50	50	-	50	0	0	89/94
<i>Purshia tridentata</i>									
83	966	14	86	0	33	83	10	0	45/41
89	666	5	80	15	-	70	15	0	46/86

CONDIE MEADOWS – STUDY NO. 18A-28

HERBACEOUS TRENDS--

Management unit 18A, Study no: 28

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	19	193
G	Agropyron intermedium	158	52
G	Agropyron spicatum	165	131
G	Oryzopsis hymenoides	12	18
G	Poa secunda	6	9
G	Sitanion hystrix	46	19
Total for Annual Grasses		0	0
Total for Perennial Grasses		406	422
Total for Grasses		406	422
F	Antennaria sp.	2	-
F	Calochortus nuttallii	9	-
F	Tragopogon dubius (a)	14	1
Total for Annual Forbs		14	1
Total for Perennial Forbs		11	0
Total for Forbs		25	1

BASIC COVER--

Management unit 18A, Study no: 28

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	6.00
Rock	1.00	6.00
Pavement	1.75	5.75
Litter	55.50	54.25
Cryptogams	0	0
Bare Ground	40.50	28.00

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 28

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	66	0	100	-	-	0	0	0	19/30	
89	33	0	100	-	-	0	0	0	28/32	
<i>Cowania mexicana stansburiana</i>										
83	66	0	100	-	-	0	100	0	25/22	
89	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
83	1832	78	20	2	1166	0	0	2	6/7	
89	998	7	50	43	33	0	0	67	8/11	

DEADMAN CANYON – STUDY 18A-29

HERBACEOUS TRENDS--

Management unit 18A, Study no: 29

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	50	133
G	Agropyron intermedium	98	6
G	Agropyron spicatum	159	165
G	Poa bulbosa	13	-
G	Poa secunda	122	51
G	Sitanion hystrix	17	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		459	356
Total for Grasses		459	356
F	Agoseris glauca	4	-
F	Antennaria sp.	3	-
F	Arabis sp.	-	14
F	Calochortus nuttallii	19	4
F	Chaenactis douglasii	7	-
F	Crepis acuminata	3	-
F	Cruciferae	-	1
F	Erigeron pumilus	2	-
F	Erigeron sp.	2	-
F	Lathyrus brachycalyx	83	133
F	Petradoria pumila	17	12
F	Phlox longifolia	8	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		148	167
Total for Forbs		148	167

BASIC COVER--

Management unit 18A, Study no: 29

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.25	6.00
Rock	1.50	3.75
Pavement	3.25	17.00
Litter	73.50	57.25
Cryptogams	1.50	1.50
Bare Ground	17.00	14.50

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 29

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	499	47	53	0	66	33	0	0	38/45	
89	832	56	40	4	-	84	4	0	30/45	
<i>Cowania mexicana stansburiana</i>										
83	199	17	67	17	-	17	83	17	38/33	
89	166	0	40	60	-	80	20	20	33/38	
<i>Gutierrezia sarothrae</i>										
83	633	63	37	-	66	0	0	0	10/13	
89	33	0	100	-	-	0	0	0	11/9	
<i>Juniperus osteosperma</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	0	100	-	-	0	0	0	124/63	

HATCH RANCH – STUDY NO. 18A-30

HERBACEOUS TRENDS--

Management unit 18A, Study no: 30

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	17	39
G	Oryzopsis hymenoides	-	3
G	Poa secunda	192	270
Total for Annual Grasses		0	0
Total for Perennial Grasses		209	312
Total for Grasses		209	312
F	Allium sp.	10	6
F	Astragalus utahensis	-	1
F	Calochortus nuttallii	3	7
F	Chaenactis douglasii	-	2
F	Erigeron pumilus	1	10
F	Haplopappus acaulis	-	6
F	Lactuca serriola (a)	-	27
F	Lomatium sp.	-	6
F	Oenothera caespitosa	-	2
F	Phlox longifolia	2	8
F	Townsendia incana	-	37
Total for Annual Forbs		0	27
Total for Perennial Forbs		16	85
Total for Forbs		16	112

BASIC COVER--

Management unit 18A, Study no: 30

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.00	3.25
Rock	22.75	23.00
Pavement	12.00	21.25
Litter	33.75	27.25
Cryptogams	15.50	16.00
Bare Ground	14.00	9.25

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18A, Study no: 30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	1066	31	59	9	66	16	41	16	21/28	
89	1232	41	49	11	200	16	5	5	20/19	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	1999	2	93	5	-	0	0	3	12/17	
89	1832	4	51	45	-	55	4	2	7/7	
<i>Cowania mexicana stansburiana</i>										
83	598	11	83	6	-	78	22	11	50/41	
89	532	12	50	38	66	25	44	0	37/24	
<i>Gutierrezia sarothrae</i>										
83	2865	17	83	0	133	0	0	0	11/9	
89	4732	18	69	13	233	1	0	8	8/8	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	-	0	0	0	56/42	
89	100	0	100	-	133	0	0	0	79/45	
<i>Leptodactylon pungens</i>										
83	2132	12	88	0	-	0	0	2	5/5	
89	2965	6	92	2	100	0	0	0	5/6	
<i>Tetradymia canescens</i>										
83	866	0	46	54	-	0	0	23	18/19	
89	599	11	17	72	-	28	6	11	20/19	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia nuttallii										
83	0	0	0	-	-	0	0	0	-/-	
89	66	50	50	-	-	50	0	0	9/10	

BARNEY CANYON – STUDY NO. 18B-1

HERBACEOUS TRENDS--

Management unit 18B, Study no: 1

Type	Species	Nested Frequency '83
G	<i>Poa secunda</i>	10
G	<i>Stipa lettermani</i>	6
Total for Annual Grasses		0
Total for Perennial Grasses		16
Total for Grasses		16
F	<i>Achillea millefolium</i>	67
F	<i>Agoseris glauca</i>	6
F	<i>Allium</i> sp.	46
F	<i>Antennaria</i> sp.	9
F	<i>Aster</i> sp.	85
F	<i>Balsamorhiza sagittata</i>	23
F	<i>Comandra pallida</i>	59
F	<i>Crepis acuminata</i>	2
F	<i>Cymopterus longipes</i>	3
F	<i>Erigeron divergens</i>	14
F	<i>Lathyrus pauciflorus</i>	22
F	<i>Lithospermum ruderae</i>	42
F	<i>Montia perfoliata</i> (a)	7
F	<i>Solidago</i> sp.	64
F	<i>Tragopogon dubius</i> (a)	3
F	<i>Wyethia amplexicaulis</i>	206
F	<i>Zigadenus paniculatus</i>	15
Total for Annual Forbs		10
Total for Perennial Forbs		663
Total for Forbs		673

BASIC COVER--

Management unit 18B, Study no: 1

Cover Type	Average Cover % '83
Vegetation	3.50
Rock	2.00
Pavement	4.75
Litter	83.25
Cryptogams	1.25
Bare Ground	5.25

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
83	466	29	71	-	-	0	0	0	27/26	
Chrysothamnus viscidiflorus viscidiflorus										
83	66	100	0	-	-	0	0	0	-/-	
Quercus gambelii										
83	14466	39	61	-	4866	24	18	23	38/27	

CITY CANYON – STUDY NO. 18B-2

HERBACEOUS TRENDS--

Management unit 18B, Study no: 2

Type	Species	Nested Frequency '83
G	Agropyron spicatum	166
G	Poa fendleriana	20
G	Poa secunda	111
Total for Annual Grasses		0
Total for Perennial Grasses		297
Total for Grasses		297
F	Achillea millefolium	3
F	Agoseris glauca	5
F	Agoseris grandiflora	7
F	Allium sp.	16
F	Artemisia ludoviciana	26
F	Balsamorhiza sagittata	7
F	Calochortus nuttallii	3
F	Castilleja chromosa	6
F	Crepis acuminata	27
F	Cryptantha flavoculata	4
F	Cymopterus longipes	1
F	Erigeron sp.	1
F	Hydrophyllum capitatum	10
F	Lathyrus brachycalyx	101
F	Lomatium dissectum	7
F	Lomatium grayi	31
F	Phlox longifolia	27
F	Tragopogon dubius (a)	6
F	Unknown forb-perennial	2
F	Zigadenus paniculatus	3
Total for Annual Forbs		6
Total for Perennial Forbs		287
Total for Forbs		293

BASIC COVER--

Management unit 18B, Study no: 2

Cover Type	Average Cover % '83
Vegetation	3.50
Rock	21.50
Pavement	1.25
Litter	64.50
Cryptogams	.75
Bare Ground	8.50

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 2

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata tridentata</i>									
83	599	56	44	-	-	0	0	0	21/26
<i>Cercocarpus montanus</i>									
83	66	100	0	-	-	100	0	0	-/-
<i>Gutierrezia sarothrae</i>									
83	533	0	100	-	-	0	0	0	12/14
<i>Opuntia sp.</i>									
83	200	0	100	-	-	0	0	0	9/8
<i>Quercus gambelii</i>									
83	999	73	27	-	-	0	0	0	47/28

MANNING CANYON – STUDY NO. 18B-3

HERBACEOUS TRENDS--

Management unit 18B, Study no: 3

Type	Species	Nestled Frequency	
		'83	'90
G	Agropyron spicatum	110	133
G	Oryzopsis hymenoides	77	64
G	Poa secunda	1	15
G	Sitanion hystrix	89	55
G	Stipa comata	11	29
Total for Annual Grasses		0	0
Total for Perennial Grasses		288	296
Total for Grasses		288	296
F	Astragalus sp.	6	-
F	Calochortus nuttallii	17	-
F	Lathyrus brachycalyx	3	2
F	Petradoria pumila	23	37
F	Phlox longifolia	2	-
F	Sphaeralcea coccinea	20	21
F	Streptanthus cordatus	9	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		80	60
Total for Forbs		80	60

BASIC COVER--

Management unit 18B, Study no: 3

Cover Type	Average Cover %	
	'83	'90
Vegetation	1.50	5.25
Rock	5.25	7.25
Pavement	4.25	25.75
Litter	59.25	41.00
Cryptogams	4.00	4.75
Bare Ground	25.75	16.00

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	0	0	0	-	-	0	0	0	-/-	
90	33	0	100	-	-	100	0	0	8/10	
<i>Artemisia tridentata vaseyana</i>										
83	1599	8	67	25	-	2	92	21	13/18	
90	1432	2	9	88	-	56	2	28	14/16	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	366	45	55	0	-	0	0	0	12/16	
90	66	0	50	50	-	50	0	50	5/4	
<i>Cowania mexicana stansburiana</i>										
83	66	50	50	-	-	50	50	0	33/28	
90	99	67	33	-	33	0	100	0	35/26	
<i>Ephedra viridis</i>										
83	200	0	100	0	-	100	0	17	39/39	
90	232	14	28	57	-	0	0	14	40/39	
<i>Gutierrezia sarothrae</i>										
83	432	38	54	8	-	0	0	0	9/7	
90	1033	19	71	10	-	0	0	3	5/6	
<i>Juniperus osteosperma</i>										
83	66	100	0	-	-	0	0	0	-/-	
90	66	50	50	-	-	0	0	0	91/69	

WILDLIFE MANAGEMENT UNIT 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Opuntia sp.										
83	66	0	100	-	-	0	0	0	7/5	
90	166	20	80	-	33	0	0	0	6/7	

SILVERADO CANYON – STUDY NO. 18B-4

HERBACEOUS TRENDS--

Management unit 18B, Study no: 4

Type	Species	Nestled Frequency	
		'83	'89
G	Poa secunda	104	127
G	Sitanion hystrix	33	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		137	127
Total for Grasses		137	127
F	Astragalus mollissimus	1	1
F	Calochortus nuttallii	3	-
F	Chaenactis douglasii	2	-
F	Cryptantha sp.	2	2
F	Physaria australis	1	3
F	Tragopogon dubius (a)	1	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		9	6
Total for Forbs		10	6

BASIC COVER--

Management unit 18B, Study no: 4

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	6.25
Rock	12.50	26.75
Pavement	41.75	33.00
Litter	25.25	23.25
Cryptogams	0	1.00
Bare Ground	20.50	9.75

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	3565	1	58	41	-	0	99	99	11/17	
89	4199	1	33	66	-	21	0	25	8/12	
<i>Ephedra viridis</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
83	132	50	50	0	33	0	0	0	67/101	
89	166	60	20	20	33	0	0	20	98/122	
<i>Pinus monophylla</i>										
83	266	62	38	-	-	0	0	0	67/126	
89	266	88	12	-	33	0	0	0	106/110	

BIG DIP GULCH – STUDY NO. 18B-5

HERBACEOUS TRENDS--

Management unit 18B, Study no: 5

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	49	119
G	Oryzopsis hymenoides	3	9
G	Poa secunda	160	222
G	Sitanion hystrix	4	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		216	351
Total for Grasses		216	351
F	Antennaria sp.	1	-
F	Castilleja chromosa	-	2
F	Chaenactis douglasii	11	22
F	Cryptantha sp.	2	3
F	Eriogonum sp.	-	1
F	Lactuca serriola (a)	-	6
F	Lygodesmia spinosa	7	-
F	Phlox hoodii	-	7
Total for Annual Forbs		0	6
Total for Perennial Forbs		21	35
Total for Forbs		21	41

BASIC COVER--

Management unit 18B, Study no: 5

Cover Type	Average Cover %	
	'83	'89
Vegetation	.75	10.00
Rock	16.25	33.00
Pavement	54.25	37.75
Litter	15.00	9.75
Cryptogams	0	.75
Bare Ground	13.75	8.75

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	9532	36	52	11	66	14	86	8	8/14	
89	9066	26	18	57	1666	56	0	0	7/15	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	66	100	0	-	-	0	0	0	-/-	
89	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	133	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
83	66	0	100	-	-	0	0	0	6/6	
89	66	100	0	-	-	0	0	0	-/-	

SOUTH OF SOLDIER CANYON – STUDY NO. 18B-6

HERBACEOUS TRENDS--

Management unit 18B, Study no: 6

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron cristatum	106	101
G	Agropyron spicatum	146	210
G	Oryzopsis hymenoides	22	14
G	Poa secunda	60	177
G	Sitanion hystrix	7	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		341	506
Total for Grasses		341	506
F	Antennaria sp.	-	1
F	Astragalus sp.	1	4
F	Calochortus nuttallii	-	2
F	Cryptantha sp.	-	2
F	Erigeron pumilus	1	3
F	Petradoria pumila	19	26
F	Phlox hoodii	69	93
Total for Annual Forbs		0	0
Total for Perennial Forbs		90	131
Total for Forbs		90	131

BASIC COVER--

Management unit 18B, Study no: 6

Cover Type	Average Cover %	
	'83	'89
Vegetation	5.50	10.00
Rock	1.25	2.25
Pavement	25.75	30.25
Litter	38.00	34.75
Cryptogams	3.00	8.50
Bare Ground	26.50	14.25

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1333	23	77	0	-	8	0	0	24/30	
89	1332	35	40	25	-	38	0	8	30/31	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	2766	22	77	1	-	0	0	1	11/18	
89	1932	53	26	21	100	2	0	0	9/10	
<i>Gutierrezia sarothrae</i>										
83	466	7	93	0	-	0	0	0	8/12	
89	299	78	11	11	-	11	0	0	8/13	
<i>Juniperus osteosperma</i>										
83	166	0	100	-	-	0	0	0	60/44	
89	199	17	83	-	-	0	0	0	73/55	
<i>Opuntia sp.</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	50	-/-	

CALUMET MINE – STUDY NO. 18B-7

HERBACEOUS TRENDS--

Management unit 18B, Study no: 7

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	13	2
G	<i>Oryzopsis hymenoides</i>	6	5
G	<i>Poa fendleriana</i>	14	45
G	<i>Poa pratensis</i>	151	203
G	<i>Poa secunda</i>	105	72
G	<i>Sitanion hystrix</i>	2	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		291	350
Total for Grasses		291	350
F	<i>Agoseris glauca</i>	1	2
F	<i>Antennaria sp.</i>	-	8
F	<i>Arabis sp.</i>	1	6
F	<i>Astragalus sp.</i>	-	2
F	<i>Chaenactis douglasii</i>	-	3
F	<i>Comandra pallida</i>	115	111
F	<i>Crepis acuminata</i>	-	17
F	<i>Delphinium nuttallianum</i>	-	4
F	<i>Eriogonum racemosum</i>	15	15
F	<i>Hydrophyllum sp.</i>	-	2
F	<i>Lathyrus pauciflorus</i>	15	22
F	<i>Lomatium triternatum</i>	-	28
F	<i>Petradoria pumila</i>	3	25
F	<i>Phacelia sp.</i>	-	1
F	<i>Phlox longifolia</i>	2	22
F	<i>Tragopogon dubius (a)</i>	1	10
F	<i>Zigadenus paniculatus</i>	-	7
Total for Annual Forbs		1	10
Total for Perennial Forbs		152	275
Total for Forbs		153	285

WILDLIFE MANAGEMENT UNIT 18

BASIC COVER--

Management unit 18B, Study no: 7

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.50	2.75
Rock	6.00	9.25
Pavement	.50	1.00
Litter	75.00	74.75
Cryptogams	1.00	0
Bare Ground	15.00	12.25

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 7

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1932	10	66	24	-	38	0	3	21/28	
89	1333	10	45	45	66	25	0	10	19/24	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	1733	31	69	0	133	0	0	0	14/12	
89	799	42	25	33	-	0	0	8	13/12	
<i>Quercus gambelii</i>										
83	20932	20	79	1	533	14	0	.31	37/22	
89	24332	62	33	5	6866	.54	.82	.82	39/28	

SILCOX CANYON – STUDY NO. 18B-8

HERBACEOUS TRENDS--

Management unit 18B, Study no: 8

Type	Species	Nestled Frequency	
		'83	'89
G	Poa bulbosa	3	147
G	Poa secunda	169	150
Total for Annual Grasses		0	0
Total for Perennial Grasses		172	297
Total for Grasses		172	297
F	Achillea millefolium	-	3
F	Agoseris glauca	-	2
F	Astragalus sp.	-	11
F	Calochortus nuttallii	4	1
F	Lactuca serriola (a)	-	12
F	Lomatium triternatum	-	2
F	Oenothera sp.	-	2
F	Phlox longifolia	-	12
F	Tragopogon dubius (a)	-	1
F	Unknown forb-perennial	-	9
F	Wyethia amplexicaulis	20	17
F	Zigadenus paniculatus	-	9
Total for Annual Forbs		0	13
Total for Perennial Forbs		24	68
Total for Forbs		24	81

BASIC COVER--

Management unit 18B, Study no: 8

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	12.50
Rock	10.50	16.00
Pavement	5.75	16.25
Litter	64.50	45.00
Cryptogams	0	0
Bare Ground	19.00	10.25

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
 Management unit 18B, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	1866	4	86	11	-	0	4	0	23/26	
89	2532	0	61	39	200	3	0	3	26/26	
<i>Quercus gambelii</i>										
83	22999	93	1	6	3733	.28	.86	.28	54/25	
89	35732	87	11	2	5066	.18	0	0	35/30	

LEFT FORK SETTLEMENT CANYON – STUDY NO. 18B-9

HERBACEOUS TRENDS--

Management unit 18B, Study no: 9

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	84	63
G	<i>Aristida purpurea</i>	-	2
G	<i>Oryzopsis hymenoides</i>	13	20
G	<i>Poa bulbosa</i>	-	17
G	<i>Poa pratensis</i>	4	27
G	<i>Poa secunda</i>	14	34
G	<i>Sitanion hystrix</i>	1	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		116	163
Total for Grasses		116	163
F	<i>Agoseris glauca</i>	-	3
F	<i>Artemisia ludoviciana</i>	6	5
F	<i>Asclepias asperula</i>	3	4
F	<i>Aster chilensis</i>	6	59
F	<i>Calochortus nuttallii</i>	-	4
F	<i>Cirsium sp.</i>	19	12
F	<i>Comandra pallida</i>	55	37
F	<i>Crepis acuminata</i>	3	15
F	Cruciferae	-	3
F	<i>Cymopterus sp.</i>	-	3
F	<i>Gayophytum ramosissimum(a)</i>	-	45
F	<i>Hackelia patens</i>	-	4
F	<i>Hedysarum boreale</i>	3	6
F	<i>Ipomopsis aggregata</i>	3	2
F	<i>Lactuca serriola (a)</i>	-	18
F	<i>Lithospermum ruderales</i>	-	6
F	<i>Lygodesmia grandiflora</i>	6	-
F	<i>Oenothera caespitosa</i>	3	3
F	<i>Phlox longifolia</i>	-	46
F	<i>Senecio sp.</i>	-	2
F	<i>Solidago sparsiflora</i>	75	43
F	<i>Tragopogon dubius (a)</i>	31	17
F	<i>Trifolium sp.</i>	-	15
F	Unknown forb-perennial	-	1
F	<i>Viola sp.</i>	-	2
F	<i>Zigadenus paniculatus</i>	2	40
Total for Annual Forbs		31	80

WILDLIFE MANAGEMENT UNIT 18

Type	Species	Nest Frequency	
		'83	'89
Total for Perennial Forbs		184	315
Total for Forbs		215	395

BASIC COVER--

Management unit 18B, Study no: 9

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	6.75
Rock	7.75	11.25
Pavement	0	3.25
Litter	74.50	63.50
Cryptogams	0	0
Bare Ground	17.75	15.25

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	399	50	33	17	-	50	0	17	20/20	
89	266	25	75	0	-	25	0	0	15/17	
<i>Gutierrezia sarothrae</i>										
83	9000	31	69	0	-	0	0	0	10/7	
89	8066	35	44	21	1400	0	0	0	11/6	
<i>Opuntia sp.</i>										
83	66	0	100	-	-	0	0	0	4/10	
89	132	50	50	-	-	0	0	0	5/10	
<i>Quercus gambelii</i>										
83	16799	56	44	0	533	51	12	0	29/16	
89	26732	90	1	9	14999	47	3	33	66/39	

BATES CANYON – STUDY NO. 18B-10

HERBACEOUS TRENDS--

Management unit 18A, Study no: 10

Type	Species	Nestled Frequency	
		'83	'89
G	Poa bulbosa	12	251
G	Poa fendleriana	-	19
G	Poa secunda	84	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		96	293
Total for Grasses		96	293
F	Agoseris glauca	6	-
F	Arabis sp.	-	3
F	Asclepias asperula	-	1
F	Calochortus nuttallii	2	11
F	Castilleja chromosa	-	25
F	Grindelia squarrosa	-	5
F	Helianthus annuus (a)	-	66
F	Lactuca serriola (a)	-	22
F	Lesquerella sp.	-	5
F	Lomatium triternatum	-	13
F	Unknown forb-perennial	-	76
F	Viola sp.	-	1
F	Zigadenus paniculatus	21	88
Total for Annual Forbs		0	88
Total for Perennial Forbs		29	228
Total for Forbs		29	316

BASIC COVER--

Management unit 18A, Study no: 10

Cover Type	Average Cover %	
	'83	'89
Vegetation	.50	6.50
Rock	1.25	1.00
Pavement	25.50	26.50
Litter	46.00	39.50
Cryptogams	6.00	23.75
Bare Ground	20.75	2.75

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
 Management unit 18A, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	3899	21	65	15	-	50	12	10	15/33	
89	3032	2	41	57	10633	25	2	24	11/22	
<i>Gutierrezia sarothrae</i>										
83	266	62	38	0	100	0	0	0	12/14	
89	1532	46	33	22	66	4	0	11	8/8	

ROSE CANYON – STUDY NO. 18B-11

HERBACEOUS TRENDS--

Management unit 18B, Study no: 11

Type	Species	Nested Frequency '83
G	Agropyron intermedium	22
G	Agropyron spicatum	144
G	Poa fendleriana	18
G	Poa secunda	94
G	Sitanion hystrix	15
Total for Annual Grasses		0
Total for Perennial Grasses		293
Total for Grasses		293
F	Allium sp.	4
F	Astragalus sp.	3
F	Cirsium sp.	3
F	Euphorbia sp.	12
F	Machaeranthera sp.	7
F	Orobanche uniflora	3
F	Phlox longifolia	3
F	Tragopogon dubius (a)	13
Total for Annual Forbs		13
Total for Perennial Forbs		35
Total for Forbs		48

BASIC COVER--

Management unit 18B, Study no: 11

Cover Type	Average Cover % '83
Vegetation	2.00
Rock	14.50
Pavement	7.75
Litter	71.00
Cryptogams	.25
Bare Ground	4.50

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 11

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier alnifolia</i>									
83	200	0	100	-	-	0	100	0	20/28
<i>Artemisia tridentata vaseyana</i>									
83	3865	7	81	12	-	16	10	12	23/29
<i>Gutierrezia sarothrae</i>									
83	1199	11	89	-	66	0	0	0	8/7
<i>Opuntia sp.</i>									
83	1466	0	100	-	-	0	0	0	6/6
<i>Purshia tridentata</i>									
83	1599	4	96	-	-	0	96	0	26/30
<i>Quercus gambelii</i>									
83	266	100	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
83	333	0	100	-	-	0	100	0	19/25

COON CANYON – STUDY NO. 18B-12

HERBACEOUS TRENDS--

Management unit 18B, Study no: 12

Type	Species	Nested Frequency	
		'83	'90
G	<i>Agropyron spicatum</i>	5	4
G	<i>Bromus inermis</i>	14	19
G	<i>Poa compressa</i>	7	-
G	<i>Poa fendleriana</i>	-	20
G	<i>Poa pratensis</i>	67	87
G	<i>Poa secunda</i>	10	17
G	<i>Stipa comata</i>	5	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		108	155
Total for Grasses		108	155
F	<i>Achillea millefolium</i>	48	15
F	<i>Agoseris glauca</i>	-	1
F	<i>Allium sp.</i>	-	27
F	<i>Ambrosia psilostachya</i>	-	11
F	<i>Arabis sp.</i>	12	6
F	<i>Artemisia ludoviciana</i>	23	13
F	<i>Aster chilensis</i>	36	31
F	<i>Balsamorhiza sagittata</i>	-	56
F	<i>Cirsium sp.</i>	3	3
F	<i>Crepis acuminata</i>	2	9
F	<i>Eriogonum umbellatum</i>	5	1
F	<i>Lathyrus brachycalyx</i>	3	1
F	<i>Lathyrus pauciflorus</i>	3	18
F	<i>Linaria dalmatica</i>	-	11
F	<i>Lithospermum ruderales</i>	3	11
F	<i>Lomatium sp.</i>	-	6
F	<i>Oenothera sp.</i>	2	-
F	<i>Phlox longifolia</i>	1	15
F	<i>Solidago sparsiflora</i>	57	49
F	<i>Taraxacum officinale</i>	-	2
F	<i>Tragopogon dubius (a)</i>	8	8
F	<i>Verbascum thapsus</i>	1	-
F	<i>Wyethia amplexicaulis</i>	22	14
Total for Annual Forbs		8	8
Total for Perennial Forbs		221	300
Total for Forbs		229	308

WILDLIFE MANAGEMENT UNIT 18

BASIC COVER--

Management unit 18B, Study no: 12

Cover Type	Average Cover %	
	'83	'90
Vegetation	3.00	6.25
Rock	2.00	5.50
Pavement	25.75	25.75
Litter	62.50	46.50
Cryptogams	0	0
Bare Ground	6.75	16.00

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
83	22932	81	19	0	-	0	0	.87	8/8	
90	533	38	62	0	-	0	0	13	9/11	
<i>Quercus gambelii</i>										
83	10132	66	24	9	1999	78	0	16	33/21	
90	16665	66	19	15	4133	24	0	9	24/17	

KRESSLER PEAK – STUDY NO. 18B-13

HERBACEOUS TRENDS--

Management unit 18B, Study no: 13

Type	Species	Nested Frequency '90
G	Agropyron spicatum	22
G	Agropyron trachycaulum	27
G	Bromus carinatus	140
G	Carex sp.	3
G	Poa bulbosa	32
G	Poa pratensis	202
G	Poa secunda	63
Total for Annual Grasses		0
Total for Perennial Grasses		489
Total for Grasses		489
F	Achillea millefolium	121
F	Aster chilensis	191
F	Lactuca serriola (a)	27
F	Lathyrus pauciflorus	20
F	Penstemon sp.	4
F	Solidago sp.	6
F	Tragopogon dubius (a)	2
F	Unknown forb-perennial	2
F	Viola sp.	1
Total for Annual Forbs		29
Total for Perennial Forbs		345
Total for Forbs		374

BASIC COVER--

Management unit 18B, Study no: 13

Cover Type	Average Cover % '90
Vegetation	12.75
Rock	7.00
Pavement	5.25
Litter	44.50
Cryptogams	1.25
Bare Ground	29.25

WILDLIFE MANAGEMENT UNIT 18

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 13

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Acer grandidentatum</i>									
90	33	100	0	-	33	100	0	0	-/-

LITTLE VALLEY – STUDY NO. 18B-14

HERBACEOUS TRENDS--

Management unit 18B, Study no: 14

Type	Species	Nested Frequency '90
G	Agropyron smithii	266
G	Poa pratensis	1
G	Secale cereale (a)	143
Total for Annual Grasses		143
Total for Perennial Grasses		267
Total for Grasses		410
F	Ambrosia psilostachya	48
F	Aster chilensis	15
F	Comandra pallida	1
F	Convolvulus arvensis	9
F	Grindelia squarrosa	213
F	Helianthus annuus (a)	12
F	Linaria dalmatica	3
F	Machaeranthera canescens	22
F	Nicotiana attenuata (a)	16
F	Tragopogon dubius (a)	7
Total for Annual Forbs		35
Total for Perennial Forbs		311
Total for Forbs		346

BASIC COVER--

Management unit 18B, Study no: 14

Cover Type	Average Cover % '90
Vegetation	4.75
Rock	0
Pavement	.25
Litter	53.00
Cryptogams	4.00
Bare Ground	38.00

UPPER KESSLER – STUDY NO. 18B-15

HERBACEOUS TRENDS--

Management unit 18B, Study no: 15

Type	Species	Nested Frequency '90
G	Agropyron elongatum	286
G	Poa fendleriana	3
G	Poa pratensis	23
Total for Annual Grasses		0
Total for Perennial Grasses		312
Total for Grasses		312
F	Aster chilensis	25
F	Grindelia squarrosa	27
F	Lactuca serriola (a)	2
F	Medicago sativa	11
F	Solidago sp.	18
Total for Annual Forbs		2
Total for Perennial Forbs		81
Total for Forbs		83

BASIC COVER--

Management unit 18B, Study no: 15

Cover Type	Average Cover % '90
Vegetation	6.75
Rock	33.50
Pavement	7.25
Litter	42.75
Cryptogams	2.25
Bare Ground	7.50

SMELTER – STUDY NO. 18B-16

HERBACEOUS TRENDS--

Management unit 18B, Study no: 16

Type	Species	Nested Frequency '90
G	Agropyron intermedium	120
G	Festuca ovina	13
Total for Annual Grasses		0
Total for Perennial Grasses		133
Total for Grasses		133
F	Grindelia squarrosa	43
F	Helianthus annuus (a)	7
F	Medicago sativa	2
F	Mentzelia sp.	36
F	Salsola pestifer (a)	54
Total for Annual Forbs		61
Total for Perennial Forbs		81
Total for Forbs		142

BASIC COVER--

Management unit 18B, Study no: 16

Cover Type	Average Cover % '90
Vegetation	5.00
Rock	10.25
Pavement	72.00
Litter	10.75
Cryptogams	0
Bare Ground	2.00

DEADMAN – STUDY NO. 18B-17

HERBACEOUS TRENDS--

Management unit 18B, Study no: 17

Type	Species	Nested Frequency '90
G	Poa bulbosa	1
G	Poa fendleriana	50
G	Poa pratensis	58
G	Poa secunda	161
Total for Annual Grasses		0
Total for Perennial Grasses		270
Total for Grasses		270
F	Agoseris glauca	6
F	Allium sp.	1
F	Ambrosia artemisiifolia	8
F	Arabis sp.	4
F	Aster chilensis	190
F	Astragalus utahensis	3
F	Chaenactis douglasii	3
F	Grindelia squarrosa	18
F	Helianthus annuus (a)	1
F	Linaria dalmatica	2
F	Phlox longifolia	5
Total for Annual Forbs		1
Total for Perennial Forbs		240
Total for Forbs		241

BASIC COVER--

Management unit 18B, Study no: 17

Cover Type	Average Cover % '90
Vegetation	5.50
Rock	6.00
Pavement	4.50
Litter	38.25
Cryptogams	18.25
Bare Ground	27.50

BROWSE CHARACTERISTICS--
Management unit 18B, Study no: 17

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
9 0	12332	15	55	30	333	27	.54	13	15/15	
Gutierrezia sarothrae										
9 0	2533	8	92	-	-	0	0	0	9/13	

HOGBACK – STUDY NO. 18B-18

HERBACEOUS TRENDS--

Management unit 18B, Study no: 18

Type	Species	Nested Frequency '90
G	<i>Aristida purpurea</i>	7
G	<i>Poa bulbosa</i>	97
G	<i>Poa pratensis</i>	5
G	<i>Poa secunda</i>	41
G	<i>Sitanion hystrix</i>	1
Total for Annual Grasses		0
Total for Perennial Grasses		151
Total for Grasses		151
F	<i>Ambrosia psilostachya</i>	79
F	<i>Arabis</i> sp.	4
F	<i>Asclepias asperula</i>	2
F	<i>Aster chilensis</i>	1
F	<i>Calochortus nuttallii</i>	10
F	<i>Cirsium undulatum</i>	3
F	<i>Convolvulus arvensis</i>	27
F	<i>Grindelia squarrosa</i>	101
F	<i>Helianthus annuus</i> (a)	12
F	<i>Heterotheca villosa</i>	10
F	<i>Linaria dalmatica</i>	2
F	<i>Lithospermum ruderales</i>	1
F	<i>Machaeranthera canescens</i>	3
F	<i>Phlox longifolia</i>	16
F	<i>Tragopogon dubius</i> (a)	4
F	<i>Zigadenus paniculatus</i>	18
Total for Annual Forbs		16
Total for Perennial Forbs		277
Total for Forbs		293

BASIC COVER--

Management unit 18B, Study no: 18

Cover Type	Average Cover % '90
Vegetation	2.75
Rock	4.25
Pavement	5.75
Litter	42.50
Cryptogams	21.75
Bare Ground	23.00

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 18

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
90	9531	76	24	1	933	41	0	.69	14/23
<i>Chrysothamnus nauseosus nauseosus</i>									
90	66	0	50	50	-	0	0	50	27/19
<i>Gutierrezia sarothrae</i>									
90	4232	15	76	9	-	0	0	4	10/11

BLACK ROCK WEST – STUDY NO. 18B-19

HERBACEOUS TRENDS--

Management unit 18B, Study no: 19

Type	Species	Nested Frequency '90
G	Agropyron spicatum	185
G	Bromus carinatus	3
G	Leucopoa kingii	159
G	Poa fendleriana	170
G	Poa secunda	246
Total for Annual Grasses		0
Total for Perennial Grasses		763
Total for Grasses		763
F	Achillea millefolium	83
F	Agoseris glauca	1
F	Antennaria sp.	273
F	Arabis sp.	11
F	Arenaria fendleri	284
F	Aster sp.	9
F	Calochortus nuttallii	22
F	Castilleja linariaefolia	28
F	Chaenactis douglasii	30
F	Comandra pallida	19
F	Crepis acuminata	141
F	Draba sp. (a)	2
F	Eriogonum umbellatum	10
F	Geum sp.	7
F	Lathyrus brachycalyx	35
F	Lupinus argenteus	17
F	Potentilla sp.	8
F	Senecio multilobatus	1
F	Unknown forb-perennial	1
Total for Annual Forbs		2
Total for Perennial Forbs		980
Total for Forbs		982

BASIC COVER--

Management unit 18B, Study no: 19

Cover Type	Average Cover % '90
Vegetation	27.75
Rock	22.75
Pavement	17.50
Litter	19.75
Cryptogams	1.25
Bare Ground	11.00

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 19

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier alnifolia										
90	4566	64	0	36	-	50	13	.72	-/-	
Chrysothamnus viscidiflorus viscidiflorus										
90	7065	26	66	8	-	16	.47	.47	7/10	

BLACK ROCK EAST – STUDY NO. 18B-20

HERBACEOUS TRENDS--

Management unit 18B, Study no: 20

Type	Species	Nested Frequency '90
G	Agropyron spicatum	3
G	Agropyron trachycaulum	157
G	Bromus carinatus	102
G	Leucopoa kingii	21
G	Melica bulbosa	4
G	Poa pratensis	2
G	Stipa columbiana	16
G	Stipa lettermani	121
Total for Annual Grasses		0
Total for Perennial Grasses		426
Total for Grasses		426
F	Achillea millefolium	97
F	Agoseris glauca	26
F	Arabis sp.	13
F	Chaenactis douglasii	21
F	Crepis acuminata	19
F	Delphinium nuttallianum	5
F	Erysimum sp.	9
F	Helianthella uniflora	16
F	Helianthus annuus (a)	1
F	Lactuca serriola (a)	4
F	Lathyrus brachycalyx	9
F	Lupinus argenteus	68
F	Machaeranthera canescens	1
F	Osmorhiza occidentalis	12
F	Thalictrum fendleri	8
F	Tragopogon dubius (a)	13
F	Viguiera multiflora	197
Total for Annual Forbs		18
Total for Perennial Forbs		501
Total for Forbs		519

BASIC COVER--

Management unit 18B, Study no: 20

Cover Type	Average Cover % '90
Vegetation	7.75
Rock	11.75
Pavement	16.00
Litter	51.50
Cryptogams	.25
Bare Ground	12.75

BLACK ROCK CANYON – STUDY NO. 18B-21

HERBACEOUS TRENDS--

Management unit 18B, Study no: 21

Type	Species	Nested Frequency '90
G	<i>Agropyron intermedium</i>	3
G	<i>Aristida purpurea</i>	6
G	<i>Muhlenbergia asperifolia</i>	167
G	<i>Poa pratensis</i>	16
G	<i>Sporobolus cryptandrus</i>	10
Total for Annual Grasses		0
Total for Perennial Grasses		202
Total for Grasses		202
F	<i>Ambrosia psilostachya</i>	217
F	<i>Aster sp.</i>	1
F	<i>Carduus nutans (a)</i>	11
F	<i>Comandra pallida</i>	2
F	Cruciferae	1
F	<i>Grindelia squarrosa</i>	94
F	<i>Helianthus annuus (a)</i>	14
F	<i>Lactuca serriola (a)</i>	23
F	<i>Linaria dalmatica</i>	6
F	<i>Medicago sativa</i>	4
F	<i>Melilotus alba</i>	22
F	<i>Nicotiana attenuata (a)</i>	1
F	<i>Salsola pestifer (a)</i>	3
F	<i>Tragopogon dubius (a)</i>	44
Total for Annual Forbs		96
Total for Perennial Forbs		347
Total for Forbs		443

BASIC COVER--

Management unit 18B, Study no: 21

Cover Type	Average Cover % '90
Vegetation	5.00
Rock	10.00
Pavement	2.50
Litter	77.25
Cryptogams	0
Bare Ground	5.25

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 21

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Gutierrezia sarothrae									
90	199	17	83	-	-	0	0	0	17/11

RODGERS CANYON – STUDY NO. 18B-22

HERBACEOUS TRENDS--

Management unit 18B, Study no: 22

Type	Species	Nested Frequency '90
G	Agropyron spicatum	132
G	Aristida purpurea	69
G	Poa bulbosa	50
G	Poa secunda	13
Total for Annual Grasses		0
Total for Perennial Grasses		264
Total for Grasses		264
F	Ambrosia psilostachya	149
F	Asclepias asperula	1
F	Astragalus sp.	27
F	Astragalus utahensis	117
F	Calochortus nuttallii	8
F	Cirsium sp.	32
F	Cirsium undulatum	139
F	Grindelia squarrosa	59
F	Helianthus annuus (a)	5
F	Lactuca serriola (a)	2
F	Lithospermum sp.	29
F	Oenothera sp.	11
F	Phlox longifolia	5
F	Tragopogon dubius (a)	24
F	Zigadenus paniculatus	3
Total for Annual Forbs		31
Total for Perennial Forbs		580
Total for Forbs		611

BASIC COVER--

Management unit 18B, Study no: 22

Cover Type	Average Cover % '90
Vegetation	8.75
Rock	21.25
Pavement	14.75
Litter	33.50
Cryptogams	.25
Bare Ground	21.50

BROWSE CHARACTERISTICS--

Management unit 18B, Study no: 22

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Gutierrezia sarothrae										
90	6532	58	33	9	-	0	1	4	9/12	

WILDLIFE MANAGEMENT UNIT 19

TRAIL GULCH – STUDY NO. 19A-1

HERBACEOUS TRENDS--

Management unit 19A, Study no: 1

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	43	47
G	Hilaria jamesii	37	33
G	Oryzopsis hymenoides	5	6
G	Poa secunda	3	14
G	Sporobolus cryptandrus	-	20
Total for Annual Grasses		0	0
Total for Perennial Grasses		88	120
Total for Grasses		88	120
F	Cirsium neomexicanum	6	19
F	Lygodesmia grandiflora	3	-
F	Machaeranthera sp.	1	-
F	Phlox longifolia	-	3
F	Sphaeralcea coccinea	2	10
Total for Annual Forbs		0	0
Total for Perennial Forbs		12	32
Total for Forbs		12	32

BASIC COVER--

Management unit 19A, Study no: 1

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	4.00
Rock	27.00	30.00
Pavement	20.25	21.50
Litter	39.50	33.50
Cryptogams	.25	1.50
Bare Ground	12.75	9.50

BROWSE CHARACTERISTICS--
Management unit 19A, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	332	10	80	10	-	60	30	20	13/25	
89	499	0	47	53	33	53	0	0	12/29	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	133	0	100	0	-	0	0	0	8/10	
89	166	0	40	60	-	0	0	0	4/6	
<i>Cowania mexicana stansburiana</i>										
83	199	17	83	0	-	33	17	0	44/67	
89	332	50	10	40	-	10	0	0	55/71	
<i>Echinocereus sp.</i>										
83	33	0	100	-	-	0	0	0	3/5	
89	33	100	0	-	-	0	0	0	-/-	
<i>Ephedra nevadensis</i>										
83	300	0	67	33	-	0	100	100	18/33	
89	532	31	25	44	-	56	0	0	15/24	
<i>Gutierrezia sarothrae</i>										
83	2533	8	92	0	-	0	0	0	8/8	
89	2699	11	58	31	166	0	0	0	5/7	
<i>Juniperus osteosperma</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	99	67	33	-	-	0	0	0	118/197	

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Opuntia sp.</i>										
83	33	0	100	0	-	0	0	100	4/18	
89	66	50	0	50	-	0	0	50	-/-	
<i>Pinus monophylla</i>										
83	33	100	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	0	-/-	
<i>Tetradymia glabrata</i>										
83	66	0	100	0	-	0	0	0	26/38	
89	199	33	0	67	-	0	0	33	-/-	

ORCHRE MOUNTAIN – STUDY NO. 19A-2

HERBACEOUS TRENDS--

Management unit 19A, Study no: 2

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron spicatum	119	117
G	Poa fendleriana	37	14
G	Poa secunda	153	138
Total for Annual Grasses		0	0
Total for Perennial Grasses		309	269
Total for Grasses		309	269
F	Arabis sp.	-	6
F	Castilleja chromosa	-	2
F	Erigeron pumilus	-	8
F	Lathyrus brachycalyx	145	193
F	Machaeranthera canescens	-	1
F	Oenothera sp.	-	8
F	Phlox longifolia	4	25
F	Unknown forb-perennial	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		152	243
Total for Forbs		152	243

BASIC COVER--

Management unit 19A, Study no: 2

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.00	12.00
Rock	6.75	11.50
Pavement	14.50	11.00
Litter	69.75	62.00
Cryptogams	1.75	1.25
Bare Ground	5.25	2.25

WILDLIFE MANAGEMENT UNIT 19

BROWSE CHARACTERISTICS--
Management unit 19A, Study no: 2

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata tridentata									
83	1333	0	70	30	-	45	5	10	43/45
89	1332	10	20	70	-	50	5	55	35/39
Chrysothamnus viscidiflorus stenophyllus									
83	400	0	100	0	-	0	0	0	19/20
89	133	0	0	100	-	0	0	50	-/-

SEVY MOUNTAIN – STUDY NO. 19A-3

HERBACEOUS TRENDS--

Management unit 19A, Study no: 3

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	119	153
G	Oryzopsis hymenoides	4	-
G	Poa secunda	182	146
G	Sitanion hystrix	22	32
Total for Annual Grasses		0	0
Total for Perennial Grasses		327	331
Total for Grasses		327	331
F	Arabis sp.	-	17
F	Arenaria fendleri	5	-
F	Aster sp.	21	-
F	Astragalus sp.	-	7
F	Balsamorhiza hookeri	6	23
F	Calochortus nuttallii	3	-
F	Crepis acuminata	-	7
F	Cryptantha sp.	14	15
F	Erigeron sp.	-	4
F	Lathyrus brachycalyx	271	287
F	Phlox hoodii	172	172
F	Phlox longifolia	18	109
F	Senecio multilobatus	-	3
F	Streptanthus sp.	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		511	644
Total for Forbs		511	644

BASIC COVER--

Management unit 19A, Study no: 3

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.00	9.75
Rock	6.00	3.75
Pavement	7.00	13.50
Litter	52.00	56.00
Cryptogams	9.25	5.75
Bare Ground	21.75	11.25

WILDLIFE MANAGEMENT UNIT 19

BROWSE CHARACTERISTICS--
Management unit 19A, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	8665	2	83	15	-	50	48	5	15/25	
89	13864	18	53	29	133	7	0	13	13/11	
<i>Artemisia tridentata wyomingensis</i>										
83	200	0	100	0	-	100	0	0	26/39	
89	666	10	30	60	-	40	0	10	15/17	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	198	33	33	33	-	0	0	0	12/9	
89	266	25	0	75	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
83	66	0	100	0	-	0	0	0	14/15	
89	799	17	67	17	-	0	0	0	8/6	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	66	0	0	0	43/45	
89	66	100	0	-	200	0	0	0	-/-	
<i>Pinus monophylla</i>										
83	466	86	14	-	66	0	0	0	59/39	
89	666	100	0	-	133	0	0	0	-/-	

DURSE CANYON – STUDY NO. 19A-4

HERBACEOUS TRENDS--

Management unit 19A, Study no: 4

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	3	13
G	Poa fendleriana	-	17
G	Poa pratensis	2	9
G	Poa secunda	77	188
G	Sitanion hystrix	42	46
Total for Annual Grasses		0	0
Total for Perennial Grasses		124	273
Total for Grasses		124	273
F	Antennaria sp.	-	1
F	Arabis sp.	19	6
F	Asclepias labriformis	4	-
F	Astragalus utahensis	13	3
F	Cryptantha sp.	48	37
F	Descurainia pinnata (a)	-	1
F	Ipomopsis aggregata	9	11
F	Lathyrus brachycalyx	-	1
F	Linum lewisii	1	1
F	Lithospermum ruderales	1	13
F	Lygodesmia spinosa	10	4
F	Machaeranthera canescens	6	-
F	Oenothera sp.	-	2
F	Petradoria pumila	-	1
F	Phlox longifolia	20	14
F	Senecio multilobatus	57	2
F	Unknown forb-perennial	-	8
F	Zigadenus paniculatus	1	3
Total for Annual Forbs		0	1
Total for Perennial Forbs		189	107
Total for Forbs		189	108

WILDLIFE MANAGEMENT UNIT 19

BASIC COVER--

Management unit 19A, Study no: 4

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.25	6.00
Rock	5.75	4.50
Pavement	16.50	25.00
Litter	54.00	53.25
Cryptogams	1.50	3.75
Bare Ground	21.00	7.50

BROWSE CHARACTERISTICS--

Management unit 19A, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
83	133	0	75	25	-	100	0	0	29/43	
89	33	0	100	0	-	0	0	0	7/12	
<i>Artemisia tridentata vaseyana</i>										
83	2565	19	55	26	100	49	10	14	25/25	
89	2598	10	35	55	66	8	0	12	22/25	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	500	0	80	20	-	0	0	20	12/15	
89	699	19	33	48	100	0	0	19	8/14	
<i>Cowania mexicana stansburiana</i>										
83	998	50	50	0	-	3	0	0	54/31	
89	1232	51	46	3	233	0	0	0	79/69	
<i>Gutierrezia sarothrae</i>										
83	2566	13	87	-	-	0	0	0	6/7	
89	1633	0	100	-	-	0	0	0	7/8	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Juniperus osteosperma</i>										
83	66	50	50	-	33	0	0	0	45/18	
89	266	62	38	-	-	0	0	0	209/89	
<i>Opuntia sp.</i>										
83	166	20	80	-	-	0	0	0	7/12	
89	33	100	0	-	33	0	0	0	-/-	
<i>Pinus monophylla</i>										
83	233	57	43	-	-	0	0	0	67/71	
89	299	78	22	-	66	0	0	0	138/98	
<i>Polygala acanthoclada</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	66	0	50	50	-	0	0	0	13/8	
<i>Tetradymia spinosa</i>										
83	33	0	100	-	-	0	0	0	10/10	
89	0	0	0	-	-	0	0	0	-/-	

CHOKECHERRY SPRINGS – STUDY NO. 19A-5

HERBACEOUS TRENDS--

Management unit 19A, Study no: 5

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	45	61
G	<i>Carex</i> sp.	9	3
G	<i>Festuca ovina</i>	297	291
G	<i>Poa fendleriana</i>	15	80
G	<i>Poa secunda</i>	17	69
G	<i>Stipa columbiana</i>	6	29
G	<i>Stipa comata</i>	3	-
G	<i>Stipa lettermani</i>	7	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		399	537
Total for Grasses		399	537
F	<i>Allium</i> sp.	38	10
F	<i>Antennaria</i> sp.	6	11
F	<i>Arabis</i> sp.	2	6
F	<i>Arenaria fendleri</i>	-	8
F	<i>Astragalus convallarius</i>	-	119
F	<i>Astragalus</i> sp.	107	2
F	<i>Calochortus nuttallii</i>	4	11
F	<i>Castilleja angustifolia</i>	-	1
F	<i>Castilleja chromosa</i>	-	14
F	<i>Castilleja linariaefolia</i>	9	11
F	<i>Crepis acuminata</i>	16	124
F	<i>Delphinium nuttallianum</i>	50	14
F	<i>Delphinium occidentale</i>	1	-
F	<i>Erigeron</i> sp.	109	126
F	<i>Eriogonum umbellatum</i>	-	1
F	<i>Haplopappus nuttallii</i>	4	-
F	<i>Heuchera parvifolia</i>	15	-
F	<i>Hymenoxys acaulis</i>	-	18
F	<i>Lomatium</i> sp.	7	184
F	<i>Lupinus</i> sp.	73	190
F	<i>Penstemon humilis</i>	59	35
F	<i>Penstemon</i> sp.	2	20
F	<i>Phlox longifolia</i>	72	119
F	<i>Ranunculus</i> sp.	-	56
F	<i>Sedum lanceolatum</i>	3	7
F	<i>Senecio integerrimus</i>	-	141
F	<i>Senecio</i> sp.	14	-

Type	Species	Nest Frequency	
		'83	'89
F	<i>Silene douglasii</i>	9	-
F	<i>Stellaria jamesiana</i>	-	100
F	<i>Taraxacum officinale</i>	-	6
F	Unknown forb-perennial	21	13
F	<i>Viola</i> sp.	-	5
F	<i>Zigadenus paniculatus</i>	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		621	1354
Total for Forbs		621	1354

BASIC COVER--

Management unit 19A, Study no: 5

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.25	26.00
Rock	9.25	6.75
Pavement	22.75	17.25
Litter	54.75	38.75
Cryptogams	.75	1.00
Bare Ground	8.25	10.25

BROWSE CHARACTERISTICS--

Management unit 19A, Study no: 5

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier alnifolia									
83	199	67	0	33	-	100	0	0	-/-
89	0	0	0	0	-	0	0	0	-/-
Artemisia tridentata vaseyana									
83	3465	2	73	25	-	35	25	25	20/30
89	3999	0	72	28	-	0	0	0	22/36

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	733	100	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
83	2332	20	80	-	133	0	0	0	4/4	
89	4200	100	0	-	-	0	0	10	-/-	
<i>Symphoricarpos oreophilus</i>										
83	1266	74	26	-	-	0	21	11	12/13	
89	2266	91	9	-	-	0	0	0	11/23	

GRANITE CREEK – STUDY NO. 19A-6

HERBACEOUS TRENDS--

Management unit 19A, Study no: 6

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	1	-
G	Agropyron trachycaulum	149	109
G	Bromus ciliatus	21	46
G	Festuca ovina	36	52
G	Poa fendleriana	11	16
G	Poa pratensis	115	129
G	Poa secunda	3	18
G	Stipa columbiana	89	155
G	Stipa lettermani	32	15
Total for Annual Grasses		0	0
Total for Perennial Grasses		457	540
Total for Grasses		457	540
F	Achillea millefolium	7	12
F	Agoseris glauca	6	21
F	Allium sp.	47	45
F	Arabis sp.	-	2
F	Aster sp.	-	-
F	Astragalus sp.	3	3
F	Astragalus tegetarius	2	-
F	Calochortus nuttallii	-	18
F	Castilleja angustifolia	3	-
F	Comandra pallida	2	-
F	Cruciferae	-	2
F	Cynoglossum officinale	5	-
F	Delphinium andersonii	-	13
F	Delphinium occidentale	3	-
F	Erigeron jonesii	-	14
F	Erigeron sp.	4	-
F	Hackelia patens	121	145
F	Heuchera parvifolia	31	-
F	Hydrophyllum sp.	-	6
F	Lupinus caudatus	46	96
F	Machaeranthera canescens	17	12
F	Penstemon sp.	25	11
F	Plantago sp.	-	1
F	Potentilla sp.	-	2
F	Senecio integerrimus	8	79
F	Solidago sp.	2	3

WILDLIFE MANAGEMENT UNIT 19

Type	Species	Nested Frequency	
		'83	'89
F	Stellaria jamesiana	-	180
F	Taraxacum officinale	5	36
F	Tragopogon dubius (a)	-	5
F	Viola sp.	-	78
F	Zigadenus paniculatus	-	2
Total for Annual Forbs		0	5
Total for Perennial Forbs		337	781
Total for Forbs		337	786

BASIC COVER--

Management unit 19A, Study no: 6

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.00	21.75
Rock	5.75	7.50
Pavement	9.50	3.25
Litter	67.75	58.25
Cryptogams	.75	0
Bare Ground	15.25	9.25

BROWSE CHARACTERISTICS--

Management unit 19A, Study no: 6

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata vaseyana									
83	2733	4	56	40	-	51	0	33	21/28
89	3465	13	44	42	366	18	.96	7	23/28
Chrysothamnus viscidiflorus viscidiflorus									
83	33	0	100	-	-	0	0	0	14/14
89	199	67	33	-	-	0	0	0	11/12

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Eriogonum microthecum</i>									
83	599	0	94	6	-	0	0	0	7/8
89	1032	32	65	3	33	0	0	0	6/5
<i>Mahonia repens</i>									
83	24499	38	62	-	-	0	0	0	5/6
89	42466	44	56	-	-	0	0	0	5/7
<i>Opuntia sp.</i>									
83	33	0	100	-	-	0	0	0	5/4
89	33	0	100	-	-	0	0	0	7/9
<i>Pinus monophylla</i>									
83	33	0	100	-	-	0	0	0	67/98
89	33	0	100	-	-	0	0	0	71/79
<i>Symphoricarpos oreophilus</i>									
83	0	0	0	-	-	0	0	0	-/-
89	33	0	100	-	-	0	0	0	10/9
<i>Tetradymia canescens</i>									
83	66	0	0	100	-	0	0	0	-/-
89	99	33	67	0	-	0	0	0	18/12

WOOD CANYON – STUDY NO. 19A-7

HERBACEOUS TRENDS--

Management unit 19A, Study no: 7

Type	Species	Nested Frequency '89
G	Hilaria jamesii	59
G	Oryzopsis hymenoides	63
G	Sitanion hystrix	15
G	Stipa comata	8
Total for Annual Grasses		0
Total for Perennial Grasses		145
Total for Grasses		145
F	Astragalus sp.	3
F	Halogeton glomeratus (a)	13
F	Sphaeralcea grossulariifolia	9
F	Unknown forb-perennial	2
Total for Annual Forbs		13
Total for Perennial Forbs		14
Total for Forbs		27

BASIC COVER--

Management unit 19A, Study no: 7

Cover Type	Average Cover % '89
Vegetation	7.25
Rock	23.25
Pavement	38.75
Litter	23.50
Cryptogams	0
Bare Ground	7.25

BROWSE CHARACTERISTICS--
Management unit 19A, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Atriplex confertifolia</i>										
89	1133	0	82	18	-	0	0	0	10/17	
<i>Ceratoides lanata</i>										
89	99	0	67	33	-	0	0	0	11/15	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
89	100	0	100	-	-	0	0	0	8/10	
<i>Echinocereus sp.</i>										
89	66	100	0	-	-	0	0	0	-/-	
<i>Ephedra nevadensis</i>										
89	332	40	40	20	-	0	0	0	11/21	
<i>Gutierrezia sarothrae</i>										
89	4533	18	60	23	-	0	0	12	7/6	
<i>Opuntia sp.</i>										
89	599	56	39	6	-	0	0	6	5/12	
<i>Tetradymia spinosa</i>										
89	66	0	0	100	-	0	0	0	-/-	
<i>Yucca sp.</i>										
89	33	0	100	-	-	0	0	0	18/37	

THE BASIN – STUDY NO. 19A-8

HERBACEOUS TRENDS--

Management unit 19A, Study no: 8

Type	Species	Nested Frequency '89
G	<i>Agropyron spicatum</i>	53
G	<i>Festuca ovina</i>	187
G	<i>Poa fendleriana</i>	172
G	<i>Poa secunda</i>	200
G	<i>Sitanion hystrix</i>	9
Total for Annual Grasses		0
Total for Perennial Grasses		621
Total for Grasses		621
F	<i>Arabis sp.</i>	57
F	<i>Arenaria fendleri</i>	244
F	<i>Astragalus sp.</i>	14
F	<i>Calochortus nuttallii</i>	12
F	<i>Castilleja angustifolia</i>	17
F	<i>Castilleja chromosa</i>	2
F	<i>Comandra pallida</i>	1
F	<i>Crepis acuminata</i>	82
F	<i>Eriogonum jamesii</i>	114
F	<i>Linum lewisii</i>	38
F	<i>Lomatium sp.</i>	6
F	<i>Lupinus arbustus calcaratus</i>	114
F	<i>Penstemon humilis</i>	78
F	<i>Phlox longifolia</i>	131
F	<i>Ranunculus sp.</i>	142
F	<i>Sedum lanceolatum</i>	6
F	<i>Taraxacum officinale</i>	2
F	<i>Townsendia sp.</i>	6
Total for Annual Forbs		0
Total for Perennial Forbs		1066
Total for Forbs		1066

BASIC COVER--

Management unit 19A, Study no: 8

Cover Type	Average Cover % '89
Vegetation	16.50
Rock	2.00
Pavement	52.50
Litter	22.00
Cryptogams	0
Bare Ground	7.00

BROWSE CHARACTERISTICS--

Management unit 19A, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
89	19066	15	74	11	866	41	40	2	7/13	
Chrysothamnus viscidiflorus viscidiflorus										
89	199	33	67	-	-	0	0	0	7/12	
Eriogonum microthecum										
89	1733	0	100	-	-	35	4	0	7/7	

SABIE MOUNTAIN – STUDY NO. 19B-1

HERBACEOUS TRENDS--

Management unit 19B, Study no: 1

T y P e	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	59	93
G	Agropyron trachycaulum	9	5
G	Bromus carinatus	4	-
G	Leucopoa kingii	-	3
G	Melica bulbosa	11	18
G	Poa fendleriana	200	241
G	Poa secunda	58	23
G	Sitanion hystrix	19	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		360	389
Total for Grasses		360	389
F	Agoseris glauca	29	-
F	Allium sp.	32	10
F	Arabis sp.	2	9
F	Astragalus cibarius	20	28
F	Astragalus convallarius	58	70
F	Balsamorhiza hookeri	3	2
F	Balsamorhiza sagittata	30	44
F	Calochortus nuttallii	1	3
F	Castilleja linariaefolia	1	4
F	Cirsium neomexicanum	14	14
F	Comandra pallida	46	42
F	Crepis acuminata	155	222
F	Delphinium nuttallianum	-	3
F	Erigeron eatonii	-	29
F	Eriogonum racemosum	20	27
F	Eriogonum umbellatum	4	3
F	Fritillaria atropurpurea	-	3
F	Helianthella uniflora	92	114
F	Hydrophyllum occidentale	-	4
F	Lithospermum ruderales	4	2
F	Lomatium grayi	8	17
F	Lupinus argenteus	5	2
F	Machaeranthera canescens	26	33
F	Mertensia oblongifolia	-	15
F	Orobanche fasciculata	-	1
F	Penstemon subglaber	10	5
F	Phlox longifolia	80	124
F	Senecio integerrimus	-	3

Type	Species	Nested Frequency	
		'83	'89
F	Tragopogon dubius (a)	4	-
F	Vicia americana	199	191
F	Wyethia amplexicaulis	28	28
F	Zigadenus paniculatus	10	1
Total for Annual Forbs		4	0
Total for Perennial Forbs		877	1053
Total for Forbs		881	1053

BASIC COVER--

Management unit 19B, Study no: 1

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.50	9.75
Rock	12.50	8.75
Pavement	5.00	11.50
Litter	51.75	58.50
Cryptogams	.25	.25
Bare Ground	27.00	11.25

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	%	%	%	Seedling (plants/acre)	%	%	% poor vigor	Average Height Crown (in)	
		Young	Mature	Decadent		moderate	heavy			
Amelanchier alnifolia										
83	133	0	100	0	-	50	50	100	20/3	
89	199	67	0	33	-	33	67	0	-/-	
Artemisia tridentata vaseyana										
83	1799	0	85	15	-	30	0	0	22/20	
89	1866	7	71	21	-	21	0	32	26/30	

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	3666	0	100	0	-	0	0	0	8/8	
89	4332	35	49	15	-	3	0	5	18/18	
<i>Eriogonum microthecum</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	200	100	0	-	-	33	0	67	-/-	
<i>Symphoricarpos oreophilus</i>										
83	6599	0	100	0	-	0	0	0	22/14	
89	8866	39	56	5	200	32	2	2	18/17	

UPPER LITTLE VALLEY – STUDY NO. 19B-2

HERBACEOUS TRENDS--

Management unit 19B, Study no: 2

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	31	49
G	<i>Agropyron trachycaulum</i>	3	9
G	<i>Bromus carinatus</i>	41	72
G	<i>Melica bulbosa</i>	3	-
G	<i>Poa fendleriana</i>	78	78
G	<i>Poa secunda</i>	-	9
G	<i>Sitanion hystrix</i>	58	27
G	<i>Stipa lettermani</i>	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		217	244
Total for Grasses		217	244
F	<i>Achillea millefolium</i>	1	-
F	<i>Agoseris glauca</i>	12	-
F	<i>Allium sp.</i>	182	70
F	<i>Alyssum alyssoides (a)</i>	-	21
F	<i>Aster sp.</i>	-	1
F	<i>Astragalus utahensis</i>	3	-
F	<i>Balsamorhiza sagittata</i>	10	17
F	<i>Chaenactis douglasii</i>	3	-
F	<i>Cirsium neomexicanum</i>	9	8
F	<i>Comandra pallida</i>	81	43
F	<i>Crepis acuminata</i>	63	59
F	<i>Cryptantha sp.</i>	4	-
F	<i>Delphinium nuttallianum</i>	12	-
F	<i>Eriogonum racemosum</i>	17	9
F	<i>Hackelia patens</i>	11	10
F	<i>Helianthella uniflora</i>	3	-
F	<i>Heuchera parvifolia</i>	1	-
F	<i>Hydrophyllum capitatum</i>	87	-
F	<i>Lathyrus brachycalyx</i>	8	-
F	<i>Lithospermum ruderales</i>	9	1
F	<i>Lomatium grayi</i>	52	30
F	<i>Lupinus caudatus</i>	78	72
F	<i>Machaeranthera canescens</i>	1	-
F	<i>Phlox longifolia</i>	29	43
F	<i>Senecio integerrimus</i>	-	9

WILDLIFE MANAGEMENT UNIT 19

Type	Species	Nested Frequency	
		'83	'89
F	Taraxacum officinale	-	21
F	Tragopogon dubius (a)	20	30
Total for Annual Forbs		20	51
Total for Perennial Forbs		676	393
Total for Forbs		696	444

BASIC COVER--

Management unit 19B, Study no: 2

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.75	10.25
Rock	5.50	9.25
Pavement	3.25	3.25
Litter	71.50	63.50
Cryptogams	0	0
Bare Ground	15.00	13.75

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier alnifolia										
83	733	0	82	18	-	64	36	9	27/27	
89	1199	44	33	22	-	28	22	6	32/30	
Artemisia tridentata vaseyana										
83	800	0	100	0	-	42	8	0	21/31	
89	1198	6	72	22	-	22	0	56	20/25	
Ceanothus martinii										
83	732	64	36	-	-	100	0	0	7/11	
89	733	0	100	-	-	27	0	0	8/11	

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	199	33	67	-	-	0	0	0	11/13
89	333	40	60	-	-	0	0	0	13/19
<i>Mahonia repens</i>									
83	533	0	100	0	-	0	0	0	5/7
89	1265	11	84	5	-	0	0	0	2/5
<i>Opuntia sp.</i>									
83	600	0	100	0	-	0	0	0	6/13
89	732	18	73	9	-	0	0	0	8/22
<i>Pachistima myrsinites</i>									
83	532	12	88	-	-	0	0	0	5/4
89	799	42	58	-	-	0	25	0	2/2
<i>Symphoricarpos oreophilus</i>									
83	1132	41	59	0	-	12	0	0	19/15
89	1599	8	58	33	-	29	0	13	19/22

BENNION CREEK – STUDY NO. 19B-3

HERBACEOUS TRENDS--

Management unit 19B, Study no: 3

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron spicatum	49	48
G	Agropyron trachycaulum	13	14
G	Bromus carinatus	57	53
G	Carex sp.	11	26
G	Leucopoa kingii	87	84
G	Melica bulbosa	26	26
G	Poa fendleriana	147	140
G	Poa pratensis	14	13
G	Poa secunda	13	29
G	Stipa lettermani	5	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		422	440
Total for Grasses		422	440
F	Achillea millefolium	3	-
F	Agoseris glauca	5	69
F	Allium sp.	202	121
F	Arabis sp.	-	6
F	Artemisia ludoviciana	4	1
F	Aster sp.	91	115
F	Astragalus cibarius	60	59
F	Balsamorhiza sagittata	18	26
F	Calochortus nuttallii	2	3
F	Castilleja linariaefolia	7	3
F	Chaenactis douglasii	1	-
F	Cirsium sp.	29	5
F	Comandra pallida	35	35
F	Crepis acuminata	138	140
F	Delphinium nuttallianum	31	-
F	Erigeron divergens	4	1
F	Eriogonum racemosum	49	42
F	Eriogonum umbellatum	40	38
F	Erysimum asperum	15	-
F	Fritillaria pudica	2	-
F	Hackelia patens	2	-
F	Hydrophyllum occidentale	28	-
F	Lomatium sp.	149	163
F	Lupinus caudatus	59	23
F	Lupinus sericeus	29	19

Type	Species	Nested Frequency	
		'83	'89
F	Machaeranthera canescens	6	1
F	Orobanche uniflora	2	-
F	Phlox longifolia	17	32
F	Senecio integerrimus	7	43
F	Tragopogon dubius (a)	-	1
F	Wyethia amplexicaulis	-	3
Total for Annual Forbs		0	1
Total for Perennial Forbs		1035	948
Total for Forbs		1035	949

BASIC COVER--

Management unit 19B, Study no: 3

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.50	8.50
Rock	12.00	10.25
Pavement	2.50	13.75
Litter	55.50	52.75
Cryptogams	0	0
Bare Ground	26.50	14.75

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 3

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier utahensis									
83	732	55	36	9	-	45	0	0	33/21
89	866	46	38	15	66	46	0	0	34/19
Artemisia nova									
83	132	50	50	-	-	0	0	0	14/23
89	0	0	0	-	-	0	0	0	-/-

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	532	25	50	25	-	38	0	0	21/51	
89	666	10	90	0	-	10	10	10	21/35	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	133	0	100	-	-	0	0	0	16/10	
<i>Pachistima myrsinites</i>										
83	733	0	100	-	-	0	0	0	5/4	
89	133	100	0	-	533	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
83	2466	43	57	0	-	0	0	0	24/21	
89	5999	66	26	9	133	3	0	2	30/31	

HARKER CANYON – STUDY NO. 19B-4

HERBACEOUS TRENDS--

Management unit 19B, Study no: 4

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	1	29
G	Agropyron trachycaulum	8	61
G	Bromus carinatus	44	81
G	Leucopoa kingii	41	61
G	Melica bulbosa	243	224
G	Poa fendleriana	16	28
G	Poa pratensis	6	26
G	Poa secunda	2	26
G	Stipa columbiana	1	11
G	Stipa lettermani	4	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		366	553
Total for Grasses		366	553
F	Agoseris glauca	15	2
F	Allium sp.	87	124
F	Aster chilensis	20	84
F	Astragalus cibarius	10	5
F	Balsamorhiza hookeri	3	-
F	Calochortus nuttallii	-	3
F	Cirsium sp.	-	12
F	Crepis acuminata	65	143
F	Cruciferae	-	30
F	Erigeron eatonii	22	16
F	Eriogonum racemosum	14	17
F	Eriogonum umbellatum	53	32
F	Fritillaria pudica	5	7
F	Hackelia patens	5	-
F	Helianthella uniflora	9	9
F	Hydrophyllum capitatum	35	3
F	Lomatium sp.	15	30
F	Lupinus sericeus	155	160
F	Machaeranthera canescens	1	8
F	Penstemon caespitosus	-	2
F	Phlox longifolia	47	87
F	Senecio integerrimus	-	26
F	Taraxacum officinale	-	19
F	Viola sp.	2	3
F	Wyethia amplexicaulis	49	74

WILDLIFE MANAGEMENT UNIT 19

Type	Species	Nested Frequency	
		'83	'89
F	Zigadenus paniculatus	7	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		619	897
Total for Forbs		619	897

BASIC COVER--

Management unit 19B, Study no: 4

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.75	18.50
Rock	3.50	5.50
Pavement	3.00	4.50
Litter	72.25	61.50
Cryptogams	.25	0
Bare Ground	19.25	10.00

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 4

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Amelanchier alnifolia									
83	333	0	100	0	-	0	0	0	39/35
89	1266	11	63	26	-	0	0	0	55/31
Artemisia tridentata vaseyana									
83	1066	6	75	19	-	69	0	13	26/30
89	799	17	33	50	-	0	0	17	24/39
Chrysothamnus viscidiflorus viscidiflorus									
83	666	0	100	-	-	0	0	0	12/10
89	666	20	80	-	-	0	0	0	16/14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Mahonia repens</i>										
83	666	0	100	0	-	0	0	0	8/7	
89	532	0	88	12	-	0	0	13	3/3	
<i>Pachistima myrsinites</i>										
83	400	0	100	0	-	0	0	0	16/49	
89	14731	44	48	9	1066	16	6	1	10/9	
<i>Symphoricarpos oreophilus</i>										
83	999	0	100	0	-	0	0	0	32/31	
89	2132	25	41	34	200	0	0	3	27/35	

WEST GOVERNMENT CREEK – STUDY NO. 19B-5

HERBACEOUS TRENDS--

Management unit 19B, Study no: 5

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	279	263
G	Agropyron intermedium	154	192
G	Oryzopsis hymenoides	1	-
G	Poa secunda	39	50
G	Sitanion hystrix	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		476	505
Total for Grasses		476	505
F	Antennaria sp.	-	8
F	Astragalus cibarius	25	74
F	Astragalus convallarius	3	6
F	Calochortus nuttallii	1	-
F	Castilleja chromosa	-	2
F	Chaenactis douglasii	16	9
F	Cirsium neomexicanum	1	6
F	Crepis acuminata	14	26
F	Cymopterus longipes	11	31
F	Erigeron pumilus	16	16
F	Medicago sativa	18	38
F	Petradoria pumila	30	37
F	Phlox longifolia	55	69
F	Tragopogon dubius (a)	-	2
F	Vicia americana	4	-
Total for Annual Forbs		0	2
Total for Perennial Forbs		194	322
Total for Forbs		194	324

BASIC COVER--

Management unit 19B, Study no: 5

Cover Type	Average Cover %	
	'83	'89
Vegetation	5.25	10.00
Rock	2.75	2.75
Pavement	8.75	22.50
Litter	32.25	38.75
Cryptogams	0	0
Bare Ground	51.00	26.00

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	3099	31	68	1	1166	55	0	1	25/36	
89	5298	26	65	9	33	17	0	7	21/24	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	0	100	-	-	0	0	0	7/4	
<i>Purshia tridentata</i>										
83	66	0	100	0	-	0	100	0	9/28	
89	132	0	50	50	-	25	75	0	12/22	

LEE'S CREEK – STUDY NO. 19B-6

HERBACEOUS TRENDS--

Management unit 19B, Study no: 6

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron cristatum	298	308
G	Agropyron spicatum	25	-
G	Oryzopsis hymenoides	1	-
G	Poa secunda	94	165
G	Sitanion hystrix	28	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		446	481
Total for Grasses		446	481
F	Astragalus sp.	-	1
F	Chaenactis douglasii	1	-
F	Crepis acuminata	-	3
F	Hymenoxys acaulis	-	4
F	Petradoria pumila	4	11
F	Phlox hoodii	25	29
F	Phlox longifolia	-	1
F	Townsendia incana	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		30	51
Total for Forbs		30	51

BASIC COVER--

Management unit 19B, Study no: 6

Cover Type	Average Cover %	
	'83	'89
Vegetation	3.25	7.75
Rock	0	5.00
Pavement	4.50	11.50
Litter	59.75	36.75
Cryptogams	0	0
Bare Ground	32.50	39.00

BROWSE CHARACTERISTICS--
Management unit 19B, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
83	699	48	38	14	133	5	0	0	35/36	
89	698	38	52	9	100	38	0	14	25/27	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	-	0	0	0	67/41	
89	100	0	100	-	-	0	0	0	87/52	
<i>Leptodactylon pungens</i>										
83	100	0	100	0	-	0	0	0	8/15	
89	198	33	33	33	-	0	0	33	6/7	
<i>Opuntia sp.</i>										
83	33	0	100	-	-	0	0	0	6/15	
89	33	0	100	-	-	0	0	0	6/15	
<i>Purshia tridentata</i>										
83	133	0	100	0	-	0	100	0	13/31	
89	166	0	80	20	-	0	80	20	10/19	

JUDD CREEK – STUDY 19B-7

HERBACEOUS TRENDS--

Management unit 19B, Study no: 7

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	59	72
G	<i>Oryzopsis hymenoides</i>	62	62
G	<i>Poa fendleriana</i>	38	95
G	<i>Poa secunda</i>	12	47
G	<i>Sitanion hystrix</i>	6	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		177	285
Total for Grasses		177	285
F	<i>Agoseris glauca</i>	14	-
F	<i>Allium sp.</i>	122	28
F	<i>Arabis sp.</i>	-	4
F	<i>Artemisia ludoviciana</i>	32	23
F	<i>Aster chilensis</i>	50	52
F	<i>Astragalus convallarius</i>	5	6
F	<i>Astragalus sp.</i>	-	3
F	<i>Astragalus utahensis</i>	-	2
F	<i>Balsamorhiza sagittata</i>	5	4
F	<i>Calochortus nuttallii</i>	12	8
F	<i>Cirsium sp.</i>	33	25
F	<i>Comandra pallida</i>	33	27
F	<i>Crepis acuminata</i>	18	38
F	<i>Cryptantha sp.</i>	13	9
F	<i>Delphinium nuttallianum</i>	2	-
F	<i>Hackelia patens</i>	61	22
F	<i>Linum lewisii</i>	13	-
F	<i>Lithospermum ruderales</i>	17	30
F	<i>Lomatium grayi</i>	4	5
F	<i>Monolepis nuttalliana (a)</i>	3	-
F	<i>Oenothera sp.</i>	1	-
F	<i>Penstemon sp.</i>	-	3
F	<i>Petrorhiza pumila</i>	-	2
F	<i>Phlox longifolia</i>	54	172
F	<i>Tragopogon dubius (a)</i>	21	-
F	Unknown forb-perennial	-	1
F	<i>Vicia americana</i>	168	188
Total for Annual Forbs		24	0
Total for Perennial Forbs		657	652

Type	Species	Nested Frequency	
		'83	'89
Total for Forbs		681	652

BASIC COVER--

Management unit 19B, Study no: 7

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.25	4.75
Rock	12.50	8.50
Pavement	7.00	9.50
Litter	59.00	60.75
Cryptogams	0	0
Bare Ground	19.25	16.50

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
83	33	0	100	0	-	0	100	100	35/35
89	66	0	0	100	-	0	100	0	-/-
<i>Artemisia tridentata wyomingensis</i>									
83	1265	5	74	21	-	58	3	3	25/29
89	1464	5	34	61	-	55	2	86	18/25
<i>Chrysothamnus nauseosus albicaulis</i>									
83	66	0	0	100	-	0	0	0	-/-
89	0	0	0	0	-	0	0	0	-/-
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	33	0	100	-	-	0	0	0	13/28
89	33	0	100	-	-	0	0	0	11/13

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
83	2333	17	83	0	-	0	0	0	9/7	
89	7232	6	82	12	66	0	0	.46	8/8	
<i>Juniperus osteosperma</i>										
83	66	50	50	-	-	0	0	0	67/79	
89	133	75	25	-	33	0	0	0	138/118	
<i>Mahonia repens</i>										
83	10966	7	93	-	-	0	0	0	4/6	
89	20099	18	82	-	566	0	0	0	3/3	
<i>Opuntia sp.</i>										
83	133	75	25	-	-	0	0	0	4/16	
89	333	10	90	-	-	0	0	10	6/8	
<i>Purshia tridentata</i>										
83	766	4	96	0	-	17	83	0	14/36	
89	2166	9	63	28	-	65	29	2	15/33	
<i>Symphoricarpos oreophilus</i>										
83	33	0	100	-	-	0	0	0	11/18	
89	66	50	50	-	-	0	0	50	13/15	
<i>Tetradymia canescens</i>										
83	266	12	50	38	-	0	0	0	5/10	
89	232	28	57	14	-	14	0	43	7/10	

SOUTH PINE CANYON – STUDY NO. 19B-8

HERBACEOUS TRENDS--

Management unit 19B, Study no: 8

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	90	90
G	<i>Poa fendleriana</i>	1	9
G	<i>Poa secunda</i>	13	15
Total for Annual Grasses		0	0
Total for Perennial Grasses		104	114
Total for Grasses		104	114
F	<i>Agoseris glauca</i>	5	-
F	<i>Allium</i> sp.	54	29
F	<i>Arabis</i> sp.	-	11
F	<i>Arenaria</i> sp.	-	3
F	<i>Artemisia ludoviciana</i>	11	7
F	<i>Astragalus</i> sp.	3	2
F	<i>Calochortus nuttallii</i>	-	2
F	<i>Chaenactis douglasii</i>	1	21
F	<i>Cirsium</i> sp.	13	7
F	<i>Comandra pallida</i>	7	11
F	<i>Crepis acuminata</i>	18	24
F	<i>Cryptantha</i> sp.	18	20
F	<i>Cymopterus longipes</i>	29	-
F	<i>Descurainia pinnata</i> (a)	-	3
F	<i>Eriogonum racemosum</i>	2	-
F	<i>Hackelia patens</i>	12	12
F	<i>Lithospermum ruderae</i>	5	5
F	<i>Lomatium grayi</i>	11	77
F	<i>Machaeranthera canescens</i>	2	3
F	<i>Phlox longifolia</i>	2	45
F	<i>Tragopogon dubius</i> (a)	-	4
F	<i>Vicia americana</i>	140	155
F	<i>Viola</i> sp.	1	-
Total for Annual Forbs		0	7
Total for Perennial Forbs		334	434
Total for Forbs		334	441

WILDLIFE MANAGEMENT UNIT 19

BASIC COVER--

Management unit 19B, Study no: 8

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.75	6.25
Rock	6.75	9.50
Pavement	1.75	2.75
Litter	65.25	62.75
Cryptogams	.25	.25
Bare Ground	23.25	18.50

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
83	800	0	100	0	-	0	100	0	45/53	
89	932	14	71	14	-	79	0	0	45/48	
<i>Artemisia tridentata vaseyana</i>										
83	400	0	100	-	-	50	0	0	28/36	
89	533	0	100	-	-	63	0	13	11/13	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	332	20	60	20	-	0	0	0	14/10	
89	266	0	100	0	-	0	0	0	9/9	
<i>Juniperus osteosperma</i>										
83	66	0	100	-	-	0	0	0	67/173	
89	66	0	100	-	-	0	0	0	197/157	
<i>Opuntia sp.</i>										
83	866	0	100	0	-	0	0	0	10/17	
89	866	23	69	8	-	0	0	54	7/28	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
83	1666	0	96	4	-	4	96	0	17/25	
89	1199	0	89	11	-	33	67	0	14/31	

NORTH OAK BRUSH CANYON – STUDY NO. 19B-9

HERBACEOUS TRENDS--

Management unit 19B, Study no: 9

Type	Species	Nested Frequency	
		'83	'89
G	<i>Leucopoa kingii</i>	82	118
G	<i>Melica bulbosa</i>	19	-
G	<i>Poa fendleriana</i>	42	80
G	<i>Poa secunda</i>	-	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		143	204
Total for Grasses		143	204
F	<i>Agoseris glauca</i>	17	5
F	<i>Allium</i> sp.	204	135
F	<i>Arabis</i> sp.	9	14
F	<i>Artemisia ludoviciana</i>	15	20
F	<i>Aster chilensis</i>	2	9
F	<i>Astragalus cibarius</i>	3	12
F	<i>Balsamorhiza sagittata</i>	-	20
F	<i>Calochortus nuttallii</i>	-	3
F	<i>Cirsium neomexicanum</i>	1	-
F	<i>Crepis acuminata</i>	10	30
F	<i>Fritillaria</i> sp.	2	-
F	<i>Hydrophyllum capitatum</i>	47	9
F	<i>Lomatium</i> sp.	91	95
F	<i>Lupinus caudatus</i>	21	34
F	<i>Machaeranthera canescens</i>	5	-
F	<i>Phlox longifolia</i>	13	58
F	<i>Tragopogon dubius</i> (a)	-	3
F	<i>Viola</i> sp.	1	5
F	<i>Wyethia amplexicaulis</i>	46	49
F	<i>Zigadenus paniculatus</i>	8	6
Total for Annual Forbs		0	3
Total for Perennial Forbs		495	504
Total for Forbs		495	507

BASIC COVER--

Management unit 19B, Study no: 9

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.25	10.25
Rock	9.50	12.25
Pavement	6.50	5.50
Litter	67.00	61.75
Cryptogams	0	0
Bare Ground	14.75	10.25

BROWSE CHARACTERISTICS--

Management unit 19B, Study no: 9

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	266	0	100	0	-	0	100	100	28/8	
89	1599	88	4	8	333	46	4	0	55/21	
<i>Artemisia tridentata vaseyana</i>										
83	999	13	80	7	-	47	13	0	28/33	
89	998	27	67	7	-	27	0	7	23/24	
<i>Ceanothus martinii</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	265	25	50	25	-	25	0	0	17/12	
<i>Cercocarpus ledifolius</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	200	100	0	-	133	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
83	66	0	100	-	-	0	0	0	31/43	
89	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Pachistima myrsinites</i>									
83	6466	61	39	-	-	0	0	0	8/6
89	7733	41	59	-	3200	0	0	0	8/14
<i>Quercus gambelii</i>									
83	17066	25	75	0	466	35	32	7	30/34
89	20799	92	0	8	4333	3	0	3	39/33
<i>Symphoricarpos oreophilus</i>									
83	133	0	100	-	-	0	100	0	20/13
89	0	0	0	-	-	0	0	0	-/-

SIOUX PASS – STUDY NO. 19C-10

HERBACEOUS TRENDS--

Management unit 19C, Study no: 10

Type	Species	Nest Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	83	101
G	<i>Oryzopsis hymenoides</i>	19	20
G	<i>Poa fendleriana</i>	3	-
G	<i>Poa secunda</i>	1	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		106	123
Total for Grasses		106	123
F	<i>Calochortus nuttallii</i>	4	-
F	<i>Cirsium sp.</i>	10	3
F	<i>Corallorrhiza maculata</i>	-	1
F	<i>Crepis acuminata</i>	-	2
F	<i>Cynoglossum officinale</i>	-	2
F	<i>Eriogonum racemosum</i>	9	25
F	<i>Eriogonum umbellatum</i>	6	16
F	<i>Hackelia patens</i>	7	10
F	<i>Lactuca serriola (a)</i>	-	6
F	<i>Lomatium sp.</i>	3	1
F	<i>Lupinus argenteus</i>	6	17
F	<i>Machaeranthera canescens</i>	27	2
F	<i>Oenothera pallida</i>	3	-
F	<i>Penstemon humilis</i>	46	-
F	<i>Phlox longifolia</i>	6	50
F	<i>Streptanthus cordatus</i>	2	-
Total for Annual Forbs		0	6
Total for Perennial Forbs		129	129
Total for Forbs		129	135

WILDLIFE MANAGEMENT UNIT 19

BASIC COVER--

Management unit 19C, Study no: 10

Cover Type	Average Cover %	
	'83	'89
Vegetation	4.25	12.50
Rock	14.50	14.25
Pavement	2.25	1.25
Litter	48.00	37.75
Cryptogams	0	0
Bare Ground	31.00	34.25

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 10

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
83	2398	26	53	21	-	19	0	14	20/22	
89	3099	37	52	12	200	12	1	47	26/33	
<i>Ceanothus martinii</i>										
83	1033	0	90	10	-	6	94	42	16/20	
89	3565	26	5	69	-	0	0	.93	12/30	
<i>Chrysothamnus nauseosus albicaulis</i>										
83	166	40	60	-	-	0	0	0	11/14	
89	66	0	100	-	-	50	0	0	16/18	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	3366	11	89	0	-	0	0	0	10/14	
89	4132	8	81	11	166	2	.80	2	14/17	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Eriogonum microthecum</i>										
83	1032	6	94	0	-	35	0	0	8/13	
89	1898	2	90	9	-	2	2	0	11/16	
<i>Gutierrezia sarothrae</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	1533	7	91	2	66	0	0	0	7/7	
<i>Opuntia sp.</i>										
83	366	0	100	-	-	0	0	0	6/18	
89	332	20	80	-	-	0	0	10	8/32	
<i>Purshia tridentata</i>										
83	766	4	96	0	-	4	96	61	8/19	
89	932	4	68	29	-	11	86	7	9/24	

WATER CANYON – STUDY NO. 19C-11

HERBACEOUS TRENDS--

Management unit 19C, Study no: 11

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	153	27
G	Agropyron trachycaulum	-	132
G	Bromus carinatus	8	1
G	Melica bulbosa	-	12
G	Poa fendleriana	-	4
G	Poa pratensis	81	15
G	Poa secunda	1	19
G	Stipa columbiana	-	103
Total for Annual Grasses		0	0
Total for Perennial Grasses		243	313
Total for Grasses		243	313
F	Agoseris glauca	3	-
F	Arabis sp.	1	-
F	Arenaria macradenia	-	7
F	Aster sp.	14	3
F	Astragalus convallarius	-	14
F	Astragalus sp.	-	9
F	Cynoglossum officinale	285	223
F	Erigeron sp.	-	11
F	Eriogonum racemosum	3	2
F	Heuchera parvifolia	-	1
F	Lactuca serriola (a)	2	7
F	Lupinus argenteus	37	143
F	Machaeranthera canescens	-	7
F	Phlox longifolia	18	45
F	Senecio integerrimus	-	137
F	Taraxacum officinale	-	60
F	Tragopogon dubius (a)	3	-
F	Verbascum thapsus	-	1
F	Viola sp.	-	3
Total for Annual Forbs		5	7
Total for Perennial Forbs		361	666
Total for Forbs		366	673

BASIC COVER--

Management unit 19C, Study no: 11

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	8.50
Rock	2.25	3.50
Pavement	.50	0
Litter	67.75	59.00
Cryptogams	0	0
Bare Ground	29.50	29.00

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 11

		Age class distribution					Utilization		
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Acer grandidentatum</i>									
83	133	0	100	0	-	50	0	0	35/41
89	1266	95	0	5	-	37	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
83	2266	0	76	24	-	18	0	0	26/32
89	2064	3	48	48	-	35	0	6	33/36
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	4532	13	84	3	-	0	7	0	11/12
89	7332	67	7	25	66	30	0	0	11/10
<i>Juniperus osteosperma</i>									
83	0	0	0	-	-	0	0	0	-/-
89	66	100	0	-	-	0	0	0	-/-
<i>Pachistima myrsinites</i>									
83	1133	0	100	0	-	0	0	0	3/7
89	3466	83	6	12	-	0	12	0	5/7

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
83	1066	25	75	0	-	6	0	0	7/8	
89	1732	58	35	8	133	42	4	0	10/13	

SUNRISE CANYON – STUDY NO. 19C-12

HERBACEOUS TRENDS--

Management unit 19C, Study no: 12

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	103	64
G	Carex sp.	1	-
G	Koeleria cristata	3	-
G	Melica bulbosa	29	-
G	Poa fendleriana	237	254
G	Poa secunda	7	23
G	Stipa columbiana	3	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		383	349
Total for Grasses		383	349
F	Arabis sp.	13	9
F	Arenaria fendleri	174	153
F	Astragalus sp.	-	11
F	Calochortus nuttallii	6	-
F	Castilleja chromosa	4	-
F	Chaenactis douglasii	2	2
F	Cynoglossum officinale	1	-
F	Erigeron sp.	12	28
F	Eriogonum umbellatum	1	4
F	Heuchera parvifolia	3	-
F	Lithospermum ruderae	3	5
F	Lomatium sp.	-	2
F	Lupinus argenteus	55	84
F	Machaeranthera canescens	7	7
F	Petroradia pumila	25	4
F	Phlox hoodii	91	16
F	Senecio integerrimus	-	11
F	Unknown forb-perennial	10	-
F	Zigadenus paniculatus	3	8
Total for Annual Forbs		0	0
Total for Perennial Forbs		410	344
Total for Forbs		410	344

WILDLIFE MANAGEMENT UNIT 19

BASIC COVER--

Management unit 19C, Study no: 12

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.75	9.25
Rock	28.50	24.75
Pavement	4.75	7.25
Litter	48.00	40.50
Cryptogams	0	0
Bare Ground	16.00	18.25

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier alnifolia</i>										
83	66	100	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	0	-/-	
<i>Artemisia arbuscula</i>										
83	7066	0	100	0	-	0	0	0	10/18	
89	8465	9	81	10	333	50	0	60	15/21	
<i>Artemisia tridentata vaseyana</i>										
83	1665	16	68	16	-	4	0	0	24/34	
89	1865	7	79	14	66	32	4	46	22/32	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	1333	0	100	-	-	0	0	0	11/9	
89	1533	48	52	-	-	4	0	9	5/7	
<i>Eriogonum microthecum</i>										
83	2066	0	100	-	-	0	0	0	9/8	
89	1865	46	54	-	66	4	0	0	7/5	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
83	200	100	0	-	-	33	33	0	-/-	
89	66	0	100	-	-	0	0	0	6/2	

DENNIS SPRING – STUDY NO. 19C-13

HERBACEOUS TRENDS--

Management unit 19C, Study no: 13

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron spicatum	72	80
G	Poa fendleriana	-	3
G	Poa secunda	45	32
G	Sitanion hystrix	12	23
G	Stipa columbiana	-	19
Total for Annual Grasses		0	0
Total for Perennial Grasses		129	157
Total for Grasses		129	157
F	Agoseris glauca	5	-
F	Arabis sp.	7	9
F	Arenaria fendleri	2	1
F	Aster sp.	2	33
F	Astragalus convallarius	18	7
F	Calochortus nuttallii	1	-
F	Cirsium sp.	3	3
F	Comandra pallida	-	2
F	Crepis acuminata	23	142
F	Cynoglossum officinale	34	32
F	Eriogonum racemosum	14	10
F	Geranium sp.	3	3
F	Hackelia patens	7	-
F	Lathyrus brachycalyx	18	15
F	Lupinus argenteus	208	147
F	Machaeranthera canescens	-	2
F	Phlox longifolia	79	96
F	Solidago sp.	56	-
F	Taraxacum officinale	3	6
F	Trifolium sp.	14	23
F	Viola sp.	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		497	532
Total for Forbs		497	532

BASIC COVER--

Management unit 19C, Study no: 13

Cover Type	Average Cover %	
	'83	'89
Vegetation	1.00	10.75
Rock	6.00	7.25
Pavement	.50	0
Litter	68.50	57.50
Cryptogams	0	0
Bare Ground	24.00	24.50

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 13

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	200	100	0	-	-	0	0	0	-/-	
<i>Amelanchier alnifolia</i>										
83	0	0	0	0	-	0	0	0	-/-	
89	66	0	0	100	-	0	100	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
83	1199	6	78	17	-	28	0	0	32/29	
89	8532	61	38	1	1533	0	0	0	17/20	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
83	15265	12	88	0	-	0	0	0	15/13	
89	9533	17	27	57	133	31	45	.69	12/8	
<i>Mahonia repens</i>										
83	333	0	100	-	-	0	0	0	4/6	
89	533	75	25	-	-	25	0	0	5/3	

WILDLIFE MANAGEMENT UNIT 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Pachistima myrsinites</i>										
83	133	100	0	-	-	0	0	0	-/-	
89	0	0	0	-	-	0	0	0	-/-	
<i>Rosa woodsii</i>										
83	533	0	100	0	-	0	0	0	12/3	
89	399	67	0	33	-	17	17	0	-/-	
<i>Symphoricarpos oreophilus</i>										
83	799	8	92	0	-	25	17	8	23/21	
89	1265	11	5	84	-	16	84	0	17/14	

BLACK ROCK CANYON – STUDY NO. 19C-14

HERBACEOUS TRENDS--

Management unit 19C, Study no: 14

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron trachycaulum	14	36
G	Carex sp.	177	213
G	Leucopoa kingii	59	89
G	Oryzopsis hymenoides	3	-
G	Poa fendleriana	11	27
G	Poa pratensis	24	7
G	Poa secunda	-	6
G	Stipa columbiana	12	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		300	387
Total for Grasses		300	387
F	Agoseris glauca	1	1
F	Allium sp.	16	35
F	Arabis sp.	3	1
F	Aster chilensis	52	123
F	Astragalus convallarius	6	8
F	Calochortus nuttallii	-	3
F	Comandra pallida	2	-
F	Crepis acuminata	-	23
F	Eriogonum racemosum	4	6
F	Eriogonum umbellatum	1	3
F	Fragaria sp.	6	9
F	Geranium sp.	28	24
F	Helianthella uniflora	5	-
F	Helianthus annuus (a)	-	15
F	Ipomopsis aggregata	2	6
F	Lathyrus brachycalyx	18	154
F	Lithospermum ruderae	7	20
F	Machaeranthera canescens	-	2
F	Phlox longifolia	-	2
F	Solidago sparsiflora	19	7
F	Taraxacum officinale	2	12
F	Unknown forb-perennial	-	6
F	Viola sp.	-	3
Total for Annual Forbs		0	15
Total for Perennial Forbs		172	448
Total for Forbs		172	463

WILDLIFE MANAGEMENT UNIT 19

BASIC COVER--

Management unit 19C, Study no: 14

Cover Type	Average Cover %	
	'83	'89
Vegetation	5.75	27.25
Rock	8.00	7.50
Pavement	0	0
Litter	74.50	57.75
Cryptogams	1.75	.25
Bare Ground	10.00	7.25

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 14

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Acer grandidentatum</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	133	100	0	-	-	50	0	0	-/-	
<i>Amelanchier alnifolia</i>										
83	598	11	78	11	-	44	22	67	48/24	
89	1066	75	25	0	-	50	0	0	101/36	
<i>Artemisia tridentata vaseyana</i>										
83	3065	2	89	9	-	26	0	9	33/34	
89	2199	0	79	21	-	0	0	12	32/31	
<i>Ceanothus martinii</i>										
83	400	0	100	0	-	0	100	100	24/31	
89	1066	88	0	12	-	88	6	0	-/-	
<i>Cercocarpus ledifolius</i>										
83	0	0	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
83	1932	3	97	0	-	0	0	0	16/15
89	1133	53	29	18	-	0	0	12	16/14
<i>Juniperus osteosperma</i>									
83	66	0	100	-	-	0	0	0	29/16
89	66	100	0	-	-	0	0	0	-/-
<i>Pachistima myrsinites</i>									
83	16332	52	48	-	-	0	0	0	4/9
89	12332	95	5	-	-	0	0	0	4/4
<i>Pinus monophylla</i>									
83	0	0	0	-	-	0	0	0	-/-
89	66	100	0	-	-	0	0	0	-/-
<i>Prunus virginiana</i>									
83	5199	28	62	10	-	14	0	0	20/12
89	8866	100	0	0	66	0	0	0	-/-
<i>Rosa woodsii</i>									
83	1466	0	100	0	-	0	0	100	9/10
89	5600	82	14	4	200	7	0	2	19/7
<i>Symphoricarpos oreophilus</i>									
83	19732	18	82	-	-	24	0	0	31/19
89	19666	44	56	-	-	0	0	0	25/20

UPPER BROAD CANYON – STUDY NO. 19C-15

HERBACEOUS TRENDS--

Management unit 19C, Study no: 15

Type	Species	Nestled Frequency	
		'83	'89
G	Agropyron cristatum	12	83
G	Agropyron spicatum	189	147
G	Oryzopsis hymenoides	30	10
G	Poa secunda	212	259
G	Sitanion hystrix	34	17
Total for Annual Grasses		0	0
Total for Perennial Grasses		477	516
Total for Grasses		477	516
F	Antennaria sp.	13	33
F	Arabis sp.	4	3
F	Calochortus nuttallii	11	7
F	Chaenactis douglasii	12	6
F	Delphinium nuttallianum	4	-
F	Tragopogon dubius (a)	6	1
F	Unknown forb-perennial	4	-
F	Zigadenus paniculatus	3	13
Total for Annual Forbs		6	1
Total for Perennial Forbs		51	62
Total for Forbs		57	63

BASIC COVER--

Management unit 19C, Study no: 15

Cover Type	Average Cover %	
	'83	'89
Vegetation	0	5.25
Rock	11.75	17.25
Pavement	28.00	24.75
Litter	49.50	38.50
Cryptogams	.50	2.50
Bare Ground	10.25	11.75

BROWSE CHARACTERISTICS--
Management unit 19C, Study no: 15

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
83	2232	12	61	27	-	10	69	25	24/23
89	2432	5	51	44	100	38	26	93	16/23
<i>Gutierrezia sarothrae</i>									
83	5166	24	76	0	2066	0	0	0	8/8
89	7999	28	70	3	800	0	0	0	8/12
<i>Purshia tridentata</i>									
83	299	0	89	11	-	0	100	11	11/29
89	332	40	50	10	-	20	60	0	10/18

NEPHI DUMP – STUDY NO. 19C-16

HERBACEOUS TRENDS--

Management unit 19C, Study no: 16

Type	Species	Nested Frequency	
		'83	'89
G	Agropyron cristatum	7	17
G	Agropyron spicatum	10	30
G	Oryzopsis hymenoides	1	5
G	Poa pratensis	3	-
G	Poa secunda	103	149
G	Sitanion hystrix	9	8
Total for Annual Grasses		0	0
Total for Perennial Grasses		133	209
Total for Grasses		133	209
F	Astragalus calycosus	-	3
F	Astragalus eurekensis	-	2
F	Calochortus nuttallii	2	6
F	Castilleja linariaefolia	-	1
F	Comandra pallida	2	1
F	Lactuca serriola (a)	-	2
F	Phlox austromontana	-	2
F	Phlox longifolia	-	13
F	Sphaeralcea coccinea	-	1
F	Tragopogon dubius (a)	-	3
F	Unknown forb-perennial	2	-
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	5
Total for Perennial Forbs		6	30
Total for Forbs		6	35

BASIC COVER--

Management unit 19C, Study no: 16

Cover Type	Average Cover %	
	'83	'89
Vegetation	.25	5.00
Rock	13.25	13.00
Pavement	10.00	16.75
Litter	59.00	50.75
Cryptogams	4.00	4.50
Bare Ground	13.50	10.00

BROWSE CHARACTERISTICS--
Management unit 19C, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	3399	9	65	26	-	36	0	8	22/24	
89	2765	0	61	39	-	35	14	18	34/30	
<i>Chrysothamnus nauseosus</i>										
83	100	0	100	-	-	0	0	0	26/27	
89	100	0	100	-	-	33	0	0	19/22	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
83	399	8	75	17	-	0	0	0	18/20	
89	733	0	95	5	-	0	0	5	13/14	
<i>Cowania mexicana stansburiana</i>										
83	166	0	100	0	-	40	0	0	27/25	
89	133	0	75	25	-	0	100	25	22/25	
<i>Gutierrezia sarothrae</i>										
83	1166	29	71	0	-	0	0	0	15/15	
89	2532	5	89	5	-	0	0	3	10/9	
<i>Juniperus osteosperma</i>										
83	33	100	0	-	-	0	0	0	-/-	
89	66	100	0	-	-	0	0	0	-/-	

FURNER VALLEY – STUDY NO. 19C-18

HERBACEOUS TRENDS--

Management unit 19C, Study no: 18

Type	Species	Nested Frequency	
		'83	'89
G	<i>Agropyron spicatum</i>	10	12
G	<i>Oryzopsis hymenoides</i>	40	58
G	<i>Poa fendleriana</i>	-	2
G	<i>Poa pratensis</i>	3	4
G	<i>Poa secunda</i>	7	6
G	<i>Sitanion hystrix</i>	107	70
G	<i>Stipa comata</i>	111	178
Total for Annual Grasses		0	0
Total for Perennial Grasses		278	330
Total for Grasses		278	330
F	<i>Arabis sp.</i>	5	-
F	<i>Astragalus calycosus</i>	5	13
F	<i>Calochortus nuttallii</i>	6	-
F	<i>Caulanthus crassicaulis</i>	34	20
F	<i>Chaenactis douglasii</i>	2	4
F	<i>Ipomopsis aggregata</i>	2	-
F	<i>Linum lewisii</i>	33	52
F	<i>Lithospermum incisum</i>	11	8
F	<i>Lygodesmia grandiflora</i>	5	8
F	<i>Machaeranthera canescens</i>	-	1
F	<i>Oenothera sp.</i>	1	5
F	<i>Phlox austromontana</i>	3	19
F	<i>Phlox longifolia</i>	10	36
F	<i>Senecio multilobatus</i>	4	16
F	<i>Streptanthus cordatus</i>	-	13
F	<i>Tragopogon dubius (a)</i>	17	7
F	Unknown forb-perennial	-	3
F	<i>Zigadenus paniculatus</i>	-	21
Total for Annual Forbs		17	7
Total for Perennial Forbs		121	219
Total for Forbs		138	226

BASIC COVER--

Management unit 19C, Study no: 18

Cover Type	Average Cover %	
	'83	'89
Vegetation	2.00	7.25
Rock	1.75	1.50
Pavement	1.00	20.50
Litter	52.25	41.25
Cryptogams	0	3.75
Bare Ground	43.00	25.75

BROWSE CHARACTERISTICS--

Management unit 19C, Study no: 18

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
83	2799	4	49	48	-	38	56	6	24/31	
89	2566	4	21	75	333	21	0	52	24/28	
<i>Gutierrezia sarothrae</i>										
83	699	0	91	9	-	10	10	52	7/6	
89	1565	11	81	8	66	0	0	2	9/8	
<i>Juniperus osteosperma</i>										
83	33	100	0	-	-	0	0	0	-/-	
89	33	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
83	399	8	92	0	-	50	0	0	29/42	
89	299	11	56	33	-	67	22	0	23/37	

WILDLIFE MANAGEMENT UNIT 20

UPPER INDIAN PEAK – STUDY NO. 20-1

HERBACEOUS TRENDS--

Management unit 20, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	10	38
G	Koeleria cristata	1	-
G	Poa fendleriana	267	267
G	Poa secunda	-	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		278	309
Total for Grasses		278	309
F	Achillea millefolium	1	-
F	Antennaria sp.	-	2
F	Arabis drummondi	4	6
F	Astragalus mollissimus	33	20
F	Balsamorhiza sagittata	1	3
F	Calochortus nuttallii	1	-
F	Castilleja angustifolia	62	113
F	Crepis acuminata	32	66
F	Erigeron eatonii	162	153
F	Erigeron pumilus	3	5
F	Eriogonum racemosum	41	35
F	Eriogonum umbellatum	27	40
F	Galium multiflorum	3	3
F	Lupinus argenteus	42	38
F	Lygodesmia spinosa	-	4
F	Penstemon eatoni	7	17
F	Penstemon watsonii	21	22
F	Phlox austromontana	163	197
F	Phlox longifolia	69	86
F	Streptanthus cordatus	4	2
F	Unknown forb-perennial	5	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		681	812
Total for Forbs		681	812

BASIC COVER--

Management unit 20, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	12.50	14.50
Rock	1.00	1.75
Pavement	36.25	22.00
Litter	38.75	42.00
Cryptogams	0	0
Bare Ground	11.50	19.75

BROWSE CHARACTERISTICS--

Management unit 20, Study no: 1

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
85	1066	0	100	0	133	0	0	0	27/23	
91	399	33	50	17	400	17	0	0	33/35	
<i>Artemisia tridentata vaseyana</i>										
85	11332	36	61	3	1200	19	2	1	8/13	
91	11598	9	68	23	66	50	31	11	8/18	
<i>Cercocarpus ledifolius</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
85	1466	14	82	5	333	36	0	0	30/12	
91	1132	18	77	6	333	41	35	6	31/37	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	866	23	69	8	-	0	0	0	8/6	
91	332	40	40	20	-	20	0	0	9/11	

WILDLIFE MANAGEMENT UNIT 20

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Eriogonum microthecum</i>									
85	10532	16	75	8	666	0	0	3	6/4
91	7133	31	59	10	733	10	.93	7	7/7
<i>Opuntia erinacea</i>									
85	3399	33	67	0	133	0	0	2	5/8
91	2599	28	44	28	200	0	0	26	4/6
<i>Pinus monophylla</i>									
85	266	100	0	-	-	0	0	0	-/-
91	66	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
85	0	0	0	-	-	0	0	0	-/-
91	66	100	0	-	-	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
85	1266	53	47	-	133	0	0	0	10/9
91	866	62	38	-	-	15	0	0	12/22
<i>Tetradymia canescens</i>									
85	533	0	62	38	133	0	0	13	10/6
91	399	33	0	67	66	0	0	50	-/-

LOWER INDIAN PEAK – STUDY NO. 20-2

HERBACEOUS TRENDS--

Management unit 20, Study no: 2

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	256	241
G	Agropyron dasystachyum	16	2
G	Agropyron intermedium	32	86
G	Aristida purpurea	18	37
G	Bouteloua gracilis	-	19
G	Bromus inermis	25	19
G	Elymus junceus	87	18
G	Sitanion hystrix	19	6
Total for Annual Grasses		0	0
Total for Perennial Grasses		453	428
Total for Grasses		453	428
F	Astragalus cibarius	2	3
F	Erigeron pumilus	8	-
F	Leucelene ericoides	-	15
F	Penstemon palmeri	-	3
F	Phlox austromontana	4	7
F	Sphaeralcea coccinea	3	-
F	Unknown forb-perennial	2	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		19	29
Total for Forbs		19	29

BASIC COVER--

Management unit 20, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.75	4.00
Rock	14.25	22.00
Pavement	23.25	16.25
Litter	36.00	32.50
Cryptogams	0	.25
Bare Ground	17.75	25.00

WILDLIFE MANAGEMENT UNIT 20

BROWSE CHARACTERISTICS--

Management unit 20, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	1333	45	55	-	133	15	0	0	11/13	
91	1533	39	61	-	-	43	13	0	9/16	
<i>Chrysothamnus nauseosus hololeucus</i>										
85	266	0	25	75	-	0	0	0	8/9	
91	266	0	25	75	-	25	0	75	20/22	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	132	50	50	-	-	50	50	0	7/22	
<i>Gutierrezia sarothrae</i>										
85	3732	34	55	11	2266	5	0	0	6/7	
91	1732	81	15	4	3066	0	0	0	5/6	
<i>Juniperus osteosperma</i>										
85	66	0	100	-	-	0	0	0	69/83	
91	66	0	100	-	-	0	0	0	138/91	
<i>Opuntia sp.</i>										
85	66	0	100	0	-	0	0	0	2/4	
91	66	0	0	100	-	0	0	0	-/-	
<i>Pinus monophylla</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 21

LONG CANYON – STUDY NO. 21A-1

HERBACEOUS TRENDS--

Management unit 21A, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	181	169
G	Poa secunda	218	265
Total for Annual Grasses		0	0
Total for Perennial Grasses		399	434
Total for Grasses		399	434
F	Arabis sp.	11	13
F	Arenaria fendleri	-	12
F	Astragalus sp.	6	42
F	Calochortus nuttallii	5	-
F	Cryptantha sp.	-	4
F	Eriogonum sp.	-	1
F	Lactuca serriola (a)	-	3
F	Petradoria pumila	47	69
F	Phlox hoodii	4	99
F	Phlox longifolia	4	-
F	Physaria chambersii	19	15
F	Streptanthus cordatus	11	41
Total for Annual Forbs		0	3
Total for Perennial Forbs		107	296
Total for Forbs		107	299

BASIC COVER--

Management unit 21A, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.25	6.50
Rock	5.50	13.00
Pavement	27.75	18.00
Litter	51.50	45.50
Cryptogams	1.00	2.50
Bare Ground	7.00	14.50

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21A, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	100	0	0	14/21	
<i>Artemisia tridentata wyomingensis</i>										
85	1065	6	88	6	-	38	0	13	32/27	
91	1132	23	53	23	-	65	0	12	31/32	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	933	0	14	86	-	0	0	21	8/13	
91	1799	0	30	70	-	4	4	41	15/18	
<i>Cowania mexicana stansburiana</i>										
85	333	0	100	0	-	0	0	0	55/37	
91	332	0	80	20	-	20	0	0	63/59	
<i>Gutierrezia sarothrae</i>										
85	799	33	50	17	200	0	0	0	9/7	
91	999	7	73	20	-	0	0	7	10/9	
<i>Juniperus osteosperma</i>										
85	133	0	100	-	-	0	0	0	64/41	
91	133	0	100	-	-	0	0	0	90/64	
<i>Leptodactylon pungens</i>										
85	6665	26	52	22	666	4	4	2	3/5	
91	199	0	67	33	-	0	0	67	10/14	

LOVELL HOLLOW – STUDY NO. 21A-2

HERBACEOUS TRENDS--

Management unit 21A, Study no: 2

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	-	14
G	Agropyron intermedium	-	17
G	Agropyron smithii	-	18
G	Agropyron spicatum	3	-
G	Bromus inermis	-	2
G	Oryzopsis hymenoides	3	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		6	60
Total for Grasses		6	60
F	Eriogonum cernuum (a)	19	-
F	Lactuca serriola (a)	-	1
F	Lygodesmia grandiflora	-	1
F	Machaeranthera canescens	19	189
F	Phlox longifolia	-	36
F	Stephanomeria exigua (a)	-	14
Total for Annual Forbs		19	15
Total for Perennial Forbs		19	226
Total for Forbs		38	241

BASIC COVER--

Management unit 21A, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	.50	2.00
Rock	0	0
Pavement	.50	.25
Litter	48.50	52.50
Cryptogams	9.25	0
Bare Ground	41.25	45.25

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21A, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
85	1465	5	59	36	-	0	0	14	33/32	
91	0	0	0	0	-	0	0	0	-/-	
<i>Eriogonum nummulare</i>										
85	865	31	62	8	-	0	0	8	13/15	
91	0	0	0	0	-	0	0	0	-/-	

CASCADE SPRING – STUDY NO. 21A-3

HERBACEOUS TRENDS--

Management unit 21A, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	111	76
G	Agropyron intermedium	33	73
G	Agropyron spicatum	1	4
G	Bromus inermis	34	32
G	Poa bulbosa	-	8
G	Poa secunda	31	86
Total for Annual Grasses		0	0
Total for Perennial Grasses		210	279
Total for Grasses		210	279
F	Erigeron sp.	13	-
F	Erodium cicutarium (a)	54	-
F	Lactuca serriola (a)	-	10
F	Medicago sativa	76	4
F	Stephanomeria exigua (a)	11	-
F	Tragopogon dubius (a)	-	1
F	Unknown forb-annual (a)	-	3
F	Unknown forb-perennial	-	4
Total for Annual Forbs		65	14
Total for Perennial Forbs		89	8
Total for Forbs		154	22

BASIC COVER--

Management unit 21, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.25	10.75
Rock	24.25	22.00
Pavement	9.00	6.25
Litter	40.75	44.00
Cryptogams	.75	1.00
Bare Ground	18.00	16.00

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--

Management unit 21, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	200	0	100	-	-	0	0	0	10/15	

HORSE HOLLOW – STUDY NO. 21A-4

HERBACEOUS TRENDS--

Management unit 21A, Study no: 4

Type	Species	Nest Frequency	
		'85	'91
G	Agropyron spicatum	73	77
G	Hilaria jamesii	8	34
G	Oryzopsis hymenoides	29	31
G	Poa secunda	54	47
G	Sitanion hystrix	-	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		164	194
Total for Grasses		164	194
F	Arabis drummondi	1	-
F	Astragalus sp.	19	8
F	Cryptantha sp.	5	1
F	Erigeron eatonii	-	4
F	Eriogonum ovalifolium	-	2
F	Phlox austromontana	15	-
F	Phlox longifolia	2	-
F	Unknown forb-perennial	3	-
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		45	16
Total for Forbs		45	16

BASIC COVER--

Management unit 21A, Study no: 4

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.25	1.00
Rock	7.00	18.00
Pavement	37.50	31.00
Litter	33.25	30.50
Cryptogams	2.75	3.25
Bare Ground	16.25	16.25

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21A, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	799	8	50	42	66	58	0	17	15/18	
91	800	0	50	50	-	0	0	33	15/28	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	333	0	0	100	-	0	0	100	-/-	
91	266	0	100	0	-	0	0	0	9/14	
<i>Gutierrezia sarothrae</i>										
85	1266	32	58	11	-	0	0	21	6/9	
91	1398	5	91	5	-	0	0	5	9/13	

WOOD CANYON – STUDY NO. 21A-5

HERBACEOUS TRENDS--

Management unit 21A, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	1	2
G	Aristida purpurea	16	20
G	Poa secunda	57	31
G	Sporobolus cryptandrus	3	3
G	Stipa comata	1	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		78	60
Total for Grasses		78	60
F	Calochortus nuttallii	1	2
F	Lactuca serriola (a)	-	40
F	Phlox longifolia	-	1
F	Salsola iberica (a)	-	7
F	Sphaeralcea parvifolia	-	4
F	Unknown forb-perennial	3	9
Total for Annual Forbs		0	47
Total for Perennial Forbs		4	16
Total for Forbs		4	63

BASIC COVER--

Management unit 21, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.00	1.00
Rock	13.00	20.00
Pavement	9.75	8.50
Litter	63.00	54.00
Cryptogams	3.00	0
Bare Ground	10.25	16.50

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--

Management unit 21, Study no: 5

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata wyomingensis</i>									
85	3599	4	57	39	-	2	0	9	26/32
91	0	0	0	0	-	0	0	0	-/-
<i>Gutierrezia sarothrae</i>									
85	132	50	0	50	-	0	0	0	-/-
91	33	0	100	0	100	0	0	0	9/11

BAKER CANYON – STUDY NO. 21A-23

HERBACEOUS TRENDS--

Management unit 21A, Study no: 23

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron spicatum</i>	77	69
G	<i>Oryzopsis hymenoides</i>	4	23
G	<i>Poa fendleriana</i>	8	-
G	<i>Poa secunda</i>	53	96
G	<i>Sitanion hystrix</i>	28	68
Total for Annual Grasses		0	0
Total for Perennial Grasses		170	256
Total for Grasses		170	256
F	<i>Antennaria</i> sp.	-	3
F	<i>Astragalus calycosus</i>	-	48
F	<i>Astragalus marianus</i>	17	26
F	<i>Calochortus nuttallii</i>	-	3
F	<i>Chaenactis douglasii</i>	3	12
F	<i>Crepis acuminata</i>	-	2
F	<i>Lactuca serriola</i> (a)	-	4
F	<i>Machaeranthera canescens</i>	33	8
F	<i>Phlox hoodii</i>	25	56
F	<i>Phlox longifolia</i>	-	18
F	<i>Salsola iberica</i> (a)	-	58
F	<i>Sphaeralcea coccinea</i>	14	25
F	<i>Thlaspi alpestre</i>	11	-
Total for Annual Forbs		0	62
Total for Perennial Forbs		103	201
Total for Forbs		103	263

WILDLIFE MANAGEMENT UNIT 21

BASIC COVER--

Management unit 21A, Study no: 23

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.50	4.50
Rock	2.00	2.75
Pavement	26.00	22.75
Litter	40.25	42.75
Cryptogams	4.50	3.75
Bare Ground	24.75	23.50

BROWSE CHARACTERISTICS--

Management unit 21A, Study no: 23

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	3999	15	43	42	600	65	7	13	26/22	
91	199	67	33	0	-	67	0	0	8/8	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	100	0	0	10/4	
<i>Ephedra nevadensis</i>										
85	66	0	100	-	-	100	0	0	19/21	
91	66	0	100	-	-	0	0	0	30/43	
<i>Juniperus osteosperma</i>										
85	266	100	0	-	133	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	

M HILL – STUDY NO. 21B-6

HERBACEOUS TRENDS--

Management unit 21B, Study no: 6

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	169	207
G	Oryzopsis hymenoides	-	1
G	Poa secunda	33	17
G	Sitanion hystrix	-	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		202	230
Total for Grasses		202	230
F	Arabis sp.	-	3
F	Astragalus sp.	-	22
F	Cryptantha sp.	12	14
F	Lactuca serriola (a)	-	1
F	Linum lewisii	-	5
F	Machaeranthera canescens	3	24
F	Penstemon sp.	9	5
F	Petradoria pumila	110	119
F	Phlox austromontana	13	53
F	Senecio multilobatus	10	-
F	Streptanthus cordatus	6	9
F	Tragopogon dubius (a)	-	2
F	Unknown forb-perennial	-	2
Total for Annual Forbs		0	3
Total for Perennial Forbs		163	256
Total for Forbs		163	259

BASIC COVER--

Management unit 21B, Study no: 6

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.75	6.00
Rock	13.50	14.00
Pavement	15.75	12.75
Litter	43.50	46.75
Cryptogams	0	0
Bare Ground	19.50	20.50

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Cercocarpus montanus</i>										
85	266	25	75	-	66	25	0	25	69/35	
91	266	25	75	-	-	75	0	0	87/70	
<i>Gutierrezia sarothrae</i>										
85	66	0	0	100	-	0	0	0	-/-	
91	266	25	75	0	-	0	0	0	12/10	
<i>Juniperus osteosperma</i>										
85	133	0	100	-	66	0	0	0	69/71	
91	133	0	100	-	66	0	0	0	157/197	
<i>Leptodactylon pungens</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	466	0	100	-	-	0	0	0	8/10	
<i>Quercus gambelii</i>										
85	8332	63	37	0	3799	0	0	0	35/17	
91	7932	71	24	6	400	13	0	4	60/33	

BENNETT FIELD – STUDY NO. 21B-7

HERBACEOUS TRENDS--

Management unit 21B, Study no: 7

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	-	17
G	Poa secunda	241	251
Total for Annual Grasses		0	0
Total for Perennial Grasses		241	268
Total for Grasses		241	268
F	Calochortus nuttallii	-	17
F	Cirsium sp.	-	2
F	Crepis acuminata	-	3
F	Linum lewisii	-	1
F	Lomatium sp.	-	5
F	Phlox longifolia	-	13
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	41
Total for Forbs		0	41

BASIC COVER--

Management unit 21B, Study no: 7

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.00	2.25
Rock	2.50	4.25
Pavement	11.75	7.25
Litter	62.00	74.25
Cryptogams	0	2.25
Bare Ground	17.75	9.75

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
85	3332	2	76	22	-	44	4	2	33/32	
91	2999	4	64	31	-	33	2	9	28/27	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	18/31	
<i>Cowania mexicana stansburiana</i>										
85	466	0	43	57	-	14	86	29	60/46	
91	399	0	33	67	66	0	17	0	26/21	
<i>Gutierrezia sarothrae</i>										
85	533	0	25	75	-	0	0	0	9/7	
91	1666	20	80	0	-	0	0	0	10/9	

SMITHS RIDGE – STUDY NO. 21B-8

HERBACEOUS TRENDS--

Management unit 21B, Study no: 8

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	21	61
G	Poa bulbosa	-	1
G	Poa secunda	72	119
G	Sitanion hystrix	13	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		106	204
Total for Grasses		106	204
F	Agoseris glauca	-	16
F	Arabis sp.	-	9
F	Calochortus nuttallii	-	4
F	Chaenactis douglasii	24	-
F	Lactuca serriola (a)	-	9
F	Lomatium sp.	-	13
F	Zigadenus paniculatus	4	2
Total for Annual Forbs		0	9
Total for Perennial Forbs		28	44
Total for Forbs		28	53

BASIC COVER--

Management unit 21B, Study no: 8

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.00	4.75
Rock	5.25	6.75
Pavement	5.25	3.00
Litter	66.75	74.50
Cryptogams	.25	0
Bare Ground	21.50	11.00

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	1333	10	30	60	-	25	0	10	28/25	
91	1532	39	30	30	266	13	4	13	16/17	
<i>Cowania mexicana stansburiana</i>										
85	332	0	80	20	-	80	0	0	68/81	
91	266	0	50	50	133	75	0	0	142/53	
<i>Gutierrezia sarothrae</i>										
85	2465	3	81	16	-	0	0	30	13/12	
91	2666	15	85	0	133	0	0	0	12/11	
<i>Juniperus osteosperma</i>										
85	133	0	100	-	-	0	0	0	69/109	
91	133	0	100	-	-	0	0	0	144/111	
<i>Purshia tridentata</i>										
85	532	25	63	12	-	75	0	0	25/23	
91	266	0	50	50	-	75	0	25	30/51	

WIDE CANYON BLM – STUDY NO. 21B-9

HERBACEOUS TRENDS--

Management unit 21B, Study no: 9

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	19	36
G	Poa secunda	130	114
G	Sitanion hystrix	11	15
Total for Annual Grasses		0	0
Total for Perennial Grasses		160	165
Total for Grasses		160	165
F	Agoseris glauca	-	8
F	Calochortus nuttallii	-	4
F	Lactuca serriola (a)	-	10
F	Phlox longifolia	-	1
F	Tragopogon dubius (a)	-	1
Total for Annual Forbs		0	11
Total for Perennial Forbs		0	13
Total for Forbs		0	24

BASIC COVER--

Management unit 21B, Study no: 9

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.50	2.00
Rock	4.75	5.50
Pavement	.50	.25
Litter	68.00	59.25
Cryptogams	.25	.75
Bare Ground	24.00	32.25

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	1400	29	57	14	-	5	0	0	30/33	
91	1398	19	71	10	-	38	0	5	29/50	
<i>Cowania mexicana stansburiana</i>										
85	999	20	67	13	-	73	7	0	48/49	
91	865	8	77	15	-	54	0	0	56/58	
<i>Gutierrezia sarothrae</i>										
85	1332	50	45	5	-	0	5	5	10/13	
91	2266	26	74	0	-	0	0	0	13/16	
<i>Opuntia sp.</i>										
85	200	0	100	0	-	0	0	0	6/8	
91	132	0	50	50	-	0	0	0	8/15	

WIDE CANYON DWR – STUDY NO. 21B-10

HERBACEOUS TRENDS--

Management unit 21B, Study no: 10

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	24	24
G	Agropyron intermedium	67	66
G	Agropyron spicatum	140	181
G	Oryzopsis hymenoides	-	3
G	Poa bulbosa	-	99
G	Poa secunda	135	157
G	Sitanion hystrix	6	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		372	532
Total for Grasses		372	532
F	Astragalus sp.	-	6
F	Calochortus nuttallii	2	7
F	Castilleja chromosa	-	2
F	Crepis acuminata	3	-
F	Cryptantha sp.	2	2
F	Lactuca serriola (a)	-	1
F	Streptanthus cordatus	-	6
F	Tragopogon dubius (a)	-	1
F	Zigadenus paniculatus	2	-
Total for Annual Forbs		0	2
Total for Perennial Forbs		9	23
Total for Forbs		9	25

BASIC COVER--

Management unit 21B, Study no: 10

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.75	5.00
Rock	3.50	3.00
Pavement	12.50	3.75
Litter	62.00	66.25
Cryptogams	0	.25
Bare Ground	14.25	21.75

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	2598	18	49	33	-	13	3	3	21/23	
91	2399	6	58	36	-	22	8	17	24/30	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	66	0	100	-	-	0	0	0	11/12	
91	266	50	50	-	-	25	0	0	12/14	
<i>Cowania mexicana stansburiana</i>										
85	132	0	50	50	-	100	0	0	22/18	
91	133	0	0	100	-	100	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	3466	23	65	12	-	0	0	2	9/8	
91	800	0	100	0	66	0	0	0	10/7	
<i>Leptodactylon pungens</i>										
85	132	50	50	-	-	0	0	0	9/7	
91	66	0	100	-	-	0	0	0	11/7	

DOG VALLEY – STUDY NO. 21B-11

HERBACEOUS TRENDS--

Management unit 21B, Study no: 11

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	16	16
G	Aristida purpurea	3	5
G	Poa secunda	7	17
G	Sitanion hystrix	-	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		26	43
Total for Grasses		26	43
F	Unknown forb-perennial	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		3	0
Total for Forbs		3	0

BASIC COVER--

Management unit 21B, Study no: 11

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.25	2.00
Rock	11.50	16.25
Pavement	8.25	9.25
Litter	72.25	63.75
Cryptogams	0	0
Bare Ground	6.75	8.75

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 11

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>									
85	399	33	50	17	-	33	0	0	20/26
91	66	0	100	0	-	0	100	0	12/21
<i>Cowania mexicana stansburiana</i>									
85	533	0	100	0	-	63	0	0	69/75
91	599	11	67	22	66	44	56	0	82/70
<i>Gutierrezia sarothrae</i>									
85	0	0	0	-	-	0	0	0	-/-
91	66	0	100	-	-	0	0	0	6/4

DAMERON CANYON – STUDY NO. 21B-12

HERBACEOUS TRENDS--

Management unit 21B, Study no: 12

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	-	3
G	Poa secunda	193	189
G	Sitanion hystrix	26	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		219	194
Total for Grasses		219	194
F	Lactuca serriola (a)	-	55
F	Phlox longifolia	4	-
F	Unknown forb-perennial	4	-
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	55
Total for Perennial Forbs		8	1
Total for Forbs		8	56

BASIC COVER--

Management unit 21B, Study no: 12

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.00	3.50
Rock	4.50	5.25
Pavement	7.50	12.00
Litter	64.25	52.50
Cryptogams	0	.25
Bare Ground	20.75	26.50

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	5199	26	60	14	66	12	0	4	28/29	
91	4799	22	54	24	3666	43	6	13	24/26	
<i>Cowania mexicana stansburiana</i>										
85	66	0	0	100	-	0	100	0	-/-	
91	0	0	0	0	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	1532	35	61	4	266	0	0	0	9/13	
91	7198	29	70	1	600	0	0	0	10/9	
<i>Purshia tridentata</i>										
85	332	0	80	20	-	0	100	20	46/43	
91	200	0	100	0	-	33	33	0	43/66	

WALKER CREEK – STUDY NO. 21B-13

HERBACEOUS TRENDS--

Management unit 21B, Study no: 13

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	1	2
G	Aristida purpurea	4	1
G	Poa secunda	74	101
G	Sitanion hystrix	3	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		82	111
Total for Grasses		82	111
F	Asclepias asperula	2	-
F	Eriogonum racemosum	2	-
F	Helianthus annuus (a)	2	-
F	Zigadenus paniculatus	6	1
Total for Annual Forbs		2	0
Total for Perennial Forbs		10	1
Total for Forbs		12	1

BASIC COVER--

Management unit 21B, Study no: 13

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.75	1.00
Rock	7.50	12.25
Pavement	3.75	4.25
Litter	65.50	64.50
Cryptogams	0	0
Bare Ground	21.50	18.00

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
85	1865	14	54	32	133	39	14	4	23/29	
91	1731	15	58	27	-	12	4	12	25/32	
<i>Cowania mexicana stansburiana</i>										
85	466	29	71	0	-	57	0	0	43/42	
91	465	14	72	14	-	57	29	0	49/45	
<i>Gutierrezia sarothrae</i>										
85	1999	13	87	0	600	0	0	0	9/10	
91	2866	14	79	7	266	0	0	19	11/12	
<i>Juniperus osteosperma</i>										
85	800	50	50	-	133	0	0	8	69/56	
91	999	67	33	-	-	33	0	0	75/49	
<i>Quercus gambelii</i>										
85	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	

MEADOW CREEK – STUDY NO. 21B-14

HERBACEOUS TRENDS--

Management unit 21B, Study no: 14

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	101	111
G	Agropyron smithii	-	2
G	Agropyron spicatum	102	89
G	Bouteloua gracilis	3	-
G	Poa fendleriana	-	3
G	Poa secunda	15	31
G	Sitanion hystrix	13	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		234	239
Total for Grasses		234	239
F	Arabis sp.	-	2
F	Calochortus nuttallii	-	5
F	Phlox longifolia	-	3
F	Tragopogon dubius (a)	6	-
F	Unknown forb-perennial	2	-
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		6	0
Total for Perennial Forbs		2	13
Total for Forbs		8	13

BASIC COVER--

Management unit 21B, Study no: 14

Cover Type	Average Cover %	
	'85	'91
Vegetation	11.00	11.75
Rock	3.75	4.50
Pavement	4.25	6.50
Litter	63.50	61.25
Cryptogams	2.25	1.00
Bare Ground	15.25	15.00

WILDLIFE MANAGEMENT UNIT 21

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	13599	96	4	0	1666	.98	0	0	15/18	
91	7399	22	72	6	-	10	7	4	6/6	
<i>Cercocarpus montanus</i>										
85	66	0	100	-	-	0	100	0	25/30	
91	66	100	0	-	-	0	100	0	-/-	
<i>Chrysothamnus nauseosus hololeucus</i>										
85	865	8	31	62	-	54	0	15	13/16	
91	333	0	0	100	-	40	0	60	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	332	20	60	20	-	0	0	20	8/13	
91	465	14	72	14	-	0	0	0	14/12	
<i>Cowania mexicana stansburiana</i>										
85	199	33	67	-	-	67	33	0	20/28	
91	199	67	33	-	-	67	0	0	35/39	
<i>Gutierrezia sarothrae</i>										
85	6999	35	59	6	400	0	0	.95	8/9	
91	2132	9	78	12	-	0	0	3	8/7	
<i>Juniperus osteosperma</i>										
85	466	43	57	-	-	0	0	0	64/69	
91	533	25	75	-	-	13	0	13	121/91	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Opuntia sp.										
85	532	38	12	50	-	0	0	38	5/9	
91	466	43	57	0	66	0	0	0	3/4	

FILLMORE CEMETERY EAST – STUDY NO. 21B-15

HERBACEOUS TRENDS--

Management unit 21B, Study no: 15

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	22	11
G	Agropyron spicatum	-	3
G	Poa bulbosa	-	8
G	Poa secunda	16	26
G	Sitanion hystrix	22	45
Total for Annual Grasses		0	0
Total for Perennial Grasses		60	93
Total for Grasses		60	93
F	Astragalus argophyllus	2	3
F	Astragalus cibarius	1	1
F	Calochortus nuttallii	-	8
F	Chaenactis douglasii	-	4
F	Cirsium calcareum	17	34
F	Cryptantha sp.	-	3
F	Eriogonum racemosum	-	5
F	Lactuca serriola (a)	-	9
F	Linum lewisii	14	2
F	Lithospermum ruderales	6	7
F	Machaeranthera canescens	1	3
F	Phlox longifolia	3	5
F	Zigadenus paniculatus	6	17
Total for Annual Forbs		0	9
Total for Perennial Forbs		50	92
Total for Forbs		50	101

BASIC COVER--

Management unit 21B, Study no: 15

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.75	2.75
Rock	4.75	6.75
Pavement	17.25	12.50
Litter	57.25	57.00
Cryptogams	0	0
Bare Ground	19.00	21.00

BROWSE CHARACTERISTICS--
Management unit 21B, Study no: 15

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	2465	0	59	41	66	38	0	5	26/29	
91	2533	0	32	68	266	13	0	32	31/35	
<i>Gutierrezia sarothrae</i>										
85	1399	67	33	0	266	5	0	14	7/6	
91	2866	14	81	5	466	0	0	0	9/11	
<i>Quercus gambelii</i>										
85	9065	81	18	1	8066	2	0	7	66/45	
91	8932	63	25	12	2266	7	0	7	72/38	

WILDLIFE MANAGEMENT UNIT 22

DEER FLAT – STUDY NO. 22-1

HERBACEOUS TRENDS--

Management unit 22, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	75	104
G	Agropyron spicatum	4	10
G	Bouteloua gracilis	14	39
G	Bromus inermis	27	45
G	Carex sp.	12	14
G	Koeleria cristata	59	43
G	Oryzopsis hymenoides	-	5
G	Poa fendleriana	255	195
G	Sitanion hystrix	40	65
G	Stipa comata	9	49
Total for Annual Grasses		0	0
Total for Perennial Grasses		495	569
Total for Grasses		495	569
F	Agoseris glauca	-	9
F	Antennaria sp.	-	2
F	Arabis demissa	3	-
F	Astragalus sp.	11	5
F	Calochortus nuttallii	14	18
F	Castilleja chromosa	-	11
F	Erigeron pumilus	-	3
F	Eriogonum racemosum	23	26
F	Lithospermum ruderales	2	1
F	Lomatium sp.	-	3
F	Petroragia pumila	14	12
F	Phlox longifolia	41	58
F	Sphaeralcea coccinea	7	7
F	Tragopogon dubius (a)	4	-
F	Trifolium sp.	28	31
F	Unknown forb-perennial	2	-
Total for Annual Forbs		4	0
Total for Perennial Forbs		145	186
Total for Forbs		149	186

BASIC COVER--

Management unit 22, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	9.50	11.00
Rock	9.50	11.75
Pavement	8.00	3.50
Litter	60.00	53.50
Cryptogams	0	.25
Bare Ground	13.00	20.00

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	1999	63	30	7	466	30	0	3	13/20	
91	3265	33	51	16	-	22	49	6	10/17	
<i>Artemisia tridentata vaseyana</i>										
85	9333	54	42	4	1200	44	2	.71	23/29	
91	9599	47	31	22	-	35	31	6	24/28	
<i>Cercocarpus ledifolius</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	50	50	0	-/-	
<i>Cercocarpus montanus</i>										
85	1399	90	10	0	933	19	71	0	15/13	
91	932	29	50	21	133	0	86	7	9/11	
<i>Chrysothamnus depressus</i>										
85	133	0	100	-	-	0	0	0	2/5	
91	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 22

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
85	66	0	100	0	-	0	0	0	4/9
91	66	0	0	100	-	0	100	0	-/-
<i>Eriogonum microthecum</i>									
85	1399	38	62	0	-	5	10	0	5/7
91	2199	15	79	6	-	15	21	3	6/6
<i>Gutierrezia sarothrae</i>									
85	1799	19	81	0	-	0	0	0	7/5
91	399	0	83	17	-	0	0	0	8/8
<i>Juniperus osteosperma</i>									
85	66	0	100	-	-	0	0	0	44/33
91	66	0	100	-	-	0	0	0	63/67
<i>Opuntia sp.</i>									
85	2932	23	70	7	-	0	7	18	4/6
91	2465	54	41	5	200	0	14	0	5/11
<i>Pinus edulis</i>									
85	0	0	0	-	-	0	0	0	-/-
91	66	100	0	-	-	0	0	0	-/-
<i>Quercus gambelii</i>									
85	66	100	0	-	200	100	0	0	-/-
91	133	100	0	-	-	50	50	0	-/-

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Sclerocactus</i> sp.										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
85	66	0	100	-	-	0	0	0	4/6	
91	133	0	100	-	-	0	0	0	6/7	

PIUTE RESERVOIR – STUDY NO. 22-2

HERBACEOUS TRENDS--

Management unit 22, Study no: 2

Type	Species	Nested Frequency	
		'85	'91
G	Carex sp.	-	2
G	Oryzopsis hymenoides	3	11
G	Sitanion hystrix	22	19
G	Stipa comata	12	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		37	33
Total for Grasses		37	33
F	Ambrosia sp.	2	-
F	Astragalus lentiginosus	29	5
F	Eriogonum cernuum (a)	35	7
F	Phlox longifolia	3	6
F	Unknown forb-annual (a)	-	7
F	Unknown forb-perennial	3	3
Total for Annual Forbs		35	14
Total for Perennial Forbs		37	14
Total for Forbs		72	28

BASIC COVER--

Management unit 22, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.00	4.25
Rock	.75	3.25
Pavement	58.50	48.75
Litter	29.25	24.25
Cryptogams	0	.25
Bare Ground	8.50	19.25

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	6799	34	47	19	2733	49	9	3	20/24	
91	6932	38	28	34	66	37	29	31	18/25	
<i>Cercocarpus ledifolius</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	100	0	0	11/5	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	2133	38	44	19	10066	13	13	3	13/9	
91	2266	35	62	3	-	0	3	6	12/8	
<i>Opuntia sp.</i>										
85	66	0	100	-	-	0	0	0	5/9	
91	66	0	100	-	-	0	0	0	5/8	

OAK BASIN – STUDY NO. 22-3

HERBACEOUS TRENDS--

Management unit 22, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron cristatum</i>	221	169
G	<i>Agropyron intermedium</i>	316	303
G	<i>Agropyron trachycaulum</i>	-	4
G	<i>Bouteloua gracilis</i>	4	2
G	<i>Bromus inermis</i>	16	-
G	<i>Carex</i> sp.	34	24
G	<i>Elymus junceus</i>	10	-
G	<i>Koeleria cristata</i>	1	3
G	<i>Poa fendleriana</i>	127	102
G	<i>Poa pratensis</i>	8	-
G	<i>Sitanion hystrix</i>	1	1
G	<i>Stipa comata</i>	3	7
G	<i>Stipa lettermani</i>	19	31
Total for Annual Grasses		0	0
Total for Perennial Grasses		760	646
Total for Grasses		760	646
F	<i>Agoseris glauca</i>	-	13
F	<i>Arabis</i> sp.	-	16
F	<i>Astragalus convallarius</i>	6	7
F	<i>Astragalus newberryi</i>	4	-
F	<i>Calochortus nuttallii</i>	2	9
F	<i>Castilleja chromosa</i>	10	14
F	<i>Chenopodium album</i> (a)	-	8
F	<i>Cryptantha</i> sp.	5	-
F	<i>Eriogonum racemosum</i>	5	6
F	<i>Hackelia patens</i>	-	2
F	<i>Lomatium</i> sp.	-	2
F	<i>Lotus utahensis</i>	12	4
F	<i>Lupinus argenteus</i>	45	50
F	<i>Medicago sativa</i>	4	1
F	<i>Phlox longifolia</i>	12	33
F	<i>Zigadenus paniculatus</i>	8	6
Total for Annual Forbs		0	8
Total for Perennial Forbs		113	163
Total for Forbs		113	171

BASIC COVER--

Management unit 22, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.50	7.25
Rock	17.75	20.25
Pavement	2.00	1.00
Litter	66.50	53.75
Cryptogams	0	.25
Bare Ground	6.25	17.50

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	66	0	0	100	-	100	0	0	-/-	
91	0	0	0	0	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
85	5265	10	54	35	66	38	15	0	20/19	
91	0	0	0	0	-	0	0	0	-/-	
<i>Cercocarpus ledifolius</i>										
85	200	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus depressus</i>										
85	66	0	100	-	-	0	0	0	6/6	
91	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	100	9/16	

WILDLIFE MANAGEMENT UNIT 22

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
85	465	14	72	14	-	71	29	0	18/20	
91	0	0	0	0	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
85	15798	84	13	3	2266	5	0	2	33/14	
91	9066	100	0	0	5733	0	0	0	-/-	

WADES CANYON – STUDY NO. 22-4

HERBACEOUS TRENDS--

Management unit 22, Study no: 4

Type	Species	Nested Frequency	
		'85	'91
G	Oryzopsis hymenoides	138	133
G	Sitanion hystrix	63	84
Total for Annual Grasses		0	0
Total for Perennial Grasses		201	217
Total for Grasses		201	217
F	Arabis sp.	-	4
F	Astragalus calycosus	46	62
F	Castilleja chromosa	15	-
F	Chaenactis douglasii	28	9
F	Erigeron pumilus	150	95
F	Phlox hoodii	72	99
F	Physaria chambersii	36	21
F	Thlaspi montanum	19	-
F	Unknown forb-perennial	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		367	290
Total for Forbs		367	290

BASIC COVER--

Management unit 22, Study no: 4

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.25	5.25
Rock	21.25	17.75
Pavement	39.75	41.50
Litter	25.00	17.25
Cryptogams	.25	4.75
Bare Ground	7.50	13.50

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	4599	14	48	38	66	58	20	6	20/24	
91	5399	14	40	47	-	27	62	31	17/22	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	7199	17	69	15	-	12	0	0	10/10	
91	8266	5	77	18	-	23	61	5	8/9	
<i>Gutierrezia sarothrae</i>										
85	200	0	100	-	-	0	0	0	8/5	
91	333	0	100	-	-	0	20	0	7/6	
<i>Opuntia sp.</i>										
85	266	25	75	-	-	0	0	75	5/3	
91	133	0	100	-	-	0	0	0	5/9	

BONE HOLLOW – STUDY NO. 22-5

HERBACEOUS TRENDS--

Management unit 22, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron spicatum</i>	1	3
G	<i>Bouteloua gracilis</i>	1	-
G	<i>Oryzopsis hymenoides</i>	50	35
G	<i>Poa secunda</i>	-	11
G	<i>Sitanion hystrix</i>	122	99
G	<i>Stipa comata</i>	9	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		183	160
Total for Grasses		183	160
F	<i>Agoseris glauca</i>	5	5
F	<i>Antennaria sp.</i>	-	3
F	<i>Arabis demissa</i>	1	1
F	<i>Astragalus sp.</i>	-	4
F	<i>Chaenactis douglasii</i>	7	20
F	<i>Cryptantha sp.</i>	10	20
F	<i>Erigeron pumilus</i>	10	-
F	<i>Leucelene ericoides</i>	-	7
F	<i>Machaeranthera canescens</i>	11	2
F	<i>Phlox austromontana</i>	17	9
F	<i>Sphaeralcea coccinea</i>	5	14
Total for Annual Forbs		0	0
Total for Perennial Forbs		66	85
Total for Forbs		66	85

BASIC COVER--

Management unit 22, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.75	3.75
Rock	1.75	2.25
Pavement	42.75	35.25
Litter	43.00	39.75
Cryptogams	0	.50
Bare Ground	8.75	18.50

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	5865	22	49	30	1133	44	16	8	15/15	
91	6131	5	62	33	-	45	14	18	13/24	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	100	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	133	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	66	100	0	-	66	0	0	0	-/-	
91	466	43	57	-	-	0	0	0	5/6	

BEAVER TABLE – STUDY NO. 22-6

HERBACEOUS TRENDS--

Management unit 22, Study no: 6

Type	Species	Nested Frequency	
		'85	'91
G	<i>Oryzopsis hymenoides</i>	35	24
G	<i>Poa fendleriana</i>	20	17
G	<i>Sitanion hystrix</i>	182	180
G	<i>Stipa lettermani</i>	1	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		238	224
Total for Grasses		238	224
F	<i>Arabis demissa</i>	15	27
F	<i>Astragalus convallarius</i>	3	-
F	<i>Calochortus nuttallii</i>	2	-
F	<i>Castilleja chromosa</i>	-	6
F	<i>Chaenactis douglasii</i>	35	33
F	<i>Cymopterus sp.</i>	4	-
F	<i>Eriogonum umbellatum</i>	3	2
F	<i>Machaeranthera canescens</i>	3	-
F	<i>Phlox longifolia</i>	17	42
F	<i>Senecio multilobatus</i>	24	7
F	<i>Sphaeralcea coccinea</i>	29	24
Total for Annual Forbs		0	0
Total for Perennial Forbs		135	141
Total for Forbs		135	141

BASIC COVER--

Management unit 22, Study no: 6

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.50	5.25
Rock	14.50	10.25
Pavement	11.50	12.25
Litter	40.75	39.25
Cryptogams	.25	.75
Bare Ground	26.50	32.25

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	8332	26	48	26	266	49	2	11	15/20	
91	9999	4	43	53	-	33	19	16	17/26	
<i>Gutierrezia sarothrae</i>										
85	7266	39	61	0	2333	0	0	0	9/8	
91	1132	6	65	29	-	0	0	6	9/6	
<i>Juniperus osteosperma</i>										
85	199	33	67	-	200	0	0	0	69/45	
91	199	33	67	-	-	0	0	0	78/68	
<i>Opuntia sp.</i>										
85	133	0	100	0	-	0	0	0	5/12	
91	465	72	14	14	-	14	14	43	4/6	
<i>Purshia tridentata</i>										
85	866	15	85	0	-	38	62	0	22/11	
91	1265	68	11	21	-	58	26	11	33/53	

SHEEP ROCK – STUDY NO. 22-7

HERBACEOUS TRENDS--

Management unit 22, Study no: 7

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	89	136
G	Agropyron intermedium	173	240
G	Bromus inermis	95	135
G	Elymus junceus	29	11
G	Poa secunda	3	2
G	Sitanion hystrix	22	18
Total for Annual Grasses		0	0
Total for Perennial Grasses		411	542
Total for Grasses		411	542
F	Arabis sp.	-	3
F	Medicago sativa	35	-
F	Phacelia sp.	-	1
F	Sanguisorba minor	1	-
F	Unknown forb-perennial	20	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		56	4
Total for Forbs		56	4

BASIC COVER--

Management unit 22, Study no: 7

Cover Type	Average Cover %	
	'85	'91
Vegetation	10.50	3.00
Rock	1.50	2.50
Pavement	28.75	16.25
Litter	50.25	52.25
Cryptogams	0	0
Bare Ground	9.00	26.00

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 7

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Chrysothamnus viscidiflorus</i>									
85	866	15	85	-	-	0	0	0	13/11
91	0	0	0	-	-	0	0	0	-/-
<i>Gutierrezia sarothrae</i>									
85	0	0	0	-	-	0	0	0	-/-
91	266	0	100	-	-	0	0	0	10/11
<i>Juniperus osteosperma</i>									
85	66	100	0	-	-	0	0	0	-/-
91	66	0	100	-	66	0	0	0	38/36
<i>Purshia tridentata</i>									
85	66	100	0	0	-	0	0	0	-/-
91	66	0	0	100	-	0	100	100	-/-
<i>Quercus gambelii</i>									
85	133	100	0	-	-	0	0	0	-/-
91	133	100	0	-	-	100	0	0	-/-

MULEY POINT – STUDY NO. 22-8

HERBACEOUS TRENDS--

Management unit 22, Study no: 8

Type	Species	Nested Frequency	
		'85	'91
G	<i>Aristida purpurea</i>	-	11
G	<i>Oryzopsis hymenoides</i>	44	67
G	<i>Sitanion hystrix</i>	179	101
G	<i>Stipa comata</i>	11	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		234	179
Total for Grasses		234	179
F	<i>Astragalus cibarius</i>	18	21
F	<i>Astragalus sp.</i>	-	2
F	<i>Chaenactis douglasii</i>	21	15
F	<i>Cryptantha sp.</i>	-	3
F	<i>Eriogonum cernuum (a)</i>	39	10
F	<i>Sphaeralcea coccinea</i>	4	4
F	Unknown forb-perennial	14	-
Total for Annual Forbs		39	10
Total for Perennial Forbs		57	45
Total for Forbs		96	55

BASIC COVER--

Management unit 22, Study no: 8

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.00	1.00
Rock	16.25	17.75
Pavement	46.25	42.25
Litter	24.25	28.25
Cryptogams	0	0
Bare Ground	11.25	10.75

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	8132	15	57	28	133	42	0	6	17/22	
91	4865	1	23	75	333	41	19	15	17/19	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	66	0	100	-	-	0	0	0	9/4	
91	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia whipplei</i>										
85	200	0	100	-	-	0	0	0	7/7	
91	66	0	100	-	-	0	0	0	8/11	

ROCKS RESEEDING – STUDY NO. 22-9

HERBACEOUS TRENDS--

Management unit 22, Study no: 9

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	294	258
G	Agropyron spicatum	77	60
G	Koeleria cristata	4	8
G	Oryzopsis hymenoides	4	-
G	Poa fendleriana	51	20
Total for Annual Grasses		0	0
Total for Perennial Grasses		430	346
Total for Grasses		430	346
F	Arabis demissa	8	-
F	Astragalus convallarius	2	-
F	Astragalus sp.	1	-
F	Castilleja chromosa	3	-
F	Chaenactis douglasii	3	-
F	Erigeron sp.	4	-
F	Lomatium sp.	2	1
F	Phlox longifolia	51	37
F	Trifolium sp.	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		77	38
Total for Forbs		77	38

BASIC COVER--

Management unit 22, Study no: 9

Cover Type	Average Cover %	
	'85	'91
Vegetation	10.25	8.25
Rock	12.50	11.75
Pavement	14.00	6.75
Litter	50.00	45.50
Cryptogams	0	1.00
Bare Ground	13.25	26.75

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	1933	10	62	28	2733	48	3	0	28/27	
91	2198	21	45	33	1533	36	6	15	25/31	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	66	100	0	0	-	0	0	0	-/-	
91	266	75	0	25	200	50	25	0	-/-	
<i>Juniperus osteosperma</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	0	0	0	-/-	
<i>Opuntia whipplei</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
85	1465	32	59	9	1200	23	59	0	35/28	
91	1199	17	28	56	266	33	56	11	26/30	

DOUBLEUP HOLLOW – STUDY NO. 22-10

HERBACEOUS TRENDS--

Management unit 22, Study no: 10

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron spicatum</i>	6	11
G	<i>Bouteloua gracilis</i>	6	12
G	<i>Carex</i> sp.	6	6
G	<i>Koeleria cristata</i>	8	6
G	<i>Oryzopsis hymenoides</i>	9	7
G	<i>Poa fendleriana</i>	1	5
G	<i>Sitanion hystrix</i>	140	113
Total for Annual Grasses		0	0
Total for Perennial Grasses		176	160
Total for Grasses		176	160
F	<i>Arabis demissa</i>	1	6
F	<i>Astragalus newberryi</i>	2	-
F	<i>Chaenactis douglasii</i>	23	7
F	<i>Cryptantha</i> sp.	12	11
F	<i>Erigeron pumilus</i>	4	-
F	<i>Lygodesmia spinosa</i>	1	4
F	<i>Machaeranthera canescens</i>	10	-
F	<i>Penstemon</i> sp.	4	-
F	<i>Phlox longifolia</i>	3	2
F	<i>Senecio multilobatus</i>	1	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		61	32
Total for Forbs		61	32

BASIC COVER--

Management unit 22, Study no: 10

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.75	3.25
Rock	9.75	14.25
Pavement	25.25	20.50
Litter	56.75	53.00
Cryptogams	0	1.00
Bare Ground	4.50	8.00

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	4933	12	55	32	66	28	1	18	11/16	
91	3265	2	53	45	-	29	8	35	8/21	
<i>Artemisia tridentata vaseyana</i>										
85	2398	11	47	42	133	53	11	6	20/17	
91	2265	3	47	50	-	50	0	38	20/24	
<i>Cercocarpus ledifolius</i>										
85	0	0	0	-	200	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	333	0	100	-	-	0	0	0	10/8	
<i>Pinus edulis</i>										
85	133	100	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
85	4265	30	69	2	466	39	45	2	24/26	
91	2598	13	69	18	66	64	23	5	27/51	

B HILL – STUDY NO. 22-11

HERBACEOUS TRENDS--

Management unit 22, Study no: 11

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron cristatum</i>	205	198
G	<i>Agropyron intermedium</i>	4	14
G	<i>Agropyron smithii</i>	88	140
G	<i>Aristida purpurea</i>	-	3
G	<i>Elymus junceus</i>	152	168
G	<i>Oryzopsis hymenoides</i>	26	28
G	<i>Poa fendleriana</i>	7	-
G	<i>Stipa comata</i>	3	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		485	558
Total for Grasses		485	558
F	<i>Astragalus cibarius</i>	11	2
F	<i>Cryptantha</i> sp.	2	2
F	<i>Leucelene ericoides</i>	33	66
F	<i>Phlox longifolia</i>	-	12
F	<i>Sphaeralcea coccinea</i>	131	131
Total for Annual Forbs		0	0
Total for Perennial Forbs		177	213
Total for Forbs		177	213

BASIC COVER--

Management unit 22, Study no: 11

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.25	14.50
Rock	3.50	2.75
Pavement	34.00	22.00
Litter	34.50	19.50
Cryptogams	0	1.50
Bare Ground	19.75	39.75

WILDLIFE MANAGEMENT UNIT 22

BROWSE CHARACTERISTICS--

Management unit 22, Study no: 11

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	933	14	86	0	-	71	7	0	20/22	
91	866	8	69	23	-	69	8	0	24/27	

BIG CEDAR COVE – STUDY NO. 22-12

HERBACEOUS TRENDS--

Management unit 22, Study no: 12

Type	Species	Nested Frequency	
		'85	'91
G	<i>Aristida purpurea</i>	13	17
G	<i>Hilaria jamesii</i>	56	61
G	<i>Oryzopsis hymenoides</i>	-	4
G	<i>Poa secunda</i>	68	116
G	<i>Sitanion hystrix</i>	41	75
G	<i>Stipa comata</i>	11	29
Total for Annual Grasses		0	0
Total for Perennial Grasses		189	302
Total for Grasses		189	302
F	<i>Agoseris glauca</i>	3	7
F	<i>Arabis demissa</i>	2	-
F	<i>Astragalus sp.</i>	-	4
F	<i>Calochortus nuttallii</i>	1	5
F	<i>Crepis sp.</i>	-	4
F	<i>Delphinium nuttallianum</i>	-	5
F	<i>Erigeron pumilus</i>	3	5
F	<i>Lomatium sp.</i>	-	1
F	<i>Phlox longifolia</i>	-	31
F	<i>Zigadenus paniculatus</i>	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		12	62
Total for Forbs		12	62

BASIC COVER--

Management unit 22, Study no: 12

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.00	6.00
Rock	2.00	3.25
Pavement	37.50	35.75
Litter	51.25	42.25
Cryptogams	0	0
Bare Ground	6.25	12.75

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 12

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
85	3999	22	43	35	133	63	12	0	21/26
91	4132	16	31	53	-	65	15	39	17/20
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
85	1798	7	56	37	-	37	0	15	8/10
91	1466	5	41	55	-	23	5	50	9/11
<i>Ephedra nevadensis</i>									
85	266	25	75	-	-	100	0	0	15/11
91	532	50	50	-	-	100	0	0	15/14
<i>Gutierrezia sarothrae</i>									
85	0	0	0	0	-	0	0	0	-/-
91	533	25	38	38	-	0	0	63	9/7
<i>Leptodactylon pungens</i>									
85	66	0	100	-	-	0	0	0	9/5
91	200	0	100	-	-	0	0	0	7/5
<i>Pinus edulis</i>									
85	66	0	100	-	-	0	0	0	69/71
91	66	0	100	-	-	0	0	0	116/75

MINERSVILLE RESERVOIR – STUDY NO. 22-13

HERBACEOUS TRENDS--

Management unit 22, Study no: 13

Type	Species	Nested Frequency	
		'85	'91
G	<i>Aristida purpurea</i>	56	59
G	<i>Bouteloua gracilis</i>	-	16
G	<i>Hilaria jamesii</i>	138	90
G	<i>Oryzopsis hymenoides</i>	-	2
G	<i>Sitanion hystrix</i>	34	76
Total for Annual Grasses		0	0
Total for Perennial Grasses		228	243
Total for Grasses		228	243
F	<i>Calochortus nuttallii</i>	1	5
F	<i>Phlox longifolia</i>	3	23
F	<i>Sphaeralcea coccinea</i>	-	1
F	Unknown forb-perennial	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		7	29
Total for Forbs		7	29

BASIC COVER--

Management unit 22, Study no: 13

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.00	1.75
Rock	7.00	12.00
Pavement	45.50	31.25
Litter	31.75	41.75
Cryptogams	0	0
Bare Ground	7.75	13.25

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	3665	2	56	42	-	15	2	0	26/26	
91	3999	0	55	45	533	15	3	23	24/25	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	133	0	100	-	-	0	50	0	8/7	
<i>Gutierrezia sarothrae</i>										
85	133	0	0	100	-	0	0	0	-/-	
91	0	0	0	0	-	0	0	0	-/-	
<i>Juniperus osteosperma</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	100	-/-	
<i>Opuntia sp.</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

ANTELOPE MOUNTAIN – STUDY NO. 22-14

HERBACEOUS TRENDS--

Management unit 22, Study no: 14

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	11	103
G	Hilaria jamesii	134	105
G	Oryzopsis hymenoides	-	1
G	Poa secunda	161	211
Total for Annual Grasses		0	0
Total for Perennial Grasses		306	420
Total for Grasses		306	420
F	Astragalus utahensis	-	35
F	Comandra pallida	26	39
F	Erigeron pumilus	4	20
F	Phlox longifolia	-	19
F	Zigadenus paniculatus	19	8
Total for Annual Forbs		0	0
Total for Perennial Forbs		49	121
Total for Forbs		49	121

BASIC COVER--

Management unit 22, Study no: 14

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.25	5.00
Rock	25.50	31.75
Pavement	27.50	22.75
Litter	32.25	36.25
Cryptogams	0	0
Bare Ground	8.50	4.25

BROWSE CHARACTERISTICS--
Management unit 22, Study no: 14

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
85	4132	6	58	35	-	35	5	10	18/18
91	3266	4	37	59	-	55	37	29	20/26
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
85	4799	25	61	14	200	7	0	6	6/5
91	266	0	50	50	-	0	0	75	10/10
<i>Ephedra nevadensis</i>									
85	66	0	100	-	-	100	0	0	16/12
91	66	0	100	-	-	0	0	0	17/25
<i>Gutierrezia sarothrae</i>									
85	0	0	0	0	-	0	0	0	-/-
91	5732	28	60	12	-	0	0	6	7/11
<i>Juniperus osteosperma</i>									
85	133	100	0	-	-	50	0	0	-/-
91	66	100	0	-	-	0	0	0	-/-
<i>Opuntia sp.</i>									
85	66	0	100	-	-	0	0	0	5/9
91	66	0	100	-	-	0	0	100	6/10

WILDLIFE MANAGEMENT UNIT 23

BEAR RIDGE – STUDY NO. 23-1

HERBACEOUS TRENDS--

Management unit 23, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	227	227
G	Oryzopsis hymenoides	4	12
G	Poa fendleriana	6	36
G	Poa secunda	3	18
G	Sitanion hystrix	25	20
Total for Annual Grasses		0	0
Total for Perennial Grasses		265	313
Total for Grasses		265	313
F	Agoseris glauca	-	10
F	Arabis sp.	-	18
F	Astragalus convallarius	2	4
F	Calochortus nuttallii	4	8
F	Crepis acuminata	-	6
F	Eriogonum umbellatum	-	1
F	Phlox austromontana	-	6
F	Phlox longifolia	8	27
F	Physaria chambersii	1	4
F	Unknown forb-perennial	3	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		18	85
Total for Forbs		18	85

BASIC COVER--

Management unit 23, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.00	5.75
Rock	6.00	5.25
Pavement	30.50	24.25
Litter	46.50	46.50
Cryptogams	5.00	3.00
Bare Ground	10.00	15.25

WILDLIFE MANAGEMENT UNIT 23

BROWSE CHARACTERISTICS--

Management unit 23, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
85	2266	9	38	53	133	50	47	24	13/21	
91	2265	3	21	77	66	32	24	21	9/16	
Artemisia tridentata vaseyana										
85	1400	14	29	57	266	67	24	14	13/15	
91	1065	31	6	63	333	19	6	38	12/13	
Chrysothamnus viscidiflorus viscidiflorus										
85	400	50	50	-	-	0	0	0	12/11	
91	0	0	0	-	-	0	0	0	-/-	
Gutierrezia sarothrae										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
Juniperus osteosperma										
85	266	25	75	-	66	0	0	0	69/64	
91	333	40	60	-	66	20	40	20	152/98	
Pinus edulis										
85	133	0	100	-	-	0	0	0	69/64	
91	133	0	100	-	-	0	0	0	133/104	
Purshia tridentata										
85	533	38	62	0	133	63	0	0	24/42	
91	466	29	43	29	-	43	43	0	19/35	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
85	66	0	100	-	-	100	0	0	7/4	
91	0	0	0	-	-	0	0	0	-/-	

SAUL MEADOW – STUDY NO. 23-2

HERBACEOUS TRENDS--

Management unit 23, Study no: 2

Type	Species	Nestled Frequency	
		'85	'91
G	Agropyron cristatum	97	114
G	Sitanion hystrix	4	26
Total for Annual Grasses		0	0
Total for Perennial Grasses		101	140
Total for Grasses		101	140
F	Eriogonum cernuum (a)	6	5
F	Sisymbrium altissimum (a)	-	19
F	Stephanomeria pauciflora	3	-
Total for Annual Forbs		6	24
Total for Perennial Forbs		3	0
Total for Forbs		9	24

BASIC COVER--

Management unit 23, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	5.00	3.75
Rock	5.00	2.00
Pavement	25.00	16.00
Litter	44.25	46.00
Cryptogams	0	1.50
Bare Ground	20.75	30.75

BROWSE CHARACTERISTICS--
Management unit 23, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	5398	42	46	12	600	36	22	5	18/23	
91	6399	18	30	52	200	25	1	24	26/30	
<i>Opuntia sp.</i>										
85	1598	21	63	17	-	0	0	8	4/9	
91	1332	30	65	5	66	15	0	0	5/6	

THOMPSON BASIN – STUDY NO. 23-3

HERBACEOUS TRENDS--

Management unit 23, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	41	203
G	Poa fendleriana	41	128
G	Poa secunda	17	138
G	Sitanion hystrix	4	43
Total for Annual Grasses		0	0
Total for Perennial Grasses		103	512
Total for Grasses		103	512
F	Antennaria sp.	1	3
F	Arabis sp.	-	17
F	Castilleja chromosa	-	8
F	Crepis acuminata	-	5
F	Erigeron eatonii	-	3
F	Erigeron pumilus	3	6
F	Eriogonum racemosum	3	1
F	Machaeranthera canescens	5	-
F	Phlox austromontana	12	52
F	Phlox longifolia	-	59
Total for Annual Forbs		0	0
Total for Perennial Forbs		24	154
Total for Forbs		24	154

BASIC COVER--

Management unit 23, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.75	6.00
Rock	29.00	24.25
Pavement	18.00	14.25
Litter	38.00	35.50
Cryptogams	1.50	.75
Bare Ground	10.75	19.25

BROWSE CHARACTERISTICS--
Management unit 23, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	1599	8	58	33	-	46	8	0	11/21	
91	1466	9	36	55	-	50	18	32	14/22	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	266	0	50	50	-	25	0	0	11/14	
91	266	0	75	25	-	25	0	25	11/14	
<i>Juniperus osteosperma</i>										
85	66	0	100	-	133	0	0	0	69/93	
91	199	67	33	-	-	0	0	0	118/79	
<i>Opuntia sp.</i>										
85	133	0	100	-	-	0	0	0	3/2	
91	200	0	100	-	-	0	0	0	4/5	
<i>Pinus edulis</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

POVERTY FLAT – STUDY NO. 23-4

HERBACEOUS TRENDS--

Management unit 23, Study no: 4

Type	Species	Nested Frequency	
		'85	'91
G	Oryzopsis hymenoides	4	-
G	Poa secunda	7	7
G	Sitanion hystrix	77	48
Total for Annual Grasses		0	0
Total for Perennial Grasses		88	55
Total for Grasses		88	55
F	Astragalus sp.	1	-
F	Erigeron pumilus	1	3
F	Sisymbrium altissimum (a)	-	1
Total for Annual Forbs		0	1
Total for Perennial Forbs		2	3
Total for Forbs		2	4

BASIC COVER--

Management unit 23, Study no: 4

Cover Type	Average Cover %	
	'85	'91
Vegetation	3.25	2.75
Rock	28.75	25.25
Pavement	24.00	28.00
Litter	41.50	33.25
Cryptogams	.25	0
Bare Ground	2.25	10.75

BROWSE CHARACTERISTICS--
Management unit 23, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	5399	21	59	20	533	58	9	0	20/23	
91	7732	15	52	34	733	38	41	33	15/17	
<i>Echinocereus sp.</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	5/6	
<i>Opuntia sp.</i>										
85	200	0	100	-	-	0	0	0	6/10	
91	333	40	60	-	-	0	0	0	6/13	

SMITH CANYON – STUDY NO. 23-5

HERBACEOUS TRENDS--

Management unit 23, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	179	176
G	Poa fendleriana	58	78
G	Sitanion hystrix	47	64
G	Stipa comata	-	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		284	322
Total for Grasses		284	322
F	Agoseris glauca	-	6
F	Arabis sp.	-	4
F	Astragalus convallarius	17	6
F	Astragalus sp.	-	12
F	Balsamorhiza sagittata	-	5
F	Calochortus nuttallii	-	9
F	Comandra pallida	5	5
F	Crepis acuminata	4	14
F	Cryptantha nana	3	-
F	Eriogonum racemosum	20	59
F	Lotus utahensis	-	1
F	Lupinus argenteus	74	46
F	Phlox longifolia	42	50
F	Sphaeralcea coccinea	-	3
F	Streptanthus cordatus	4	2
F	Wyethia amplexicaulis	11	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		180	222
Total for Forbs		180	222

BASIC COVER--

Management unit 23, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.00	4.25
Rock	1.00	1.25
Pavement	18.50	8.75
Litter	68.25	73.25
Cryptogams	.75	1.25
Bare Ground	3.50	11.25

BROWSE CHARACTERISTICS--

Management unit 23, Study no: 5

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	6065	11	63	26	66	54	11	15	24/27	
91	7199	2	76	22	-	50	3	12	22/30	
<i>Eriogonum microthecum</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	199	67	33	-	-	0	33	0	1/2	
<i>Purshia tridentata</i>										
85	1066	19	81	0	66	69	31	0	20/27	
91	1332	5	40	55	-	15	80	0	13/20	
<i>Symphoricarpos oreophilus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	100	0	-/-	
<i>Tetradymia canescens</i>										
85	133	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	

KOOSHAREM CANYON – STUDY NO. 23-6

HERBACEOUS TRENDS--

Management unit 23, Study no: 6

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron smithii</i>	-	24
G	<i>Agropyron spicatum</i>	10	49
G	<i>Carex sp.</i>	221	179
G	<i>Oryzopsis hymenoides</i>	-	8
G	<i>Poa fendleriana</i>	176	183
G	<i>Sitanion hystrix</i>	58	110
Total for Annual Grasses		0	0
Total for Perennial Grasses		465	553
Total for Grasses		465	553
F	<i>Agoseris glauca</i>	-	6
F	<i>Antennaria sp.</i>	1	3
F	<i>Astragalus lentiginosus</i>	6	7
F	<i>Calochortus nuttallii</i>	-	17
F	<i>Castilleja chromosa</i>	-	16
F	<i>Crepis acuminata</i>	3	13
F	<i>Cryptantha humilis</i>	4	5
F	<i>Erigeron eatonii</i>	5	3
F	<i>Eriogonum umbellatum</i>	5	16
F	<i>Lomatium sp.</i>	-	12
F	<i>Machaeranthera canescens</i>	5	-
F	<i>Penstemon comarrhenus</i>	6	2
F	<i>Phlox longifolia</i>	40	69
F	<i>Sphaeralcea coccinea</i>	28	17
F	<i>Taraxacum officinale</i>	1	-
F	<i>Trifolium sp.</i>	21	37
F	Unknown forb-perennial	5	-
F	<i>Wyethia amplexicaulis</i>	5	-
F	<i>Zigadenus paniculatus</i>	2	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		137	223
Total for Forbs		137	223

BASIC COVER--

Management unit 23, Study no: 6

Cover Type	Average Cover %	
	'85	'91
Vegetation	9.25	5.25
Rock	11.25	10.25
Pavement	13.00	7.75
Litter	49.00	47.25
Cryptogams	0	.25
Bare Ground	17.50	29.25

BROWSE CHARACTERISTICS--

Management unit 23, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
85	599	89	11	0	266	33	0	0	13/9	
91	332	80	0	20	-	0	60	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
85	7599	40	39	21	1066	37	2	6	39/33	
91	5732	9	26	65	-	56	6	31	31/26	
<i>Cercocarpus montanus</i>										
85	1066	62	38	-	66	44	0	0	34/19	
91	666	50	50	-	-	30	60	0	49/21	
<i>Chrysothamnus depressus</i>										
85	1599	42	58	0	-	0	0	0	5/5	
91	1399	5	10	86	-	0	100	0	2/3	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	266	50	50	-	133	0	0	0	10/7	
91	0	0	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 23

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Eriogonum microthecum</i>									
85	66	0	100	-	66	0	0	0	7/4
91	0	0	0	-	-	0	0	0	-/-
<i>Juniperus osteosperma</i>									
85	465	57	29	14	200	14	0	0	69/157
91	333	40	60	0	66	20	0	0	71/43
<i>Opuntia sp.</i>									
85	933	14	86	0	-	0	0	0	7/10
91	666	0	0	100	-	40	0	80	-/-
<i>Pinus edulis</i>									
85	0	0	0	-	-	0	0	0	-/-
91	0	0	0	-	66	0	0	0	-/-
<i>Quercus gambelii</i>									
85	733	82	18	-	333	0	0	0	42/21
91	666	60	40	-	-	50	10	0	59/18
<i>Symphoricarpos oreophilus</i>									
85	1133	53	47	0	200	0	0	0	14/10
91	2466	86	8	5	-	27	3	0	11/11

WILDLIFE MANAGEMENT UNIT 24

NORTH POLE CANYON – STUDY NO. 24-1

HERBACEOUS TRENDS--

Management unit 24, Study no: 1

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	240	210
G	<i>Bromus tectorum</i> (a)	1	-
G	<i>Oryzopsis hymenoides</i>	3	1
G	<i>Sitanion hystrix</i>	2	-
G	<i>Sporobolus cryptandrus</i>	15	9
G	<i>Stipa comata</i>	4	-
Total for Annual Grasses		1	0
Total for Perennial Grasses		264	220
Total for Grasses		265	220
F	<i>Chenopodium fremontii</i> (a)	10	75
F	<i>Eriogonum cernuum</i> (a)	-	3
F	<i>Salsola iberica</i> (a)	3	-
Total for Annual Forbs		13	78
Total for Perennial Forbs		0	0
Total for Forbs		13	78

BASIC COVER--

Management unit 24, Study no: 1

Cover Type	Average Cover %	
	'87	'91
Vegetation	14.50	6.75
Rock	6.75	4.75
Pavement	15.00	16.25
Litter	29.00	38.00
Cryptogams	0	0
Bare Ground	34.75	34.25

WILDLIFE MANAGEMENT UNIT 24

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 1

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata wyomingensis</i>									
87	5998	48	43	9	3433	41	43	11	13/18
91	4398	23	27	51	133	17	14	37	12/19
<i>Ceratoides lanata</i>									
87	133	25	75	-	33	50	25	0	12/2
91	133	0	100	-	-	0	50	0	7/7

DEER CREEK BENCH – STUDY NO. 24-2

HERBACEOUS TRENDS--

Management unit 24, Study no: 2

Type	Species	Nested Frequency	
		'87	'91
G	Oryzopsis hymenoides	9	11
G	Sitanion hystrix	126	98
G	Stipa comata	-	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		135	116
Total for Grasses		135	116
F	Arabis demissa	9	-
F	Astragalus calycosus	20	24
F	Cruciferae	5	-
F	Erigeron pumilus	48	19
F	Paronychia sp.	19	21
F	Phlox hoodii	-	8
F	Phlox longifolia	13	12
F	Senecio multilobatus	1	-
F	Sphaeralcea coccinea	60	58
Total for Annual Forbs		0	0
Total for Perennial Forbs		175	142
Total for Forbs		175	142

BASIC COVER--

Management unit 24, Study no: 2

Cover Type	Average Cover %	
	'87	'91
Vegetation	8.50	2.75
Rock	16.75	8.75
Pavement	30.00	45.25
Litter	24.50	17.00
Cryptogams	1.50	2.00
Bare Ground	18.75	24.25

WILDLIFE MANAGEMENT UNIT 24

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	9999	23	47	29	1799	23	58	2	14/20	
91	8599	16	29	55	666	46	36	21	11/20	
<i>Atriplex canescens</i>										
87	66	0	100	0	-	0	0	0	19/20	
91	66	0	0	100	-	0	100	100	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
87	66	0	100	0	-	0	0	0	8/12	
91	66	0	0	100	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
87	3599	6	94	-	66	0	0	0	3/3	
91	2266	15	85	-	133	32	15	0	2/2	
<i>Gutierrezia sarothrae</i>										
87	1932	34	66	-	-	0	0	0	8/9	
91	1133	0	100	-	66	0	0	0	5/4	
<i>Opuntia sp.</i>										
87	0	0	0	-	66	0	0	0	-/-	
91	333	100	0	-	66	0	0	0	-/-	

NORTH BULL RUSH – STUDY NO. 24-3

HERBACEOUS TRENDS--

Management unit 24, Study no: 3

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	222	96
G	<i>Sitanion hystrix</i>	138	76
G	<i>Sporobolus cryptandrus</i>	-	16
G	<i>Stipa comata</i>	220	236
Total for Annual Grasses		0	0
Total for Perennial Grasses		580	424
Total for Grasses		580	424
F	<i>Astragalus</i> sp.	16	4
F	<i>Cryptantha fulvocanescens</i>	7	-
F	<i>Erigeron pumilus</i>	19	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		42	7
Total for Forbs		42	7

BASIC COVER--

Management unit 24, Study no: 3

Cover Type	Average Cover %	
	'87	'91
Vegetation	11.75	9.25
Rock	2.25	1.00
Pavement	30.75	36.25
Litter	39.50	30.75
Cryptogams	1.25	1.75
Bare Ground	14.50	21.00

WILDLIFE MANAGEMENT UNIT 24

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	6666	14	69	17	66	15	85	3	14/18	
91	5399	7	26	67	-	52	38	32	19/23	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
87	933	0	100	-	-	93	7	0	6/7	
91	66	0	100	-	-	0	100	100	2/3	
<i>Pinus edulis</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	

MUD SPRINGS CHAINING – STUDY NO. 24-4

HERBACEOUS TRENDS--

Management unit 24, Study no: 4

Type	Species	Nested Frequency	
		'87	'91
G	Agropyron cristatum	257	249
G	Bouteloua gracilis	57	30
G	Carex sp.	13	20
G	Oryzopsis hymenoides	4	5
G	Poa fendleriana	13	1
G	Sitanion hystrix	31	29
G	Stipa comata	16	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		391	344
Total for Grasses		391	344
F	Arabis sp.	19	1
F	Astragalus sp.	-	3
F	Cryptantha sp.	7	3
F	Erigeron pumilus	19	11
F	Hymenopappus filifolius	11	23
F	Machaeranthera canescens	-	1
F	Penstemon pachyphyllus	9	4
F	Phlox hoodii	3	-
F	Tragopogon dubius (a)	1	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		68	46
Total for Forbs		69	46

BASIC COVER--

Management unit 24, Study no: 4

Cover Type	Average Cover %	
	'87	'91
Vegetation	4.25	4.00
Rock	20.50	27.50
Pavement	4.25	6.75
Litter	53.75	41.50
Cryptogams	0	0
Bare Ground	17.25	20.25

WILDLIFE MANAGEMENT UNIT 24

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	933	89	11	0	33	89	0	0	43/43	
91	1265	66	29	5	233	18	0	0	11/13	
<i>Gutierrezia sarothrae</i>										
87	3299	13	85	2	-	1	0	2	7/7	
91	1066	28	59	12	-	0	0	3	4/4	
<i>Juniperus osteosperma</i>										
87	199	67	33	-	-	0	0	0	79/39	
91	133	75	25	-	33	50	0	0	108/33	
<i>Opuntia sp.</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	33	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
87	33	100	0	-	33	0	0	0	-/-	
91	33	100	0	-	33	0	0	0	-/-	

SUICIDE – STUDY NO. 24-5

HERBACEOUS TRENDS--

Management unit 24, Study no: 5

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron trachycaulum</i>	89	53
G	<i>Bouteloua gracilis</i>	-	1
G	<i>Bromus anomalus</i>	193	112
G	<i>Carex obtusata</i>	124	167
G	<i>Elymus</i> sp.	-	1
G	<i>Festuca ovina</i>	158	201
G	<i>Koeleria cristata</i>	46	108
G	<i>Muhlenbergia</i> sp.	2	3
G	<i>Poa secunda</i>	229	230
G	<i>Sitanion hystrix</i>	108	137
G	<i>Stipa comata</i>	101	119
G	<i>Stipa lettermani</i>	39	22
Total for Annual Grasses		0	0
Total for Perennial Grasses		1089	1154
Total for Grasses		1089	1154
F	<i>Achillea millefolium</i>	50	52
F	<i>Agoseris glauca</i>	-	34
F	<i>Antennaria</i> sp.	183	170
F	<i>Arabis pulchra</i>	61	9
F	<i>Astragalus argophyllus</i>	2	8
F	<i>Astragalus miser</i>	5	3
F	<i>Comandra pallida</i>	8	-
F	<i>Crepis acuminata</i>	3	3
F	Cruciferae	-	14
F	<i>Cryptogramma</i>	-	3
F	<i>Cymopterus lemmonii</i>	10	6
F	<i>Erigeron eatonii</i>	72	149
F	<i>Erigeron flagellaris</i>	110	83
F	<i>Eriogonum umbellatum</i>	1	13
F	<i>Frasera speciosa</i>	1	-
F	<i>Lupinus argenteus</i>	76	105
F	<i>Lychnis drummondii</i>	-	4
F	<i>Penstemon</i> sp.	4	26
F	<i>Phlox longifolia</i>	18	43
F	<i>Potentilla diversifolia</i>	55	53
F	<i>Ranunculus inamoenus</i>	15	-
F	<i>Taraxacum officinale</i>	321	304
F	<i>Thermopsis montana</i>	14	3

WILDLIFE MANAGEMENT UNIT 24

Type	Species	Nested Frequency	
		'87	'91
F	Tragopogon dubius (a)	32	10
F	Trifolium nanum	9	15
F	Unknown forb-perennial	-	4
Total for Annual Forbs		32	10
Total for Perennial Forbs		1018	1104
Total for Forbs		1050	1114

BASIC COVER--

Management unit 24, Study no: 5

Cover Type	Average Cover %	
	'87	'91
Vegetation	14.00	20.25
Rock	7.25	9.75
Pavement	1.75	6.25
Litter	70.25	49.00
Cryptogams	1.00	2.25
Bare Ground	5.75	12.50

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	4532	34	24	43	66	47	1	16	17/17	
91	6932	37	48	15	1333	32	5	11	17/17	
<i>Chrysothamnus nauseosus albicaulis</i>										
87	1400	43	57	0	-	0	0	0	9/6	
91	2732	44	32	24	-	32	27	2	10/14	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	1132	23	77	0	-	0	0	0	11/7	
91	1733	23	46	31	66	19	4	15	10/10	
<i>Populus tremuloides</i>										
87	133	100	0	0	-	100	0	50	-/-	
91	332	80	0	20	66	40	40	60	-/-	
<i>Symphoricarpos oreophilus</i>										
87	1799	30	63	7	-	37	48	0	14/13	
91	6198	32	61	6	66	31	10	2	15/19	

TABLE MOUNTAIN – STUDY NO. 24-6

HERBACEOUS TRENDS--

Management unit 24, Study no: 6

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron dasystachyum</i>	57	11
G	<i>Agropyron spicatum</i>	39	79
G	<i>Agropyron trachycaulum</i>	64	52
G	<i>Bromus anomalus</i>	14	29
G	<i>Carex</i> sp.	17	26
G	<i>Festuca ovina</i>	155	8
G	<i>Koeleria cristata</i>	5	112
G	<i>Poa fendleriana</i>	60	148
G	<i>Poa pratensis</i>	7	91
G	<i>Poa secunda</i>	146	8
G	<i>Sitanion hystrix</i>	55	54
G	<i>Stipa comata</i>	5	77
G	<i>Stipa lettermani</i>	163	266
Total for Annual Grasses		0	0
Total for Perennial Grasses		787	961
Total for Grasses		787	961
F	<i>Achillea millefolium</i>	7	6
F	<i>Agoseris glauca</i>	-	1
F	<i>Antennaria</i> sp.	2	3
F	<i>Arabis pulchra</i>	166	1
F	<i>Astragalus convallarius</i>	-	48
F	<i>Erigeron eatonii</i>	-	15
F	<i>Eriogonum flavum</i>	-	6
F	<i>Eriogonum racemosum</i>	5	10
F	<i>Lupinus argenteus</i>	97	95
F	<i>Lychnis drummondii</i>	-	86
F	<i>Penstemon rydbergii</i>	107	21
F	<i>Phlox pulvinata</i>	145	156
F	<i>Potentilla diversifolia</i>	-	4
F	<i>Potentilla hippiana</i>	6	3
F	<i>Senecio multilobatus</i>	8	-
F	<i>Taraxacum officinale</i>	303	228
F	<i>Tragopogon dubius</i> (a)	6	6
F	Unknown forb-perennial	7	-
Total for Annual Forbs		6	6
Total for Perennial Forbs		853	683
Total for Forbs		859	689

BASIC COVER--

Management unit 24, Study no: 6

Cover Type	Average Cover %	
	'87	'91
Vegetation	11.75	13.50
Rock	7.75	6.25
Pavement	19.75	19.75
Litter	48.50	52.00
Cryptogams	0	0
Bare Ground	12.25	8.50

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 6

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	33	100	0	-	33	100	0	0	-/-	
91	66	50	50	-	66	50	0	0	10/14	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	33	0	0	100	-	0	100	100	-/-	
91	66	0	100	0	-	0	100	0	6/6	
<i>Mahonia repens</i>										
87	7066	38	62	0	1699	.94	0	0	4/4	
91	12198	39	60	1	133	3	1	0	3/3	
<i>Ribes cereum inebrians</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	50	0	0	18/19	
<i>Symphoricarpos oreophilus</i>										
87	2833	46	54	0	266	5	95	16	18/20	
91	2698	23	67	10	-	56	20	4	14/24	

COW CREEK – STUDY NO. 24-7

HERBACEOUS TRENDS--

Management unit 24, Study no: 7

Type	Species	Nested Frequency	
		'87	'91
G	Agropyron cristatum	207	169
G	Agropyron intermedium	65	5
G	Bouteloua gracilis	90	113
G	Bromus inermis	5	-
G	Dactylis glomerata	2	9
G	Oryzopsis hymenoides	2	9
G	Sitanion hystrix	119	137
G	Stipa comata	12	11
Total for Annual Grasses		0	0
Total for Perennial Grasses		502	453
Total for Grasses		502	453
F	Astragalus newberryi	22	22
F	Cryptantha sp.	17	31
F	Medicago sativa	4	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		43	53
Total for Forbs		43	53

BASIC COVER--

Management unit 24, Study no: 7

Cover Type	Average Cover %	
	'87	'91
Vegetation	10.00	7.25
Rock	4.25	6.25
Pavement	20.25	35.25
Litter	57.00	39.75
Cryptogams	0	0
Bare Ground	8.50	11.50

BROWSE CHARACTERISTICS--
Management unit 24, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
87	4133	23	77	0	1133	0	0	0	8/6	
91	2665	12	63	25	-	8	0	8	5/6	
<i>Juniperus osteosperma</i>										
87	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
87	665	70	10	20	-	0	0	0	4/7	
91	399	33	67	0	-	17	0	0	3/5	
<i>Pinus edulis</i>										
87	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

PROSPECT SEEDING – STUDY NO. 24-8

HERBACEOUS TRENDS--

Management unit 24, Study no: 8

Type	Species	Nested Frequency	
		'87	'91
G	Agropyron cristatum	215	191
G	Elymus junceus	-	3
G	Sitanion hystrix	3	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		218	201
Total for Grasses		218	201
F	Chenopodium album (a)	8	16
Total for Annual Forbs		8	16
Total for Perennial Forbs		0	0
Total for Forbs		8	16

BASIC COVER--

Management unit 24, Study no: 8

Cover Type	Average Cover %	
	'87	'91
Vegetation	4.50	5.25
Rock	0	0
Pavement	3.50	8.25
Litter	25.00	26.00
Cryptogams	0	0
Bare Ground	67.00	60.50

MUD SPRING – STUDY NO. 24-9

HERBACEOUS TRENDS--

Management unit 24, Study no: 9

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron smithii</i>	3	7
G	<i>Bouteloua gracilis</i>	29	23
G	<i>Carex</i> sp.	62	102
G	<i>Poa secunda</i>	211	218
G	<i>Sitanion hystrix</i>	102	65
G	<i>Stipa comata</i>	51	34
G	<i>Stipa lettermani</i>	146	179
Total for Annual Grasses		0	0
Total for Perennial Grasses		604	628
Total for Grasses		604	628
F	<i>Antennaria</i> sp.	14	16
F	<i>Arabis</i> sp.	20	3
F	<i>Astragalus humistratus</i>	151	43
F	<i>Astragalus newberryi</i>	-	4
F	<i>Balsamorhiza hookeri</i>	-	3
F	<i>Castilleja linariaefolia</i>	42	1
F	<i>Chaenactis douglasii</i>	4	-
F	<i>Cirsium</i> sp.	46	35
F	<i>Crepis acuminata</i>	-	7
F	<i>Cryptantha</i> sp.	-	3
F	<i>Erigeron eatonii</i>	246	215
F	<i>Eriogonum racemosum</i>	223	214
F	<i>Eriogonum umbellatum</i>	75	80
F	<i>Hymenopappus filifolius</i>	-	4
F	<i>Lotus utahensis</i>	24	14
F	<i>Lupinus pusillus</i> (a)	3	-
F	<i>Lupinus sericeus</i>	65	38
F	<i>Lygodesmia spinosa</i>	10	14
F	<i>Penstemon comarrhenus</i>	16	4
F	<i>Potentilla diversifolia</i>	7	2
F	<i>Senecio multilobatus</i>	71	4
F	<i>Taraxacum officinale</i>	-	2
Total for Annual Forbs		3	0
Total for Perennial Forbs		1014	706
Total for Forbs		1017	706

BASIC COVER--

Management unit 24, Study no: 9

Cover Type	Average Cover %	
	'87	'91
Vegetation	10.75	10.50
Rock	8.00	9.25
Pavement	8.25	4.75
Litter	53.75	46.25
Cryptogams	0	.25
Bare Ground	19.25	29.00

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	12065	30	60	9	2400	18	.55	11	11/13	
91	22732	34	46	19	17400	16	.58	3	13/14	
<i>Artemisia tridentata vaseyana</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	10/11	
<i>Chrysothamnus nauseosus hololeucus</i>										
87	0	0	0	0	-	0	0	0	-/-	
91	999	33	27	40	-	20	53	0	5/6	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	9333	32	66	2	266	0	.71	6	4/6	
91	14665	25	68	7	800	7	43	2	5/8	
<i>Gutierrezia sarothrae</i>										
87	66	0	100	-	-	0	0	0	5/3	
91	0	0	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Leptodactylon pungens										
87	2265	12	88	0	-	0	0	0	5/3	
91	8265	50	49	1	133	.80	0	2	4/5	
Opuntia sp.										
87	66	0	100	-	-	0	0	0	5/4	
91	0	0	0	-	-	0	0	0	-/-	
Tetradymia canescens										
87	199	67	33	-	-	33	0	0	8/6	
91	200	100	0	-	-	0	0	0	-/-	

BARNHURST RIDGE – STUDY NO. 24-10

HERBACEOUS TRENDS--

Management unit 24, Study no: 10

Type	Species	Nestled Frequency	
		'87	'91
G	Agropyron smithii	15	8
G	Bouteloua gracilis	52	53
G	Festuca ovina	-	4
G	Poa secunda	217	227
G	Sitanion hystrix	107	96
G	Stipa lettermani	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		394	388
Total for Grasses		394	388
F	Agoseris glauca	-	2
F	Arabis sp.	5	4
F	Astragalus utahensis	3	8
F	Chaenactis douglasii	3	1
F	Crepis acuminata	-	4
F	Cruciferae	-	1
F	Hymenoxys richardsonii	1	3
F	Petradoria pumila	-	1
F	Senecio multilobatus	3	1
F	Trifolium sp.	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		16	25
Total for Forbs		16	25

BASIC COVER--

Management unit 24, Study no: 10

Cover Type	Average Cover %	
	'87	'91
Vegetation	12.25	6.50
Rock	24.25	18.25
Pavement	13.25	15.75
Litter	44.50	47.25
Cryptogams	.50	0
Bare Ground	5.25	12.25

BROWSE CHARACTERISTICS--
Management unit 24, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	5932	18	62	20	133	40	15	1	20/23	
91	4532	10	51	38	-	28	1	25	23/24	
<i>Cercocarpus ledifolius</i>										
87	1200	100	0	-	1333	0	0	0	-/-	
91	933	100	0	-	400	14	0	0	-/-	
<i>Chrysothamnus nauseosus albicaulis</i>										
87	66	0	100	-	-	0	0	0	12/7	
91	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	8/10	
<i>Gutierrezia sarothrae</i>										
87	2466	24	76	0	200	0	0	0	9/7	
91	1199	39	50	11	-	0	0	6	7/7	
<i>Mahonia repens</i>										
87	199	67	33	-	-	0	0	0	6/3	
91	133	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
87	66	0	100	-	-	0	0	0	4/9	
91	66	100	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 24

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
87	3199	31	69	0	600	48	25	0	26/24	
91	2799	38	40	21	66	48	21	5	23/25	
<i>Symphoricarpos oreophilus</i>										
87	266	50	50	-	-	50	0	0	10/13	
91	799	17	83	-	-	17	0	0	13/9	

MARSHALL BASIN – STUDY NO. 24-12

HERBACEOUS TRENDS--

Management unit 24, Study no: 12

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	88	124
G	<i>Agropyron intermedium</i>	2	3
G	<i>Bouteloua gracilis</i>	100	55
G	<i>Festuca ovina</i>	4	-
G	<i>Oryzopsis hymenoides</i>	3	8
G	<i>Poa secunda</i>	5	6
G	<i>Sitanion hystrix</i>	103	106
Total for Annual Grasses		0	0
Total for Perennial Grasses		305	302
Total for Grasses		305	302
F	<i>Astragalus</i> sp.	1	16
F	<i>Chenopodium fremontii</i> (a)	12	3
F	Cruciferae	-	1
F	<i>Cryptantha fulvocanescens</i>	24	21
F	<i>Erigeron pumilus</i>	1	-
F	<i>Eriogonum hookeri</i> (a)	51	-
F	<i>Ipomopsis aggregata</i>	4	-
F	<i>Lactuca serriola</i> (a)	118	-
F	<i>Lesquerella ludoviciana</i>	3	8
F	<i>Medicago sativa</i>	11	-
F	<i>Salsola iberica</i> (a)	91	12
F	<i>Sanguisorba minor</i>	8	-
F	<i>Taraxacum officinale</i>	3	-
F	<i>Tragopogon dubius</i> (a)	1	-
Total for Annual Forbs		273	15
Total for Perennial Forbs		55	46
Total for Forbs		328	61

WILDLIFE MANAGEMENT UNIT 24

BASIC COVER--

Management unit 24, Study no: 12

Cover Type	Average Cover %	
	'87	'91
Vegetation	6.75	4.00
Rock	7.25	4.25
Pavement	9.75	28.25
Litter	59.00	51.50
Cryptogams	0	0
Bare Ground	17.25	12.00

BROWSE CHARACTERISTICS--

Management unit 24, Study no: 12

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus hololeucus</i>										
87	66	0	100	-	-	0	0	0	19/13	
91	66	0	100	-	-	0	0	0	28/17	
<i>Gutierrezia sarothrae</i>										
87	466	21	79	0	-	0	0	0	9/10	
91	932	4	93	4	-	14	4	11	7/8	
<i>Opuntia sp.</i>										
87	66	100	0	-	-	0	0	0	-/-	
91	33	0	100	-	-	0	0	0	3/7	
<i>Pinus edulis</i>										
87	33	100	0	-	-	0	0	0	-/-	
91	33	100	0	-	-	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 25

TRIANGLE MOUNTAIN – STUDY NO. 25A-1

HERBACEOUS TRENDS--

Management unit 25A, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	267	293
G	Agropyron intermedium	109	158
G	Agropyron smithii	1	18
G	Agropyron spicatum	7	7
G	Elymus junceus	79	99
G	Festuca ovina	9	25
G	Sitanion hystrix	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		475	600
Total for Grasses		475	600
F	Antennaria sp.	18	-
F	Aster sp.	5	-
F	Astragalus sp.	1	11
F	Chaenactis douglasii	-	2
F	Cryptantha sp.	-	19
F	Hymenoxys acaulis	-	8
F	Lithospermum ruderales	1	1
F	Medicago sativa	74	110
F	Phlox austromontana	4	13
F	Townsendia sp.	-	6
Total for Annual Forbs		0	0
Total for Perennial Forbs		103	170
Total for Forbs		103	170

BASIC COVER--

Management unit 25A, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	10.50	12.50
Rock	4.50	4.75
Pavement	19.50	13.50
Litter	30.75	48.00
Cryptogams	0	.50
Bare Ground	34.75	20.75

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	66	0	100	-	-	0	0	0	12/20	
91	199	67	33	-	-	33	0	0	19/36	
<i>Chrysothamnus nauseosus</i>										
85	66	0	100	0	-	0	0	0	14/9	
91	399	83	0	17	-	17	0	17	-/-	
<i>Pinus edulis</i>										
85	66	0	100	-	-	0	0	0	51/31	
91	66	0	100	-	-	0	0	0	72/75	

BLACK MOUNTAIN – STUDY NO. 25A-2

HERBACEOUS TRENDS--

Management unit 25A, Study no: 2

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	14	57
G	Agropyron intermedium	9	88
G	Agropyron smithii	4	-
G	Agropyron spicatum	5	45
G	Bromus inermis	4	6
G	Elymus junceus	-	9
G	Festuca ovina	-	10
G	Oryzopsis hymenoides	68	77
G	Poa fendleriana	2	-
G	Sitanion hystrix	49	89
Total for Annual Grasses		0	0
Total for Perennial Grasses		155	381
Total for Grasses		155	381
F	Antennaria sp.	6	-
F	Astragalus sp.	4	30
F	Castilleja sp.	-	2
F	Chaenactis douglasii	-	12
F	Erigeron engelmannii	-	2
F	Eriogonum ovalifolium	-	14
F	Lactuca serriola (a)	-	7
F	Machaeranthera canescens	-	4
F	Medicago sativa	14	1
F	Phlox longifolia	-	12
F	Salsola iberica (a)	1	19
F	Sanguisorba minor	29	1
F	Senecio multilobatus	3	-
F	Streptanthus cordatus	2	2
F	Taraxacum officinale	-	1
F	Tragopogon dubius (a)	-	3
F	Unknown forb-perennial	-	2
Total for Annual Forbs		1	29
Total for Perennial Forbs		58	83
Total for Forbs		59	112

WILDLIFE MANAGEMENT UNIT 25

BASIC COVER--

Management unit 25A, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.50	3.00
Rock	1.75	3.25
Pavement	30.25	14.00
Litter	46.50	42.00
Cryptogams	0	0
Bare Ground	20.00	37.75

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	999	0	87	13	-	7	0	0	6/7	
91	600	0	67	33	-	0	0	0	8/11	
<i>Chrysothamnus depressus</i>										
85	533	0	75	25	-	0	0	0	7/7	
91	266	25	75	0	-	0	0	0	13/14	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	599	44	56	-	66	0	0	0	15/19	
<i>Juniperus osteosperma</i>										
85	132	50	0	50	-	0	0	0	-/-	
91	66	100	0	0	-	0	0	0	-/-	

SAGE FLAT – STUDY NO. 25A-3

HERBACEOUS TRENDS--

Management unit 25A, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	Poa secunda	3	-
G	Sitanion hystrix	38	19
Total for Annual Grasses		0	0
Total for Perennial Grasses		41	19
Total for Grasses		41	19
F	Tragopogon dubius (a)	-	1
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	1
Total for Perennial Forbs		0	1
Total for Forbs		0	2

BASIC COVER--

Management unit 25A, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.50	1.25
Rock	1.50	1.75
Pavement	7.75	19.25
Litter	54.25	55.25
Cryptogams	0	0
Bare Ground	28.00	22.50

BROWSE CHARACTERISTICS--
 Management unit 25A, Study no: 3

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata wyomingensis</i>									
85	2399	6	61	33	-	3	0	6	24/26
91	5198	55	19	26	7999	24	0	5	21/19
<i>Opuntia sp.</i>									
85	66	0	100	-	-	0	0	0	6/6
91	66	0	100	-	-	0	0	0	6/13

DURFEE HOMESTEAD – STUDY NO. 25A-4

HERBACEOUS TRENDS--

Management unit 25A, Study no: 4

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron cristatum</i>	22	20
G	<i>Agropyron intermedium</i>	46	10
G	<i>Agropyron spicatum</i>	68	48
G	<i>Bromus inermis</i>	18	12
G	<i>Carex</i> sp.	12	-
G	<i>Poa fendleriana</i>	58	46
G	<i>Poa secunda</i>	9	20
G	<i>Sitanion hystrix</i>	76	42
Total for Annual Grasses		0	0
Total for Perennial Grasses		309	198
Total for Grasses		309	198
F	<i>Agoseris glauca</i>	7	29
F	<i>Allium</i> sp.	4	5
F	<i>Arabis</i> sp.	-	5
F	<i>Astragalus beckwithii</i>	6	10
F	<i>Chaenactis douglasii</i>	4	1
F	<i>Cirsium</i> sp.	-	21
F	<i>Comandra pallida</i>	3	13
F	<i>Crepis acuminata</i>	2	4
F	<i>Cymopterus longipes</i>	3	2
F	<i>Erigeron eatonii</i>	-	2
F	<i>Erigeron pumilus</i>	8	9
F	<i>Eriogonum racemosum</i>	9	15
F	<i>Eriogonum umbellatum</i>	19	1
F	<i>Erodium cicutarium</i> (a)	-	3
F	<i>Lactuca serriola</i> (a)	-	64
F	<i>Machaeranthera canescens</i>	50	46
F	<i>Phlox longifolia</i>	-	35
F	<i>Tragopogon dubius</i> (a)	4	18
F	<i>Trifolium</i> sp.	4	21
F	Unknown forb-perennial	-	3
Total for Annual Forbs		4	85
Total for Perennial Forbs		119	222
Total for Forbs		123	307

WILDLIFE MANAGEMENT UNIT 25

BASIC COVER--

Management unit 25A, Study no: 4

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.75	6.00
Rock	12.25	38.00
Pavement	3.75	9.00
Litter	72.00	21.00
Cryptogams	.25	0
Bare Ground	9.00	26.00

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	1198	6	22	72	133	44	6	28	13/14	
91	66	0	100	0	-	0	0	0	11/7	
<i>Chrysothamnus depressus</i>										
85	932	14	71	14	66	0	0	0	5/8	
91	0	0	0	0	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	866	31	69	-	66	0	0	0	6/7	
91	2333	100	0	-	200	6	9	0	-/-	
<i>Echinocereus triglochidatus</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
85	1732	35	62	4	-	8	4	0	7/7	
91	0	0	0	0	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Pinus edulis</i>										
85	132	50	0	50	-	0	0	100	-/-	
91	0	0	0	0	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
85	532	25	63	12	-	50	13	0	15/25	
91	0	0	0	0	-	0	0	0	-/-	

PRAETOR SLOPE – STUDY NO. 25A-5

HERBACEOUS TRENDS--

Management unit 25A, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	329	316
G	Sitanion hystrix	1	2
G	Stipa lettermani	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		330	321
Total for Grasses		330	321
F	Antennaria sp.	5	-
F	Arabis sp.	-	1
F	Astragalus beckwithii	-	4
F	Astragalus miser	6	10
F	Erigeron sp.	6	3
F	Eriogonum sp.	-	1
F	Phlox longifolia	-	57
F	Trifolium sp.	18	33
Total for Annual Forbs		0	0
Total for Perennial Forbs		35	109
Total for Forbs		35	109

BASIC COVER--

Management unit 25A, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	4.75	4.75
Rock	5.00	13.25
Pavement	24.50	17.75
Litter	44.75	37.00
Cryptogams	0	0
Bare Ground	21.00	27.25

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	8265	43	49	8	733	39	48	6	17/21	
91	5599	5	43	52	-	65	8	24	16/18	
<i>Opuntia sp.</i>										
85	66	0	100	-	-	0	0	0	6/9	
91	66	0	100	-	-	0	0	0	2/2	

EVANS RESERVOIR – STUDY NO. 25A-7

HERBACEOUS TRENDS--

Management unit 25A, Study no: 7

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron spicatum</i>	2	51
G	<i>Bouteloua gracilis</i>	37	40
G	<i>Carex</i> sp.	6	4
G	<i>Oryzopsis hymenoides</i>	-	2
G	<i>Poa fendleriana</i>	136	168
G	<i>Poa secunda</i>	44	16
G	<i>Sitanion hystrix</i>	62	119
G	<i>Stipa pinetorum</i>	81	142
Total for Annual Grasses		0	0
Total for Perennial Grasses		368	542
Total for Grasses		368	542
F	<i>Arabis demissa</i>	62	19
F	<i>Aster</i> sp.	-	1
F	<i>Astragalus convallarius</i>	6	14
F	<i>Astragalus</i> sp.	1	-
F	<i>Castilleja chromosa</i>	-	5
F	<i>Chaenactis douglasii</i>	-	3
F	<i>Cryptantha</i> sp.	58	68
F	<i>Erigeron pumilus</i>	3	1
F	<i>Eriogonum umbellatum</i>	14	11
F	<i>Lactuca serriola</i> (a)	-	3
F	<i>Linum lewisii</i>	1	17
F	<i>Lotus utahensis</i>	55	-
F	<i>Phlox austromontana</i>	67	130
F	<i>Phlox longifolia</i>	9	19
F	<i>Sanguisorba minor</i>	6	-
F	<i>Senecio multilobatus</i>	3	61
F	<i>Streptanthus cordatus</i>	-	5
F	<i>Trifolium</i> sp.	-	13
F	Unknown forb-perennial	20	-
F	<i>Zigadenus paniculatus</i>	2	-
Total for Annual Forbs		0	3
Total for Perennial Forbs		307	367
Total for Forbs		307	370

BASIC COVER--

Management unit 25A, Study no: 7

Cover Type	Average Cover %	
	'85	'91
Vegetation	11.00	8.75
Rock	0	4.00
Pavement	54.75	33.00
Litter	26.25	30.25
Cryptogams	.50	1.00
Bare Ground	7.50	23.00

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 7

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	3733	4	38	59	200	36	54	11	10/9	
91	2666	0	53	47	-	75	0	23	8/16	
<i>Artemisia tridentata vaseyana</i>										
85	6266	3	50	47	533	68	11	9	15/21	
91	4732	10	62	28	266	49	34	17	18/26	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	1066	0	69	31	133	0	0	6	5/4	
91	332	40	40	20	-	20	20	20	5/6	
<i>Eriogonum microthecum</i>										
85	400	0	100	-	-	0	0	0	7/5	
91	466	29	71	-	-	57	29	0	5/7	
<i>Symphoricarpos oreophilus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

LOWER DOG FLAT – STUDY NO. 25A-8

HERBACEOUS TRENDS--

Management unit 25A, Study no: 8

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron cristatum</i>	43	-
G	<i>Agropyron intermedium</i>	6	-
G	<i>Agropyron sp.</i>	-	7
G	<i>Agropyron spicatum</i>	26	-
G	<i>Bouteloua gracilis</i>	115	166
G	<i>Bromus inermis</i>	141	-
G	<i>Poa fendleriana</i>	2	-
G	<i>Sitanion hystrix</i>	41	149
G	<i>Stipa pinetorum</i>	17	13
Total for Annual Grasses		0	0
Total for Perennial Grasses		391	335
Total for Grasses		391	335
F	<i>Arabis demissa</i>	27	20
F	<i>Astragalus sp.</i>	3	-
F	<i>Chaenactis douglasii</i>	3	-
F	<i>Cryptantha sp.</i>	16	10
F	<i>Descurainia pinnata (a)</i>	-	10
F	<i>Erigeron pumilus</i>	16	22
F	<i>Eriogonum ovalifolium</i>	6	3
F	<i>Machaeranthera canescens</i>	2	-
F	<i>Medicago sativa</i>	16	-
F	<i>Melilotus officinalis</i>	8	-
F	<i>Penstemon comarrhenus</i>	1	-
F	<i>Phlox longifolia</i>	4	22
F	<i>Salsola iberica (a)</i>	2	-
F	<i>Sanguisorba minor</i>	3	-
F	Unknown forb-perennial	11	-
Total for Annual Forbs		2	10
Total for Perennial Forbs		116	77
Total for Forbs		118	87

BASIC COVER--

Management unit 25A, Study no: 8

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.00	7.50
Rock	8.00	29.75
Pavement	33.00	17.25
Litter	37.00	29.75
Cryptogams	0	0
Bare Ground	14.00	15.75

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 8

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
85	5332	27	58	15	5333	1	0	0	18/17	
91	6266	40	47	13	866	9	0	5	19/18	
<i>Gutierrezia sarothrae</i>										
85	18466	34	66	0	12933	0	0	0	9/9	
91	4333	28	58	14	12600	8	0	5	2/3	
<i>Leptodactylon pungens</i>										
85	133	0	100	0	66	0	0	0	7/7	
91	198	33	33	33	-	33	0	0	3/4	
<i>Opuntia sp.</i>										
85	133	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

ROW OF PINES – STUDY NO. 25A-9

HERBACEOUS TRENDS--

Management unit 25A, Study no: 9

Type	Species	Nested Frequency	
		'85	'91
G	<i>Bouteloua gracilis</i>	100	102
G	<i>Oryzopsis hymenoides</i>	31	7
G	<i>Sitanion hystrix</i>	58	82
G	<i>Stipa pinetorum</i>	-	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		189	195
Total for Grasses		189	195
F	<i>Arabis demissa</i>	22	12
F	<i>Astragalus lentiginosus</i>	21	3
F	<i>Cryptantha</i> sp.	2	7
F	<i>Erigeron pumilus</i>	20	-
F	<i>Eriogonum ovalifolium</i>	7	16
F	<i>Phlox longifolia</i>	8	33
F	<i>Senecio multilobatus</i>	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		80	72
Total for Forbs		80	72

BASIC COVER--

Management unit 25A, Study no: 9

Cover Type	Average Cover %	
	'85	'91
Vegetation	10.00	6.00
Rock	2.75	3.75
Pavement	31.75	34.75
Litter	34.50	24.50
Cryptogams	3.50	3.50
Bare Ground	17.50	27.50

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	2665	17	40	43	266	52	0	0	10/13	
91	2532	11	37	53	-	5	0	32	8/14	
<i>Artemisia tridentata wyomingensis</i>										
85	8398	6	48	47	466	60	28	13	16/17	
91	8265	10	38	52	-	19	5	10	16/19	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	466	0	43	57	-	0	0	0	7/9	
91	0	0	0	0	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	10732	32	65	3	1333	1	0	0	8/7	
91	1465	45	18	36	-	23	9	5	2/2	
<i>Opuntia fragilis</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

CEDARLESS FLAT – STUDY NO. 25A-10

HERBACEOUS TRENDS--

Management unit 25A, Study no: 10

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	-	155
G	Bouteloua gracilis	70	104
G	Bromus inermis	-	55
G	Bromus tectorum (a)	-	3
G	Elymus junceus	-	84
G	Oryzopsis hymenoides	15	15
G	Sitanion hystrix	97	75
G	Stipa lettermani	1	5
Total for Annual Grasses		0	3
Total for Perennial Grasses		183	493
Total for Grasses		183	496
F	Arabis demissa	9	2
F	Astragalus lentiginosus	4	-
F	Cryptantha sp.	5	3
F	Erigeron pumilus	4	1
F	Eriogonum ovalifolium	5	1
F	Phlox longifolia	1	5
F	Senecio multilobatus	5	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		33	12
Total for Forbs		33	12

BASIC COVER--

Management unit 25A, Study no: 10

Cover Type	Average Cover %	
	'85	'91
Vegetation	1.50	4.50
Rock	6.00	8.00
Pavement	51.00	46.50
Litter	32.50	22.75
Cryptogams	0	0
Bare Ground	9.00	18.25

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 10

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	8798	12	60	28	533	37	8	2	18/20	
91	6599	20	66	14	933	22	4	0	12/15	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
85	599	22	78	-	-	0	0	0	8/4	
91	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	66	0	0	100	66	0	0	0	-/-	
91	399	33	67	0	-	0	0	0	2/4	

FORSYTH RESERVOIR – STUDY NO. 25A-11

HERBACEOUS TRENDS--

Management unit 25A, Study no: 11

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron trachycaulum	14	4
G	Bouteloua gracilis	140	184
G	Carex sp.	6	6
G	Poa fendleriana	102	113
G	Sitanion hystrix	156	161
G	Stipa comata	1	-
G	Stipa lettermani	102	102
Total for Annual Grasses		0	0
Total for Perennial Grasses		521	570
Total for Grasses		521	570
F	Arabis demissa	143	74
F	Astragalus lentiginosus	3	-
F	Chaenactis douglasii	2	14
F	Erigeron pumilus	137	110
F	Hymenoxys richardsonii	1	-
F	Penstemon sp.	-	1
F	Phlox longifolia	60	33
F	Senecio multilobatus	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		346	235
Total for Forbs		346	235

BASIC COVER--

Management unit 25A, Study no: 11

Cover Type	Average Cover %	
	'85	'91
Vegetation	5.75	10.75
Rock	6.25	2.75
Pavement	49.50	57.00
Litter	32.00	27.75
Cryptogams	4.75	.75
Bare Ground	1.75	1.00

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 11

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	23199	60	40	0	4866	0	0	0	2/4	
91	20398	16	76	8	200	30	14	.65	2/3	
<i>Artemisia nova</i>										
85	15466	37	54	9	9466	19	2	.43	7/10	
91	21132	50	37	13	-	15	7	5	6/11	
<i>Chrysothamnus nauseosus</i>										
85	66	0	100	-	-	0	0	0	2/2	
91	0	0	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	11732	24	74	2	800	0	0	.56	7/8	
91	11932	17	64	18	133	19	9	4	3/4	
<i>Cowania mexicana stansburiana</i>										
85	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
85	66	0	100	0	-	0	0	0	5/5	
91	199	67	0	33	-	33	0	0	-/-	
<i>Pinus edulis</i>										
85	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	

EAST TIDWELL – STUDY NO. 25A-12

HERBACEOUS TRENDS--

Management unit 25A, Study no: 12

Typ e	Species	Nested Frequenc y '91
G	<i>Bouteloua gracilis</i>	24
G	<i>Carex</i> sp.	49
G	<i>Festuca ovina</i>	59
G	<i>Koeleria cristata</i>	132
G	<i>Poa fendleriana</i>	89
G	<i>Sitanion hystrix</i>	128
G	<i>Stipa lettermani</i>	184
Total for Annual Grasses		0
Total for Perennial Grasses		665
Total for Grasses		665
F	<i>Agoseris glauca</i>	46
F	<i>Antennaria parvifolia</i>	70
F	<i>Aster</i> sp.	38
F	<i>Astragalus agrestis</i>	76
F	<i>Chaenactis douglasii</i>	5
F	<i>Delphinium</i> sp.	2
F	<i>Erigeron eatonii</i>	7
F	<i>Erigeron pumilus</i>	5
F	<i>Eriogonum umbellatum</i>	19
F	<i>Gentiana calycosa</i>	34
F	<i>Geranium caespitosum</i>	174
F	<i>Hymenoxys richardsonii</i>	82
F	<i>Lesquerella wardii</i>	58
F	<i>Linum lewisii</i>	22
F	<i>Lupinus argenteus</i>	4
F	<i>Machaeranthera canescens</i>	90
F	<i>Oxytropis lambertii</i>	14
F	<i>Penstemon pachyphyllus</i>	95
F	<i>Phlox longifolia</i>	121
F	<i>Potentilla hippiana</i>	134
F	<i>Potentilla pennsylvanica</i>	29
F	<i>Senecio multilobatus</i>	41
F	<i>Taraxacum officinale</i>	26
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		1194
Total for Forbs		1194

BASIC COVER--

Management unit 25A, Study no: 12

Cover Type	Average Cover % '91
Vegetation	10.50
Rock	13.25
Pavement	44.25
Litter	22.25
Cryptogams	.25
Bare Ground	9.50

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 12

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia frigida</i>									
91	1133	82	18	-	66	18	6	0	2/5
<i>Artemisia tridentata vaseyana</i>									
91	399	0	83	17	-	17	67	0	4/5
<i>Chrysothamnus parryi</i>									
91	38865	28	44	28	4333	36	22	5	4/6
<i>Gutierrezia sarothrae</i>									
91	599	44	56	-	-	11	0	0	3/3
<i>Tetradymia canescens</i>									
91	1332	15	50	35	66	40	25	5	4/5

OX SPRING – STUDY NO. 25A-13

HERBACEOUS TRENDS--

Management unit 25A, Study no: 13

Typ e	Species	Nested Frequenc y '91
G	<i>Agropyron smithii</i>	110
G	<i>Carex obtusata</i>	75
G	<i>Koeleria cristata</i>	129
G	<i>Poa fendleriana</i>	258
G	<i>Sitanion hystrix</i>	138
G	<i>Stipa pinetorum</i>	78
Total for Annual Grasses		0
Total for Perennial Grasses		788
Total for Grasses		788
F	<i>Agoseris glauca</i>	74
F	<i>Antennaria sp.</i>	105
F	<i>Arabis drummondii</i>	10
F	<i>Artemisia dracunculus</i>	37
F	<i>Aster chilensis</i>	98
F	<i>Astragalus argophyllus</i>	12
F	<i>Astragalus serpens</i>	17
F	<i>Astragalus tenellus</i>	6
F	<i>Castilleja linariaefolia</i>	10
F	<i>Crepis acuminata</i>	41
F	<i>Erigeron eatonii</i>	18
F	<i>Eriogonum racemosum</i>	57
F	<i>Eriogonum umbellatum</i>	8
F	<i>Fritillaria atropurpurea</i>	21
F	<i>Lotus utahensis</i>	13
F	<i>Lupinus argenteus</i>	116
F	<i>Machaeranthera canescens</i>	1
F	<i>Penstemon watsonii</i>	131
F	<i>Phlox austromontana</i>	4
F	<i>Phlox longifolia</i>	97
F	<i>Potentilla hippiana</i>	3
F	<i>Taraxacum officinale</i>	69
F	Unknown forb-perennial	2
Total for Annual Forbs		0
Total for Perennial Forbs		950
Total for Forbs		950

BASIC COVER--

Management unit 25A, Study no: 13

Cover Type	Average Cover % '91
Vegetation	17.00
Rock	7.00
Pavement	14.50
Litter	45.25
Cryptogams	0
Bare Ground	16.25

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
91	12466	56	43	1	-	43	8	0	5/10	
<i>Symphoricarpos oreophilus</i>										
91	666	70	30	-	-	70	20	0	6/10	
<i>Tetradymia canescens</i>										
91	66	100	0	-	-	100	0	0	-/-	

ROW OF PINES ENCLOSURE – STUDY NO. 25A-14

HERBACEOUS TRENDS--

Management unit 25A, Study no: 14

Typ e	Species	Nested Frequenc y '91
G	Agropyron cristatum	32
G	Bouteloua gracilis	122
G	Bromus inermis	4
G	Elymus junceus	1
G	Oryzopsis hymenoides	33
G	Sitanion hystrix	135
G	Stipa comata	2
Total for Annual Grasses		0
Total for Perennial Grasses		329
Total for Grasses		329
F	Arabis demissa	2
F	Astragalus lentiginosus	4
F	Erigeron pumilus	7
F	Eriogonum ovalifolium	7
F	Phlox longifolia	12
F	Sphaeralcea coccinea	13
Total for Annual Forbs		0
Total for Perennial Forbs		45
Total for Forbs		45

BASIC COVER--

Management unit 25A, Study no: 14

Cover Type	Average Cover % '91
Vegetation	4.00
Rock	11.50
Pavement	23.00
Litter	27.00
Cryptogams	0
Bare Ground	34.50

BROWSE CHARACTERISTICS--
Management unit 25A, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
91	6399	15	58	27	800	40	36	2	7/9	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
91	3265	16	61	22	66	45	31	2	4/6	
<i>Gutierrezia sarothrae</i>										
91	6066	26	68	5	266	14	11	1	2/2	
<i>Opuntia fragilis</i>										
91	0	0	0	-	66	0	0	0	-/-	

TOMMY HOLLOW – STUDY NO. 25A-16

HERBACEOUS TRENDS--

Management unit 25A, Study no: 16

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron smithii</i>	19	84
G	<i>Bouteloua gracilis</i>	116	117
G	<i>Carex</i> sp.	269	264
G	<i>Festuca ovina</i>	11	-
G	<i>Oryzopsis hymenoides</i>	72	8
G	<i>Poa fendleriana</i>	23	30
G	<i>Poa secunda</i>	9	-
G	<i>Sitanion hystrix</i>	142	166
G	<i>Stipa comata</i>	8	5
G	<i>Stipa lettermani</i>	8	14
Total for Annual Grasses		0	0
Total for Perennial Grasses		677	688
Total for Grasses		677	688
F	<i>Agoseris glauca</i>	-	5
F	<i>Allium</i> sp.	1	-
F	<i>Antennaria</i> sp.	14	74
F	<i>Arabis demissa</i>	47	116
F	<i>Astragalus</i> sp.	1	1
F	<i>Calochortus nuttallii</i>	23	50
F	<i>Castilleja chromosa</i>	1	1
F	<i>Crepis acuminata</i>	-	2
F	<i>Cymopterus</i> sp.	-	3
F	<i>Erigeron eatonii</i>	6	1
F	<i>Erigeron pumilus</i>	110	39
F	<i>Eriogonum racemosum</i>	3	-
F	<i>Machaeranthera canescens</i>	-	1
F	<i>Penstemon pachyphyllus</i>	3	2
F	<i>Phlox austromontana</i>	2	-
F	<i>Sphaeralcea coccinea</i>	83	60
Total for Annual Forbs		0	0
Total for Perennial Forbs		294	355
Total for Forbs		294	355

BASIC COVER--

Management unit 25A, Study no: 16

Cover Type	Average Cover %	
	'85	'91
Vegetation	13.50	9.75
Rock	.25	0
Pavement	1.50	1.75
Litter	43.25	46.00
Cryptogams	0	8.50
Bare Ground	41.50	34.00

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 16

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
85	0	0	0	0	-	0	0	0	-/-	
91	132	50	0	50	-	50	0	0	-/-	
<i>Artemisia nova</i>										
85	10866	45	48	7	800	4	2	.61	8/11	
91	9533	25	20	55	600	37	37	13	7/10	
<i>Artemisia tridentata tridentata</i>										
85	0	0	0	0	-	0	0	0	-/-	
91	132	50	0	50	-	50	50	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
85	7731	49	45	6	2466	10	2	.86	11/11	
91	16532	36	13	51	8466	36	33	18	11/18	
<i>Ceratoides lanata</i>										
85	2733	15	78	7	66	0	0	0	4/3	
91	3332	8	88	4	133	2	94	2	1/2	

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus depressus</i>										
85	66	0	0	100	-	0	0	0	-/-	
91	798	8	83	8	-	17	83	0	2/2	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	0	0	0	0	-	0	0	0	-/-	
91	24732	27	70	3	533	33	23	1	5/5	
<i>Gutierrezia sarothrae</i>										
85	17932	17	83	-	1200	0	0	0	5/7	
91	133	0	100	-	-	0	0	0	4/5	
<i>Opuntia sp.</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	399	67	33	-	66	0	0	0	2/1	
<i>Purshia tridentata</i>										
85	199	33	67	0	-	33	33	0	20/23	
91	266	0	0	100	-	0	75	100	-/-	

ELK CAMP – STUDY NO. 25A-18

HERBACEOUS TRENDS--

Management unit 25A, Study no: 18

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron smithii</i>	-	13
G	<i>Bouteloua gracilis</i>	73	76
G	<i>Carex</i> sp.	112	88
G	<i>Festuca ovina</i>	2	4
G	<i>Poa fendleriana</i>	192	186
G	<i>Sitanion hystrix</i>	83	109
G	<i>Stipa lettermani</i>	20	46
Total for Annual Grasses		0	0
Total for Perennial Grasses		482	522
Total for Grasses		482	522
F	<i>Agoseris glauca</i>	-	14
F	<i>Allium</i> sp.	-	2
F	<i>Antennaria</i> sp.	23	9
F	<i>Arabis demissa</i>	12	8
F	<i>Artemisia ludoviciana</i>	2	3
F	<i>Castilleja linariaefolia</i>	13	13
F	<i>Chaenactis douglasii</i>	2	-
F	<i>Cryptantha</i> sp.	-	2
F	<i>Eriogonum racemosum</i>	25	34
F	<i>Eriogonum umbellatum</i>	16	11
F	<i>Hymenoxys richardsonii</i>	18	7
F	<i>Lithospermum incisum</i>	-	3
F	<i>Machaeranthera canescens</i>	11	3
F	<i>Penstemon</i> sp.	-	2
F	<i>Phlox longifolia</i>	19	48
F	<i>Senecio multilobatus</i>	2	-
F	<i>Sphaeralcea coccinea</i>	6	3
F	Unknown forb-perennial	14	-
F	<i>Zigadenus paniculatus</i>	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		166	162
Total for Forbs		166	162

BASIC COVER--

Management unit 25A, Study no: 18

Cover Type	Average Cover %	
	'85	'91
Vegetation	5.50	13.00
Rock	17.25	21.50
Pavement	7.00	.75
Litter	60.75	44.25
Cryptogams	.25	0
Bare Ground	9.25	20.50

BROWSE CHARACTERISTICS--

Management unit 25A, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	666	10	90	-	-	0	0	0	3/2	
91	0	0	0	-	-	0	0	0	-/-	
<i>Artemisia nova</i>										
85	8532	12	31	56	200	47	3	11	10/16	
91	7999	6	24	70	-	37	44	13	11/16	
<i>Artemisia tridentata vaseyana</i>										
85	933	36	43	21	66	57	0	7	18/20	
91	1932	34	34	31	66	52	7	17	22/23	
<i>Chrysothamnus parryi</i>										
85	66	0	0	100	-	0	100	0	-/-	
91	0	0	0	0	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	8065	23	76	1	66	0	0	0	5/10	
91	10866	25	71	4	-	31	21	.61	3/7	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Eriogonum microthecum</i>										
85	133	0	100	-	-	0	0	0	1/4	
91	0	0	0	-	-	0	0	0	-/-	
<i>Juniperus scopulorum</i>										
85	66	0	100	-	-	0	0	0	46/41	
91	66	100	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	599	11	89	0	-	0	0	0	2/1	
91	398	17	67	17	-	0	0	0	2/5	
<i>Purshia tridentata</i>										
85	5599	42	57	1	333	30	46	0	13/21	
91	3866	0	10	90	-	2	97	40	6/16	
<i>Symphoricarpos oreophilus</i>										
85	866	31	69	0	-	38	0	0	18/16	
91	1265	11	84	5	-	11	53	0	19/16	
<i>Tetradymia canescens</i>										
85	399	17	33	50	-	17	0	0	7/5	
91	465	14	29	57	-	14	43	29	13/10	

THOUSAND LAKE – STUDY NO. 25B-1

HERBACEOUS TRENDS--

Management unit 25B, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron trachycaulum</i>	45	23
G	<i>Bouteloua gracilis</i>	83	122
G	<i>Bromus inermis</i>	15	1
G	<i>Carex sp.</i>	50	78
G	<i>Oryzopsis hymenoides</i>	2	1
G	<i>Poa pratensis</i>	102	64
G	<i>Sitanion hystrix</i>	24	80
G	<i>Stipa comata</i>	-	3
G	<i>Stipa lettermani</i>	19	47
Total for Annual Grasses		0	0
Total for Perennial Grasses		340	419
Total for Grasses		340	419
F	<i>Arabis demissa</i>	4	4
F	<i>Artemisia ludoviciana</i>	1	1
F	<i>Astragalus sp.</i>	-	2
F	<i>Cryptantha sp.</i>	12	19
F	<i>Eriogonum brevicaule</i>	1	5
F	<i>Eriogonum racemosum</i>	30	29
F	<i>Eriogonum umbellatum</i>	2	-
F	<i>Hymenoxys richardsonii</i>	-	3
F	<i>Machaeranthera canescens</i>	4	6
F	<i>Penstemon comarrhenus</i>	7	8
F	<i>Phlox longifolia</i>	1	11
F	<i>Senecio multilobatus</i>	14	-
F	Unknown forb-perennial	3	-
F	<i>Zigadenus paniculatus</i>	2	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		81	88
Total for Forbs		81	88

BASIC COVER--

Management unit 25B, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	5.25	8.50
Rock	7.00	5.25
Pavement	3.50	1.25
Litter	71.00	71.50
Cryptogams	.25	0
Bare Ground	13.00	13.50

BROWSE CHARACTERISTICS--

Management unit 25B, Study no: 1

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Artemisia nova</i>									
85	11931	4	32	64	200	46	38	21	6/10
91	12132	2	42	56	-	49	4	25	6/16
<i>Chrysothamnus viscidiflorus lanceolatus</i>									
85	14265	9	64	27	66	3	2	.46	4/4
91	19932	8	85	7	66	8	0	2	3/8
<i>Gutierrezia sarothrae</i>									
85	466	43	43	14	400	0	0	14	4/4
91	200	100	0	0	-	0	0	0	-/-
<i>Leptodactylon pungens</i>									
85	1999	13	70	17	-	0	0	0	5/6
91	999	7	33	60	-	27	0	27	5/5
<i>Pinus edulis</i>									
85	66	100	0	-	-	0	0	0	-/-
91	66	100	0	-	266	0	0	0	-/-

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Purshia tridentata</i>									
85	999	47	53	0	266	13	33	0	9/22
91	2199	9	48	42	-	9	45	12	7/19
<i>Tetradymia canescens</i>									
85	600	33	33	33	-	22	22	11	9/7
91	532	12	63	25	-	13	0	13	6/7

HORSE VALLEY – STUDY NO. 25B-2

HERBACEOUS TRENDS--

Management unit 25B, Study no: 2

Type	Species	Nestled Frequency	
		'85	'91
G	<i>Bouteloua gracilis</i>	48	66
G	<i>Carex</i> sp.	-	6
G	<i>Oryzopsis hymenoides</i>	1	3
G	<i>Sitanion hystrix</i>	43	72
G	<i>Stipa comata</i>	9	17
Total for Annual Grasses		0	0
Total for Perennial Grasses		101	164
Total for Grasses		101	164
F	<i>Arabis demissa</i>	-	3
F	<i>Astragalus convallarius</i>	1	2
F	<i>Chaenactis douglasii</i>	-	3
F	<i>Cryptantha jamesii</i>	30	24
F	<i>Erigeron pumilus</i>	4	8
F	<i>Hymenoxys richardsonii</i>	39	59
F	<i>Townsendia incana</i>	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		74	102
Total for Forbs		74	102

BASIC COVER--

Management unit 25B, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.50	5.75
Rock	11.00	17.25
Pavement	31.50	25.75
Litter	23.50	14.50
Cryptogams	1.75	.75
Bare Ground	25.75	36.00

WILDLIFE MANAGEMENT UNIT 25

BROWSE CHARACTERISTICS--
Management unit 25B, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	3/3	
<i>Artemisia tridentata wyomingensis</i>										
85	4798	15	71	14	266	69	6	8	19/25	
91	4399	14	39	47	66	29	14	17	17/23	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	8665	12	43	45	400	22	10	13	5/7	
91	7531	1	4	96	-	35	22	62	5/7	
<i>Gutierrezia sarothrae</i>										
85	6198	16	82	2	9466	9	0	9	7/6	
91	8198	8	80	12	66	2	.81	2	5/4	
<i>Opuntia sp.</i>										
85	1799	7	81	11	-	0	0	33	3/4	
91	932	29	50	21	-	7	0	0	3/4	
<i>Pinus edulis</i>										
85	66	100	0	-	266	0	0	0	-/-	
91	66	100	0	-	133	0	0	0	-/-	

SAGE FLAT – STUDY NO. 25B-3

HERBACEOUS TRENDS--

Management unit 25B, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron smithii	137	182
G	Bouteloua gracilis	-	10
G	Oryzopsis hymenoides	5	9
G	Poa secunda	5	-
G	Sitanion hystrix	94	74
Total for Annual Grasses		0	0
Total for Perennial Grasses		241	275
Total for Grasses		241	275
F	Cryptantha sp.	11	30
F	Cymopterus sp.	-	2
F	Erigeron pumilus	32	45
F	Hymenoxys richardsonii	4	1
F	Phlox longifolia	38	64
F	Senecio multilobatus	-	1
F	Unknown forb-perennial	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		86	143
Total for Forbs		86	143

BASIC COVER--

Management unit 25B, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	6.00	2.50
Rock	.50	.50
Pavement	2.50	4.00
Litter	30.00	27.00
Cryptogams	5.00	10.50
Bare Ground	56.00	55.50

BROWSE CHARACTERISTICS--
Management unit 25B, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	132	50	50	-	-	0	50	0	5/7	
<i>Artemisia tridentata wyomingensis</i>										
85	7399	17	40	43	9200	47	33	4	19/20	
91	12665	50	26	24	933	16	11	5	20/26	
<i>Gutierrezia sarothrae</i>										
85	8999	18	68	14	2066	1	.74	.74	7/5	
91	9932	44	52	5	133	7	.67	3	3/2	

POLK CREEK – STUDY NO. 25B-5

HERBACEOUS TRENDS--

Management unit 25B, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	<i>Bouteloua gracilis</i>	106	105
G	<i>Carex</i> sp.	176	186
G	<i>Poa fendleriana</i>	32	20
G	<i>Sitanion hystrix</i>	152	180
G	<i>Stipa comata</i>	7	5
G	<i>Stipa</i> sp.	-	18
Total for Annual Grasses		0	0
Total for Perennial Grasses		473	514
Total for Grasses		473	514
F	<i>Antennaria parvifolia</i>	6	1
F	<i>Arabis demissa</i>	12	11
F	<i>Artemisia ludoviciana</i>	4	6
F	<i>Aster</i> sp.	-	8
F	<i>Astragalus convallarius</i>	3	-
F	<i>Astragalus</i> sp.	4	-
F	<i>Castilleja chromosa</i>	-	5
F	<i>Chaenactis douglasii</i>	6	5
F	<i>Comandra pallida</i>	13	7
F	<i>Cryptantha</i> sp.	15	14
F	<i>Cymopterus</i> sp.	-	4
F	<i>Erigeron pumilus</i>	37	15
F	<i>Eriogonum alatum</i>	-	3
F	<i>Eriogonum racemosum</i>	24	22
F	<i>Hymenoxys richardsonii</i>	9	5
F	<i>Lupinus argenteus</i>	1	-
F	<i>Lygodesmia spinosa</i>	55	58
F	<i>Machaeranthera canescens</i>	3	8
F	<i>Penstemon humilis</i>	-	1
F	<i>Phlox longifolia</i>	9	24
F	<i>Potentilla</i> sp.	-	1
F	<i>Senecio multilobatus</i>	25	1
F	<i>Sphaeralcea coccinea</i>	3	-
F	<i>Taraxacum officinale</i>	-	5
F	<i>Tragopogon dubius</i> (a)	-	3
F	Unknown forb-perennial	2	-
F	<i>Zigadenus paniculatus</i>	1	-
Total for Annual Forbs		0	3
Total for Perennial Forbs		232	204

WILDLIFE MANAGEMENT UNIT 25

Type	Species	Nested Frequency	
		'85	'91
Total for Forbs		232	207

BASIC COVER--

Management unit 25B, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.75	11.00
Rock	4.75	6.25
Pavement	17.25	7.75
Litter	54.25	53.50
Cryptogams	0	.75
Bare Ground	15.00	20.75

BROWSE CHARACTERISTICS--

Management unit 25B, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	6732	9	54	37	933	46	22	14	7/9	
91	7466	21	45	34	133	29	2	13	8/14	
<i>Artemisia tridentata vaseyana</i>										
85	0	0	0	0	-	0	0	0	-/-	
91	266	0	25	75	-	0	0	0	11/7	
<i>Chrysothamnus depressus</i>										
85	1465	5	68	27	-	5	0	5	3/6	
91	2533	13	24	63	-	32	42	11	3/6	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
85	866	8	92	-	66	0	0	0	7/5	
91	66	0	100	-	-	0	0	0	4/13	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
85	4932	8	78	14	-	1	0	1	6/4	
91	1399	43	52	5	-	19	0	0	4/5	
<i>Opuntia sp.</i>										
85	399	83	17	-	-	0	0	0	1/5	
91	333	0	100	-	-	0	0	0	4/5	
<i>Pinus edulis</i>										
85	332	80	20	-	266	0	0	0	69/128	
91	333	60	40	-	333	0	0	0	81/87	
<i>Purshia tridentata</i>										
85	1865	36	61	4	999	36	46	4	13/41	
91	3065	9	54	37	333	33	22	0	7/21	
<i>Rhus trilobata</i>										
85	66	0	100	-	-	100	0	0	12/20	
91	66	0	100	-	-	100	0	0	18/23	
<i>Tetradymia canescens</i>										
85	866	23	54	23	-	0	0	0	5/4	
91	998	7	67	27	-	27	0	0	7/4	

LITTLE DEER PEAK – STUDY NO. 25B-6

HERBACEOUS TRENDS--

Management unit 25B, Study no: 6

Type	Species	Nested Frequency	
		'85	'91
G	Bouteloua gracilis	286	321
G	Carex sp.	9	-
G	Oryzopsis hymenoides	-	11
G	Sitanion hystrix	92	115
Total for Annual Grasses		0	0
Total for Perennial Grasses		387	447
Total for Grasses		387	447
F	Astragalus miser	6	-
F	Chaenactis douglasii	1	-
F	Erigeron pumilus	33	50
F	Penstemon comarrhenus	3	-
F	Penstemon sp.	2	6
F	Sphaeralcea coccinea	105	119
Total for Annual Forbs		0	0
Total for Perennial Forbs		150	175
Total for Forbs		150	175

BASIC COVER--

Management unit 25B, Study no: 6

Cover Type	Average Cover %	
	'85	'91
Vegetation	17.50	14.75
Rock	2.00	2.00
Pavement	13.50	7.25
Litter	29.00	32.25
Cryptogams	1.25	1.75
Bare Ground	36.75	42.00

BROWSE CHARACTERISTICS--
Management unit 25B, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	66	0	100	-	-	0	0	0	10/10	
91	66	0	100	-	-	0	100	0	2/6	
<i>Artemisia tridentata wyomingensis</i>										
85	9598	24	42	35	66	45	42	21	10/15	
91	5131	5	66	29	-	19	8	6	10/16	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
85	4533	34	66	0	-	4	0	0	9/10	
91	7732	25	62	13	66	24	9	3	3/6	
<i>Opuntia sp.</i>										
85	200	0	100	-	-	0	0	0	5/7	
91	133	0	100	-	-	0	0	0	2/9	
<i>Pinus edulis</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	

YERGY – STUDY NO. 25C-1

HERBACEOUS TRENDS--

Management unit 25C, Study no: 1

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron cristatum	311	312
G	Agropyron elongatum	3	-
G	Agropyron intermedium	3	-
G	Agropyron smithii	-	23
G	Bouteloua gracilis	41	60
G	Elymus junceus	27	26
G	Munroa squarrosa (a)	-	16
G	Sitanion hystrix	1	-
G	Sporobolus cryptandrus	14	7
Total for Annual Grasses		0	16
Total for Perennial Grasses		400	428
Total for Grasses		400	444
F	Sphaeralcea coccinea	9	14
F	Sphaeralcea parvifolia	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		9	16
Total for Forbs		9	16

BASIC COVER--

Management unit 25C, Study no: 1

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.00	12.00
Rock	0	0
Pavement	0	.25
Litter	56.25	39.25
Cryptogams	0	0
Bare Ground	35.75	48.50

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 1

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata tridentata</i>										
85	7999	97	3	0	3666	.83	0	3	10/8	
91	11533	52	36	12	-	43	26	12	12/12	
<i>Gutierrezia sarothrae</i>										
85	2332	63	31	6	466	0	0	0	7/7	
91	0	0	0	0	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

WILDCAT – STUDY No. 25C-2

HERBACEOUS TRENDS--

Management unit 25C, Study no: 2

Type	Species	Nestled Frequency	
		'85	'91
G	Agropyron cristatum	268	302
G	Bouteloua gracilis	186	234
G	Sitanion hystrix	44	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		498	545
Total for Grasses		498	545
F	Allium cernuum	6	3
F	Antennaria sp.	3	3
F	Artemisia ludoviciana	-	3
F	Astragalus sp.	2	1
F	Erigeron pumilus	9	5
F	Eriogonum alatum	2	2
F	Eriogonum racemosum	12	25
F	Lupinus argenteus	139	59
F	Lygodesmia sp.	3	1
F	Oenothera pallida	-	2
F	Penstemon sp.	11	15
F	Phlox longifolia	28	46
F	Sphaeralcea coccinea	-	4
F	Unknown forb-perennial	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		215	173
Total for Forbs		215	173

BASIC COVER--

Management unit 25C, Study no: 2

Cover Type	Average Cover %	
	'85	'91
Vegetation	19.50	9.50
Rock	2.00	2.75
Pavement	3.75	1.25
Litter	44.25	39.50
Cryptogams	0	.25
Bare Ground	30.50	46.75

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	1199	44	44	11	666	0	0	0	14/13	
91	2199	6	88	6	133	21	0	3	11/18	
<i>Artemisia tridentata wyomingensis</i>										
85	5065	28	53	20	200	13	5	1	23/20	
91	5399	14	65	21	-	58	21	5	15/21	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	133	0	100	-	-	0	100	0	2/3	
<i>Eriogonum microthecum</i>										
85	132	50	50	-	-	0	0	0	6/7	
91	333	40	60	-	-	40	0	0	5/6	
<i>Gutierrezia sarothrae</i>										
85	4666	30	70	0	-	0	0	0	10/8	
91	6332	12	86	2	-	1	0	2	6/6	
<i>Opuntia sp.</i>										
85	332	80	20	-	333	0	0	0	2/5	
91	532	88	12	-	1733	0	0	0	2/5	
<i>Tetradymia canescens</i>										
85	2666	50	35	15	-	3	0	5	7/7	
91	1999	40	33	27	-	33	10	7	6/10	

HAPPY VALLEY – STUDY NO. 25C-3

HERBACEOUS TRENDS--

Management unit 25C, Study no: 3

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron intermedium</i>	-	3
G	<i>Bouteloua gracilis</i>	51	66
G	<i>Carex</i> sp.	23	67
G	<i>Oryzopsis hymenoides</i>	3	18
G	<i>Poa fendleriana</i>	48	85
G	<i>Sitanion hystrix</i>	62	90
G	<i>Sporobolus cryptandrus</i>	42	27
G	<i>Stipa comata</i>	5	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		234	359
Total for Grasses		234	359
F	<i>Antennaria parvifolia</i>	11	5
F	<i>Arabis demissa</i>	1	42
F	<i>Artemesia carruthii</i>	81	121
F	<i>Astragalus convallarius</i>	13	-
F	<i>Chaenactis douglasii</i>	2	-
F	<i>Cryptantha</i> sp.	-	105
F	<i>Erigeron eatonii</i>	10	7
F	<i>Erigeron pumilus</i>	-	2
F	<i>Eriogonum alatum</i>	3	1
F	<i>Eriogonum racemosum</i>	65	118
F	<i>Hymenoxys acaulis</i>	-	3
F	<i>Hymenoxys richardsonii</i>	8	32
F	<i>Lupinus argenteus</i>	5	-
F	<i>Lygodesmia spinosa</i>	5	6
F	<i>Penstemon comarrhenus</i>	2	-
F	<i>Penstemon</i> sp.	1	20
F	<i>Potentilla gracilis</i>	-	6
F	<i>Senecio</i> sp.	17	-
F	<i>Sphaeralcea coccinea</i>	10	12
F	Unknown forb-perennial	2	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		236	480
Total for Forbs		236	480

BASIC COVER--

Management unit 25C, Study no: 3

Cover Type	Average Cover %	
	'85	'91
Vegetation	7.00	7.50
Rock	18.50	27.75
Pavement	11.25	4.75
Litter	26.75	40.00
Cryptogams	0	0
Bare Ground	36.50	20.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus</i>										
85	0	0	0	0	-	0	0	0	-/-	
91	2732	95	2	2	5333	12	10	0	8/6	
<i>Chrysothamnus parryi</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	466	43	57	0	66	0	0	0	9/7	
91	199	67	0	33	133	0	0	33	-/-	
<i>Gutierrezia sarothrae</i>										
85	866	31	69	0	800	0	0	0	9/7	
91	5532	12	83	5	1066	2	0	2	10/12	
<i>Pinus ponderosa</i>										
85	133	0	100	0	66	0	0	100	69/79	
91	399	50	33	17	66	0	17	17	234/89	

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
85	1666	88	12	0	466	12	8	4	10/19	
91	1465	59	32	9	-	36	45	5	5/15	
<i>Tetradymia canescens</i>										
85	66	100	0	-	-	0	0	0	-/-	
91	132	50	50	-	-	50	0	0	6/9	
<i>Yucca harrimaniae</i>										
85	1333	85	15	-	400	0	0	0	8/9	
91	2332	86	14	-	333	0	0	0	9/15	

NORTH SLOPE – STUDY NO. 25C-4

HERBACEOUS TRENDS--

Management unit 25C, Study no: 4

Type	Species	Nested Frequency	
		'85	'91
G	<i>Agropyron spicatum</i>	1	5
G	<i>Bouteloua gracilis</i>	172	139
G	<i>Bromus anomalus</i>	2	3
G	<i>Carex sp.</i>	28	29
G	<i>Oryzopsis hymenoides</i>	3	3
G	<i>Poa fendleriana</i>	46	48
G	<i>Sitanion hystrix</i>	43	56
Total for Annual Grasses		0	0
Total for Perennial Grasses		295	283
Total for Grasses		295	283
F	<i>Antennaria parvifolia</i>	5	8
F	<i>Arabis demissa</i>	8	17
F	<i>Artemisia carruthii</i>	70	2
F	<i>Artemisia dracunculus</i>	54	-
F	<i>Castilleja linariaefolia</i>	-	3
F	<i>Cryptantha sp.</i>	3	-
F	<i>Erigeron eatonii</i>	6	3
F	<i>Eriogonum racemosum</i>	5	1
F	<i>Hymenoxys richardsonii</i>	5	-
F	<i>Lupinus argenteus</i>	29	-
F	<i>Lychnis drummondii</i>	-	4
F	<i>Penstemon comarrhenus</i>	-	2
F	<i>Petradoria pumila</i>	2	1
F	<i>Potentilla gracilis</i>	-	18
F	<i>Pteridium aquilinum</i>	-	1
F	<i>Sphaeralcea coccinea</i>	4	10
F	Unknown forb-perennial	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		191	73
Total for Forbs		191	73

BASIC COVER--

Management unit 25C, Study no: 4

Cover Type	Average Cover %	
	'85	'91
Vegetation	4.00	3.25
Rock	21.00	22.25
Pavement	9.00	5.25
Litter	60.00	62.00
Cryptogams	1.75	1.50
Bare Ground	4.25	5.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 4

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
85	0	0	0	-	-	0	0	0	-/-	
91	266	25	75	-	-	0	0	0	7/8	
Artemisia tridentata vaseyana										
85	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	100	0	0	-/-	
Chrysothamnus depressus										
85	0	0	0	0	-	0	0	0	-/-	
91	332	0	80	20	-	0	60	0	4/7	
Chrysothamnus parryi										
85	2399	17	83	-	-	3	0	0	8/7	
91	466	0	100	-	-	0	0	0	6/9	
Chrysothamnus viscidiflorus lanceolatus										
85	3866	17	78	5	600	10	0	2	19/13	
91	2865	19	63	19	-	19	7	2	13/16	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
85	666	10	90	0	-	0	0	0	9/7	
91	3065	35	57	9	66	2	0	0	6/5	
<i>Juniperus scopulorum</i>										
85	66	0	100	-	-	0	0	0	69/89	
91	66	0	100	-	-	0	0	0	109/125	
<i>Pinus edulis</i>										
85	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	133	0	0	0	-/-	
<i>Purshia tridentata</i>										
85	1598	17	79	4	266	50	33	0	24/35	
91	1532	26	57	17	-	48	30	4	14/28	

GILES HOLLOW – STUDY NO. 25C-5

HERBACEOUS TRENDS--

Management unit 25C, Study no: 5

Type	Species	Nested Frequency	
		'85	'91
G	Bouteloua gracilis	317	337
G	Oryzopsis hymenoides	13	4
G	Sitanion hystrix	315	207
Total for Annual Grasses		0	0
Total for Perennial Grasses		645	548
Total for Grasses		645	548
F	Erigeron pumilus	7	3
F	Sphaeralcea coccinea	38	45
F	Unknown forb-perennial	1	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		46	48
Total for Forbs		46	48

BASIC COVER--

Management unit 25C, Study no: 5

Cover Type	Average Cover %	
	'85	'91
Vegetation	12.75	15.25
Rock	6.00	10.75
Pavement	23.25	28.00
Litter	34.00	26.00
Cryptogams	3.75	5.00
Bare Ground	20.25	15.00

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	3800	37	63	0	-	0	0	0	2/4	
91	3998	45	37	18	200	20	5	2	3/4	
<i>Artemisia nova</i>										
85	732	64	36	0	-	18	0	0	5/11	
91	466	43	0	57	-	29	29	29	-/-	
<i>Atriplex canescens</i>										
85	66	0	0	100	-	100	0	0	-/-	
91	199	67	0	33	-	67	0	0	-/-	
<i>Ceratoides lanata</i>										
85	1199	11	89	-	-	44	22	0	4/5	
91	1133	29	71	-	-	35	12	0	4/5	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	6333	44	46	9	1066	2	0	1	8/10	
91	11132	58	34	8	66	14	2	0	6/9	
<i>Gutierrezia sarothrae</i>										
85	10266	21	79	-	1133	0	0	0	7/7	
91	3400	35	65	-	133	0	0	0	4/4	
<i>Opuntia sp.</i>										
85	398	17	67	17	-	0	0	0	4/8	
91	333	100	0	0	66	0	0	0	-/-	

TEZRA FLAT – STUDY NO. 25C-6

HERBACEOUS TRENDS--

Management unit 25C, Study no: 6

Type	Species	Nested Frequency	
		'85	'91
G	Sitanion hystrix	17	50
Total for Annual Grasses		0	0
Total for Perennial Grasses		17	50
Total for Grasses		17	50
F	Astragalus sp.	8	5
F	Erigeron pumilus	2	2
F	Halogeton glomeratus (a)	-	74
F	Salsola iberica (a)	216	41
Total for Annual Forbs		216	115
Total for Perennial Forbs		10	7
Total for Forbs		226	122

BASIC COVER--

Management unit 25C, Study no: 6

Cover Type	Average Cover %	
	'85	'91
Vegetation	2.50	6.50
Rock	2.50	3.75
Pavement	30.50	38.25
Litter	35.25	13.25
Cryptogams	0	0
Bare Ground	29.25	38.25

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia frigida</i>										
85	5933	10	90	0	466	0	0	0	11/12	
91	35799	28	71	1	1200	5	1	.18	4/6	
<i>Artemisia tridentata wyomingensis</i>										
85	2265	82	15	3	2400	0	0	0	15/17	
91	3732	7	86	7	-	45	16	4	9/15	
<i>Atriplex canescens</i>										
85	932	14	79	7	-	14	7	0	12/12	
91	400	0	0	100	-	0	100	100	-/-	
<i>Ceratoides lanata</i>										
85	732	9	91	0	-	0	0	0	5/4	
91	466	0	71	29	-	29	43	14	4/4	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	1732	58	42	0	533	0	0	0	7/11	
91	4598	36	54	10	-	23	4	1	8/13	
<i>Gutierrezia sarothrae</i>										
85	1999	27	73	0	-	0	0	0	9/11	
91	30666	16	83	1	200	0	0	.86	7/10	

CEDAR GROVE – STUDY NO. 25C-7

HERBACEOUS TRENDS--

Management unit 25C, Study no: 7

Type	Species	Nested Frequency	
		'85	'91
G	Agropyron spicatum	2	14
G	Bouteloua gracilis	42	41
G	Poa fendleriana	196	213
G	Sitanion hystrix	129	139
Total for Annual Grasses		0	0
Total for Perennial Grasses		369	407
Total for Grasses		369	407
F	Arabis demissa	83	44
F	Astragalus lentiginosus	16	-
F	Astragalus sp.	4	8
F	Calochortus nuttallii	-	5
F	Cryptantha sp.	10	15
F	Cymopterus sp.	-	4
F	Erigeron eatonii	17	39
F	Erigeron pumilus	18	16
F	Hymenoxys richardsonii	-	15
F	Lomatium triternatum	-	60
F	Lygodesmia spinosa	13	22
F	Phlox austromontana	4	2
F	Phlox longifolia	71	13
F	Senecio multilobatus	3	1
F	Trifolium sp.	9	9
Total for Annual Forbs		0	0
Total for Perennial Forbs		248	253
Total for Forbs		248	253

BASIC COVER--

Management unit 25C, Study no: 7

Cover Type	Average Cover %	
	'85	'91
Vegetation	8.75	6.25
Rock	16.00	19.50
Pavement	28.50	24.50
Litter	23.75	24.00
Cryptogams	2.75	2.00
Bare Ground	20.25	23.75

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
85	6732	18	53	29	600	56	5	10	11/13	
91	7066	19	44	37	133	42	20	16	12/15	
<i>Artemisia tridentata vaseyana</i>										
85	2465	11	30	59	200	70	16	32	17/19	
91	3065	24	28	48	466	33	17	2	18/25	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	200	100	0	0	-	0	0	0	-/-	
91	198	33	33	33	-	0	0	0	4/4	
<i>Eriogonum microthecum</i>										
85	66	0	100	-	-	0	100	0	4/3	
91	133	0	100	-	-	100	0	0	1/3	
<i>Gutierrezia sarothrae</i>										
85	133	0	100	-	-	0	0	0	6/3	
91	133	100	0	-	66	0	0	0	-/-	
<i>Opuntia sp.</i>										
85	66	0	100	-	-	0	0	0	2/2	
91	0	0	0	-	-	0	0	0	-/-	
<i>Tetradymia canescens</i>										
85	66	0	100	-	-	0	0	0	6/3	
91	0	0	0	-	-	0	0	0	-/-	

SOUTH NARROWS – STUDY NO. 25C-8

HERBACEOUS TRENDS--

Management unit 25C, Study no: 8

Type	Species	Nestled Frequency	
		'85	'91
G	Bouteloua gracilis	284	296
G	Oryzopsis hymenoides	6	16
G	Sitanion hystrix	43	52
G	Stipa comata	75	95
Total for Annual Grasses		0	0
Total for Perennial Grasses		408	459
Total for Grasses		408	459

BASIC COVER--

Management unit 25C, Study no: 8

Cover Type	Average Cover %	
	'85	'91
Vegetation	11.00	13.25
Rock	17.50	25.50
Pavement	20.75	15.25
Litter	34.50	22.50
Cryptogams	2.25	.75
Bare Ground	14.00	22.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	%	%	%	Seedling (plants/acre)	%	%	% poor vigor	Average Height Crown (in)	
		Young	Mature	Decadent		moderate	heavy			
Artemisia tridentata wyomingensis										
85	3665	9	67	24	133	67	20	5	12/19	
91	4932	23	38	39	-	47	9	20	15/21	
Opuntia sp.										
85	200	0	100	-	-	0	0	0	2/2	
91	199	67	33	-	-	0	0	0	2/4	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
85	533	0	100	-	-	0	0	0	9/4	
91	333	0	100	-	-	40	20	0	6/4	

DRY WASH – STUDY NO. 25C-9

HERBACEOUS TRENDS--

Management unit 25C, Study no: 9

Type	Species	Nestled Frequency	
		'85	'91
G	<i>Bouteloua gracilis</i>	66	54
G	<i>Oryzopsis hymenoides</i>	116	98
G	<i>Sitanion hystrix</i>	76	74
G	<i>Sporobolus cryptandrus</i>	31	12
G	<i>Stipa comata</i>	100	59
Total for Annual Grasses		0	0
Total for Perennial Grasses		389	297
Total for Grasses		389	297
F	<i>Arabis demissa</i>	3	-
F	<i>Astragalus purshii</i>	-	1
F	<i>Chenopodium album</i> (a)	-	58
F	<i>Erigeron pumilus</i>	9	2
F	<i>Salsola iberica</i> (a)	3	59
Total for Annual Forbs		3	117
Total for Perennial Forbs		12	3
Total for Forbs		15	120

BASIC COVER--

Management unit 25C, Study no: 9

Cover Type	Average Cover %	
	'85	'91
Vegetation	4.00	4.50
Rock	24.75	36.75
Pavement	24.75	20.75
Litter	34.50	30.50
Cryptogams	.75	0
Bare Ground	11.25	7.50

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
85	6598	56	28	16	5666	46	19	8	14/18	
91	5399	30	40	31	-	48	15	9	13/20	
<i>Atriplex canescens</i>										
85	199	0	67	33	-	33	67	0	13/14	
91	132	50	50	0	-	0	50	0	23/9	
<i>Ceratoides lanata</i>										
85	17065	54	46	0	3733	41	51	11	2/3	
91	11399	33	67	0	-	68	0	0	8/5	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
85	732	18	73	9	66	9	0	0	8/13	
91	1266	26	42	32	-	21	0	5	7/11	
<i>Gutierrezia sarothrae</i>										
85	7798	37	62	1	4066	0	0	2	7/7	
91	466	43	57	0	333	0	0	0	6/5	
<i>Pinus edulis</i>										
85	133	100	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	0	0	0	-/-	

PLEASANT CREEK ENCLOSURE (IN) – STUDY NO. 25C-10

HERBACEOUS TRENDS--

Management unit 25C, Study no: 10

Type	Species	Nested Frequency '91
G	Agropyron trachycaulum	68
G	Carex sp.	263
G	Deschampsia caespitosa	89
G	Hordeum brachyantherum	2
G	Juncus balticus	46
G	Koeleria cristata	5
G	Muhlenbergia montana	14
G	Phleum alpinum	114
G	Poa arida	6
G	Poa pratensis	296
G	Stipa lettermani	21
Total for Annual Grasses		0
Total for Perennial Grasses		924
Total for Grasses		924
F	Achillea millefolium	222
F	Antennaria sp.	11
F	Arabis drummondi	10
F	Arenaria fendleri	9
F	Artemisia dracunculus	30
F	Aster chilensis	269
F	Cerastium beeringianum	9
F	Epilobium sp.	4
F	Equisetum variegatum	1
F	Erigeron flagellaris	33
F	Galium sp.	10
F	Geum sp.	9
F	Potentilla gracilis	77
F	Ranunculus alismaefolius	1
F	Rumex salicifolius	5
F	Taraxacum officinale	332
F	Thalictrum fendleri	2
F	Trifolium gymnocarpon	265
F	Unknown forb-perennial	8
F	Viola sp.	17
Total for Annual Forbs		0
Total for Perennial Forbs		1324
Total for Forbs		1324

BASIC COVER--

Management unit 25C, Study no: 10

Cover Type	Average Cover % '91
Vegetation	75.75
Rock	2.25
Pavement	0
Litter	15.50
Cryptogams	.25
Bare Ground	6.25

PLEASANT CREEK EXCLOSURE (OUT) – STUDY NO. 25C-11

HERBACEOUS TRENDS--

Management unit 25C, Study no: 11

Type	Species	Nested Frequency '91
G	<i>Agropyron trachycaulum</i>	65
G	<i>Carex</i> sp.	202
G	<i>Festuca ovina</i>	66
G	<i>Juncus balticus</i>	69
G	<i>Koeleria cristata</i>	50
G	<i>Muhlenbergia montana</i>	68
G	<i>Phleum alpinum</i>	6
G	<i>Poa arida</i>	16
G	<i>Poa pratensis</i>	360
G	<i>Stipa comata</i>	2
G	<i>Stipa lettermani</i>	62
Total for Annual Grasses		0
Total for Perennial Grasses		966
Total for Grasses		966
F	<i>Achillea millefolium</i>	159
F	<i>Antennaria parvifolia</i>	15
F	<i>Arabis drummondi</i>	59
F	<i>Arenaria fendleri</i>	3
F	<i>Artemisia dracunculus</i>	74
F	<i>Aster chilensis</i>	138
F	<i>Cryptantha</i> sp.	3
F	<i>Descurainia pinnata</i> (a)	1
F	<i>Erigeron flagellaris</i>	102
F	<i>Hymenoxys richardsonii</i>	6
F	<i>Penstemon</i> sp.	2
F	<i>Potentilla gracilis</i>	139
F	<i>Ranunculus inamoenus</i>	22
F	<i>Taraxacum officinale</i>	340
F	<i>Trifolium gymnocarpon</i>	196
F	Unknown forb-perennial	18
F	<i>Vicia americana</i>	4
F	<i>Viola</i> sp.	3
Total for Annual Forbs		1
Total for Perennial Forbs		1283
Total for Forbs		1284

BASIC COVER--

Management unit 25C, Study no: 11

Cover Type	Average Cover % '91
Vegetation	58.50
Rock	6.50
Pavement	2.50
Litter	24.75
Cryptogams	0
Bare Ground	7.75

NAZER DRAW – STUDY NO. 25C-12

HERBACEOUS TRENDS--

Management unit 25C, Study no: 12

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	190	114
G	<i>Agropyron intermedium</i>	24	31
G	<i>Bouteloua gracilis</i>	107	104
G	<i>Bromus inermis</i>	10	7
G	<i>Sitanion hystrix</i>	100	90
G	<i>Stipa comata</i>	3	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		434	350
Total for Grasses		434	350
F	<i>Antennaria parvifolia</i>	6	4
F	<i>Arabis demissa</i>	-	5
F	<i>Arabis sp.</i>	-	12
F	<i>Artemesia carruthii</i>	17	8
F	<i>Astragalus newberryi</i>	6	2
F	<i>Calochortus nuttallii</i>	3	1
F	<i>Castilleja chromosa</i>	7	-
F	<i>Castilleja linariaefolia</i>	37	4
F	<i>Comandra pallida</i>	19	5
F	<i>Crepis acuminata</i>	9	-
F	<i>Cryptantha sp.</i>	5	13
F	<i>Erigeron divergens</i>	2	5
F	<i>Eriogonum alatum</i>	5	9
F	<i>Eriogonum racemosum</i>	87	83
F	<i>Eriogonum umbellatum</i>	68	56
F	<i>Hymenopappus filifolius</i>	-	4
F	<i>Hymenoxys acaulis</i>	1	-
F	<i>Hymenoxys cooperi</i>	3	-
F	<i>Lepidium densiflorum (a)</i>	16	-
F	<i>Linum lewisii</i>	-	3
F	<i>Lomatium sp.</i>	3	-
F	<i>Lotus utahensis</i>	32	24
F	<i>Lupinus kingii (a)</i>	7	-
F	<i>Oenothera pallida</i>	16	5
F	<i>Orthocarpus purpureo-albus (a)</i>	7	7
F	<i>Penstemon comarrhenus</i>	73	30
F	<i>Penstemon sp.</i>	4	-
F	<i>Phlox longifolia</i>	58	61

Type	Species	Nested Frequency	
		'87	'91
F	Sphaeralcea coccinea	10	13
F	Tragopogon dubius (a)	1	-
F	Unknown forb-perennial	-	3
Total for Annual Forbs		31	7
Total for Perennial Forbs		471	350
Total for Forbs		502	357

BASIC COVER--

Management unit 25C, Study no: 12

Cover Type	Average Cover %	
	'87	'91
Vegetation	10.75	7.75
Rock	7.00	8.00
Pavement	10.75	13.00
Litter	62.25	58.50
Cryptogams	0	0
Bare Ground	9.25	12.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 12

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Amelanchier utahensis									
87	133	100	0	0	-	50	50	50	-/-
91	132	50	0	50	-	0	100	0	-/-
Artemisia nova									
87	14599	8	58	34	466	25	4	12	8/7
91	21865	16	58	26	2400	44	12	15	12/14
Chrysothamnus depressus									
87	866	23	77	0	-	23	15	0	4/4
91	1199	11	78	11	-	17	39	0	7/11

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	799	33	67	0	-	0	0	0	4/8	
91	798	33	58	8	-	42	33	0	4/7	
<i>Eriogonum microthecum</i>										
87	2798	19	64	17	333	24	5	7	4/2	
91	3465	40	58	2	-	37	8	2	5/5	
<i>Gutierrezia sarothrae</i>										
87	866	15	85	-	-	0	0	0	8/4	
91	466	14	86	-	-	0	0	0	8/6	
<i>Pinus ponderosa</i>										
87	66	100	0	0	-	0	0	0	-/-	
91	66	0	0	100	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
87	66	0	100	0	266	0	100	0	22/67	
91	798	33	58	8	600	42	42	8	7/10	
<i>Tetradymia canescens</i>										
87	66	100	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	0	0	-/-	

SHORT NECK – STUDY NO. 25C-13

HERBACEOUS TRENDS--

Management unit 25C, Study no: 13

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	5	5
G	<i>Agropyron intermedium</i>	13	11
G	<i>Bouteloua gracilis</i>	61	87
G	<i>Bromus inermis</i>	22	21
G	<i>Carex sp.</i>	33	36
G	<i>Poa fendleriana</i>	7	23
G	<i>Sitanion hystrix</i>	120	101
G	<i>Stipa comata</i>	183	154
Total for Annual Grasses		0	0
Total for Perennial Grasses		444	438
Total for Grasses		444	438
F	<i>Allium cernuum</i>	8	6
F	<i>Arabis sp.</i>	-	4
F	<i>Artemisia ludoviciana</i>	221	192
F	<i>Astragalus desperatus</i>	3	6
F	<i>Astragalus sp.</i>	-	1
F	<i>Chaenactis douglasii</i>	-	1
F	<i>Cirsium undulatum</i>	3	3
F	<i>Comandra pallida</i>	27	35
F	<i>Crepis acuminata</i>	2	5
F	Cruciferae	8	-
F	<i>Cryptantha sp.</i>	12	3
F	<i>Dalea searlsiae</i>	2	2
F	<i>Draba sp. (a)</i>	-	8
F	<i>Erigeron sp.</i>	-	8
F	<i>Eriogonum alatum</i>	3	1
F	<i>Eriogonum racemosum</i>	196	191
F	<i>Eriogonum umbellatum</i>	-	4
F	<i>Hymenopappus filifolius</i>	9	10
F	<i>Hymenoxys acaulis</i>	2	2
F	<i>Linum lewisii</i>	16	19
F	<i>Lithospermum ruderales</i>	5	8
F	<i>Lotus utahensis</i>	3	3
F	<i>Lygodesmia spinosa</i>	2	3
F	<i>Oenothera caespitosa</i>	-	1
F	<i>Penstemon comarrhenus</i>	25	18
F	<i>Phlox longifolia</i>	59	23
F	<i>Tragopogon dubius (a)</i>	14	1

WILDLIFE MANAGEMENT UNIT 25

Type	Species	Nested Frequency	
		'87	'91
F	Unknown forb-perennial	12	-
F	Viguiera multiflora	-	4
Total for Annual Forbs		14	9
Total for Perennial Forbs		618	553
Total for Forbs		632	562

BASIC COVER--

Management unit 25C, Study no: 13

Cover Type	Average Cover %	
	'87	'91
Vegetation	4.75	8.25
Rock	40.50	45.75
Pavement	8.25	6.50
Litter	42.25	35.25
Cryptogams	0	.25
Bare Ground	4.25	4.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 13

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
87	2133	62	38	-	66	16	66	0	36/17	
91	1733	8	92	-	-	96	0	0	34/27	
Ceanothus martinii										
87	66	0	100	-	-	0	0	0	14/31	
91	0	0	0	-	-	0	0	0	-/-	
Eriogonum microthecum										
87	0	0	0	0	-	0	0	0	-/-	
91	199	0	33	67	-	0	0	67	9/10	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
87	332	20	80	-	-	0	0	0	11/7	
91	200	0	100	-	-	33	0	0	6/4	
<i>Pinus edulis</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	
<i>Pinus ponderosa</i>										
87	66	0	100	-	-	0	0	0	393/236	
91	66	0	100	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
87	466	43	57	0	-	43	0	0	16/22	
91	932	50	36	14	66	43	36	0	15/35	
<i>Quercus gambelii</i>										
87	3866	21	79	0	600	0	0	22	45/28	
91	6265	66	11	23	1733	54	2	15	48/22	
<i>Symphoricarpos oreophilus</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	0	100	0	-/-	

NEW HOME BENCH – STUDY NO. 25C-14

HERBACEOUS TRENDS--

Management unit 25C, Study no: 14

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	149	144
G	<i>Oryzopsis hymenoides</i>	1	13
G	<i>Sitanion hystrix</i>	19	19
G	<i>Stipa comata</i>	25	13
G	<i>Vulpia octoflora</i> (a)	-	18
Total for Annual Grasses		0	18
Total for Perennial Grasses		194	189
Total for Grasses		194	207
F	<i>Cryptantha fulvocanescens</i>	2	-
F	<i>Machaeranthera canescens</i>	4	-
F	<i>Phlox longifolia</i>	4	-
F	<i>Sphaeralcea coccinea</i>	9	6
F	Unknown forb-perennial	3	-
Total for Annual Forbs		0	0
Total for Perennial Forbs		22	6
Total for Forbs		22	6

BASIC COVER--

Management unit 25C, Study no: 14

Cover Type	Average Cover %	
	'87	'91
Vegetation	3.00	5.75
Rock	0	0
Pavement	0	.25
Litter	27.50	20.50
Cryptogams	10.00	10.75
Bare Ground	59.50	62.75

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 14

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	2331	24	37	39	333	29	41	10	29/30	
91	2366	24	13	63	33	41	38	35	21/28	
<i>Ephedra torreyana</i>										
87	33	100	0	-	-	100	0	0	-/-	
91	66	0	100	-	-	100	0	0	9/6	
<i>Juniperus osteosperma</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	100	0	0	-/-	
<i>Opuntia sp.</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	133	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
87	66	50	50	-	33	0	0	0	118/98	
91	66	0	100	-	33	0	0	0	152/86	

STEEP CREEK BENCH – STUDY NO. 25C-15

HERBACEOUS TRENDS--

Management unit 25C, Study no: 15

Type	Species	Nested Frequency	
		'87	'91
G	Bouteloua gracilis	45	36
G	Muhlenbergia pungens	80	116
G	Oryzopsis hymenoides	22	35
G	Sporobolus cryptandrus	30	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		177	210
Total for Grasses		177	210
F	Ambrosia acanthicarpa	-	3
F	Artemisia carruthii	58	16
F	Chenopodium album (a)	-	3
F	Cryptantha cinerea	2	7
F	Dithyrea wislizenii (a)	-	5
F	Eriogonum cernuum (a)	-	3
F	Hymenopappus filifolius	5	1
F	Stephanomeria exigua (a)	-	2
F	Unknown forb-perennial	12	-
Total for Annual Forbs		0	13
Total for Perennial Forbs		77	27
Total for Forbs		77	40

BASIC COVER--

Management unit 25C, Study no: 15

Cover Type	Average Cover %	
	'87	'91
Vegetation	3.75	4.75
Rock	0	0
Pavement	0	.25
Litter	34.00	24.25
Cryptogams	4.00	6.00
Bare Ground	58.25	64.75

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 15

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	532	25	44	31	-	31	19	38	30/27	
91	466	29	7	64	-	86	7	29	13/8	
<i>Chrysothamnus nauseosus</i>										
87	33	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	2699	22	73	5	-	0	0	9	5/5	
91	233	0	100	0	33	0	0	0	8/8	
<i>Juniperus osteosperma</i>										
87	33	0	100	-	-	0	0	0	236/138	
91	33	0	100	-	-	0	0	0	236/142	
<i>Opuntia sp.</i>										
87	333	30	70	0	33	0	0	0	3/6	
91	633	63	32	5	100	5	0	5	4/10	
<i>Pinus edulis</i>										
87	33	0	100	-	33	0	0	0	157/108	
91	33	0	100	-	33	0	0	0	165/118	

WHITES FLAT – STUDY NO. 25C-16

HERBACEOUS TRENDS--

Management unit 25C, Study no: 16

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	133	124
G	<i>Carex</i> sp.	32	24
G	<i>Oryzopsis hymenoides</i>	9	19
G	<i>Poa fendleriana</i>	35	20
G	<i>Sitanion hystrix</i>	112	60
G	<i>Stipa comata</i>	37	15
Total for Annual Grasses		0	0
Total for Perennial Grasses		358	262
Total for Grasses		358	262
F	<i>Antennaria parvifolia</i>	-	4
F	<i>Arabis</i> sp.	-	3
F	<i>Artemisia carruthii</i>	17	5
F	<i>Astragalus</i> sp.	1	-
F	<i>Castilleja chromosa</i>	26	-
F	<i>Chaenactis douglasii</i>	25	8
F	Cruciferae	13	-
F	<i>Cryptantha</i> sp.	4	2
F	<i>Erigeron pumilus</i>	35	2
F	<i>Eriogonum alatum</i>	1	-
F	<i>Eriogonum racemosum</i>	23	22
F	<i>Lotus utahensis</i>	7	-
F	<i>Lupinus argenteus</i>	30	-
F	<i>Penstemon</i> sp.	6	-
F	<i>Petradoria pumila</i>	-	1
F	<i>Phlox longifolia</i>	5	5
F	<i>Sphaeralcea coccinea</i>	5	1
F	Unknown forb-perennial	4	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		202	55
Total for Forbs		202	55

BASIC COVER--

Management unit 25C, Study no: 16

Cover Type	Average Cover %	
	'87	'91
Vegetation	7.25	3.75
Rock	20.00	23.25
Pavement	6.25	6.00
Litter	61.00	59.50
Cryptogams	.50	1.00
Bare Ground	5.00	6.50

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	5066	24	51	25	133	34	24	1	23/20	
91	5265	9	35	56	66	49	11	34	14/19	
<i>Chrysothamnus viscidiflorus</i>										
87	132	50	50	0	-	0	0	0	12/12	
91	199	33	0	67	-	33	0	67	-/-	
<i>Gutierrezia sarothrae</i>										
87	1199	39	61	-	266	0	0	0	11/8	
91	600	0	100	-	-	0	0	11	11/9	
<i>Juniperus osteosperma</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	
<i>Opuntia sp.</i>										
87	66	0	100	-	133	0	0	0	3/7	
91	400	100	0	-	133	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Pinus edulis									
87	200	100	0	-	200	0	0	0	-/-
91	200	100	0	-	266	0	0	0	-/-
Pinus ponderosa									
87	66	0	100	-	-	0	0	0	393/295
91	66	0	100	-	-	0	0	0	264/142
Purshia tridentata									
87	599	78	22	0	133	11	22	0	24/33
91	799	75	17	8	66	92	8	8	20/32
Tetradymia canescens									
87	333	40	60	0	-	0	0	0	10/14
91	466	0	57	43	66	29	0	0	6/5

VARNEY-GRIFFIN CHAINING – STUDY NO. 25C-17

HERBACEOUS TRENDS--

Management unit 25C, Study no: 17

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	219	214
G	<i>Agropyron intermedium</i>	145	103
G	<i>Bouteloua gracilis</i>	144	128
G	<i>Bromus inermis</i>	122	174
G	<i>Carex</i> sp.	-	5
G	<i>Elymus salina</i>	-	7
G	<i>Oryzopsis hymenoides</i>	11	5
G	<i>Poa fendleriana</i>	10	4
G	<i>Sitanion hystrix</i>	9	2
G	<i>Sporobolus cryptandrus</i>	-	12
G	<i>Stipa comata</i>	59	56
Total for Annual Grasses		0	0
Total for Perennial Grasses		719	710
Total for Grasses		719	710
F	<i>Arabis</i> sp.	-	1
F	<i>Artemisia ludoviciana</i>	4	3
F	<i>Astragalus</i> sp.	2	2
F	<i>Comandra pallida</i>	29	22
F	<i>Cryptantha</i> sp.	10	6
F	<i>Descurainia pinnata</i> (a)	6	-
F	<i>Erigeron</i> sp.	-	6
F	<i>Eriogonum racemosum</i>	4	4
F	<i>Eriogonum umbellatum</i>	6	5
F	<i>Gilia</i> sp. (a)	1	-
F	<i>Lesquerella rectipes</i>	18	12
F	<i>Lupinus argenteus</i>	58	27
F	<i>Machaeranthera canescens</i>	11	-
F	<i>Oenothera pallida</i>	3	12
F	<i>Oenothera</i> sp.	1	3
F	<i>Penstemon comarrhenus</i>	-	5
F	<i>Penstemon pachyphyllus</i>	8	1
F	<i>Penstemon</i> sp.	23	5
F	<i>Phlox longifolia</i>	2	8
F	<i>Senecio multilobatus</i>	49	3
F	<i>Sphaeralcea coccinea</i>	8	22
Total for Annual Forbs		7	0
Total for Perennial Forbs		236	147

WILDLIFE MANAGEMENT UNIT 25

Type	Species	Nested Frequency	
		'87	'91
Total for Forbs		243	147

BASIC COVER--

Management unit 25C, Study no: 17

Cover Type	Average Cover %	
	'87	'91
Vegetation	6.25	10.75
Rock	0	.50
Pavement	1.25	2.25
Litter	74.75	65.00
Cryptogams	.50	1.75
Bare Ground	17.25	19.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 17

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	66	0	100	-	-	50	0	0	25/21	
91	66	0	100	-	-	0	0	0	29/31	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	33	0	100	-	-	0	0	0	14/9	
<i>Gutierrezia sarothrae</i>										
87	2999	21	78	1	133	0	0	0	9/8	
91	566	41	53	6	333	6	0	18	7/8	
<i>Juniperus osteosperma</i>										
87	33	100	0	-	-	0	0	0	-/-	
91	33	100	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Pinus edulis										
87	0	0	0	-	266	0	0	0	-/-	
91	233	100	0	-	100	0	0	43	-/-	
Pinus ponderosa										
87	0	0	0	-	33	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
Purshia tridentata										
87	33	0	100	0	-	0	100	0	12/33	
91	33	0	0	100	-	0	100	0	-/-	

ALLEN CANYON – STUDY NO. 25C-18

HERBACEOUS TRENDS--

Management unit 25C, Study no: 18

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	200	222
G	<i>Carex</i> sp.	5	2
G	<i>Oryzopsis hymenoides</i>	-	8
G	<i>Poa fendleriana</i>	-	7
G	<i>Sitanion hystrix</i>	82	78
G	<i>Sporobolus cryptandrus</i>	8	21
G	<i>Stipa comata</i>	47	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		342	348
Total for Grasses		342	348
F	<i>Artemesia carruthii</i>	14	4
F	<i>Astragalus humistratus</i>	3	11
F	<i>Chaenactis douglasii</i>	14	14
F	<i>Comandra pallida</i>	10	-
F	Cruciferae	6	-
F	<i>Erigeron flagellaris</i>	11	14
F	<i>Eriogonum racemosum</i>	3	4
F	<i>Hymenoxys acaulis</i>	5	3
F	<i>Lathyrus pauciflorus</i>	13	-
F	<i>Lotus utahensis</i>	-	10
F	<i>Lupinus argenteus</i>	133	12
F	<i>Oenothera caespitosa</i>	2	-
F	<i>Phlox longifolia</i>	13	33
F	<i>Sphaeralcea coccinea</i>	15	3
F	<i>Taraxacum officinale</i>	1	-
F	<i>Tragopogon dubius</i> (a)	11	8
F	Unknown forb-perennial	3	2
Total for Annual Forbs		11	8
Total for Perennial Forbs		246	110
Total for Forbs		257	118

BASIC COVER--

Management unit 25C, Study no: 18

Cover Type	Average Cover %	
	'87	'91
Vegetation	8.50	7.50
Rock	.50	1.25
Pavement	6.00	8.00
Litter	72.50	63.25
Cryptogams	0	0
Bare Ground	12.50	20.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus nauseosus</i>										
87	466	86	14	-	-	0	0	0	8/10	
91	66	0	100	-	-	0	100	0	12/4	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	199	0	67	33	-	0	0	0	15/10	
91	198	33	33	33	-	0	33	33	4/3	
<i>Gutierrezia sarothrae</i>										
87	4199	27	71	2	133	0	0	0	8/5	
91	2799	45	55	0	66	0	10	0	6/5	
<i>Opuntia sp.</i>										
87	600	100	0	-	-	0	0	0	-/-	
91	399	67	33	-	333	0	0	0	4/6	
<i>Purshia tridentata</i>										
87	199	67	33	0	66	67	0	0	24/28	
91	333	40	0	60	-	100	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Quercus gambelii</i>									
87	9465	85	11	4	666	34	0	0	98/47
91	5865	76	15	9	999	10	0	0	110/45
<i>Symphoricarpos oreophilus</i>									
87	3799	54	40	5	200	32	21	26	16/29
91	4399	33	50	17	200	33	21	8	20/23
<i>Tetradymia canescens</i>									
87	66	0	100	0	-	0	0	0	11/16
91	66	0	0	100	-	0	100	0	-/-

ROCK BENCH – STUDY NO. 25C-19

HERBACEOUS TRENDS--

Management unit 25C, Study no: 19

Type	Species	Nest Frequency	
		'87	'91
G	Agropyron cristatum	72	86
G	Agropyron intermedium	3	2
G	Bouteloua gracilis	189	201
G	Bromus inermis	28	45
G	Oryzopsis hymenoides	-	5
G	Phleum pratense	2	-
G	Poa fendleriana	10	7
G	Sitanion hystrix	120	84
G	Stipa comata	25	44
Total for Annual Grasses		0	0
Total for Perennial Grasses		449	474
Total for Grasses		449	474
F	Arabis sp.	61	5
F	Artemesia carruthii	3	-
F	Astragalus sp.	8	5
F	Calochortus nuttallii	1	-
F	Cruciferae	20	-
F	Cryptantha bakeri	6	-
F	Cryptantha sp.	-	3
F	Dalea searlsiae	1	-
F	Erigeron pumilus	4	4
F	Erigeron sp.	2	-
F	Eriogonum racemosum	16	14
F	Eriogonum umbellatum	1	-
F	Linum lewisii	2	-
F	Lotus utahensis	-	2
F	Lygodesmia spinosa	12	21
F	Penstemon comarrhenus	9	3
F	Penstemon sp.	-	3
F	Phlox longifolia	21	10
F	Sphaeralcea coccinea	15	13
F	Trifolium sp.	3	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		185	85
Total for Forbs		185	85

BASIC COVER--

Management unit 25C, Study no: 19

Cover Type	Average Cover %	
	'87	'91
Vegetation	8.50	13.25
Rock	21.25	23.50
Pavement	8.50	5.50
Litter	51.00	45.00
Cryptogams	0	0
Bare Ground	10.75	12.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	266	75	0	25	-	25	0	0	-/-	
91	399	33	67	0	-	50	50	0	34/29	
<i>Artemisia nova</i>										
87	2465	3	84	14	66	30	3	8	13/15	
91	2799	17	57	26	-	31	5	7	14/20	
<i>Artemisia tridentata vaseyana</i>										
87	0	0	0	0	-	0	0	0	-/-	
91	665	50	10	40	66	10	0	10	14/11	
<i>Pinus edulis</i>										
87	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Purshia tridentata</i>										
87	1533	26	74	0	-	61	9	0	21/16	
91	1599	17	33	50	-	67	21	13	17/25	

BALDYS – STUDY NO. 25C-20

HERBACEOUS TRENDS--

Management unit 25C, Study no: 20

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron trachycaulum</i>	13	7
G	<i>Bromus anomalus</i>	8	18
G	<i>Bromus carinatus</i>	-	9
G	<i>Carex obtusata</i>	66	126
G	<i>Dactylis glomerata</i>	16	-
G	<i>Festuca ovina</i>	101	86
G	<i>Juncus balticus</i>	38	47
G	<i>Muhlenbergia richardsonis</i>	-	10
G	<i>Poa fendleriana</i>	32	1
G	<i>Poa pratensis</i>	134	193
G	<i>Sitanion hystrix</i>	12	40
G	<i>Stipa comata</i>	1	1
G	<i>Stipa lettermani</i>	59	24
Total for Annual Grasses		0	0
Total for Perennial Grasses		480	562
Total for Grasses		480	562
F	<i>Achillea millefolium</i>	154	140
F	<i>Allium cernuum</i>	62	28
F	<i>Antennaria parvifolia</i>	13	14
F	<i>Arabis drummondi</i>	3	24
F	<i>Artemisia ludoviciana</i>	2	-
F	<i>Aster chilensis</i>	-	23
F	<i>Cirsium vulgare</i>	5	-
F	<i>Cymopterus lemmonii</i>	33	40
F	<i>Erigeron flagellaris</i>	25	12
F	<i>Erigeron sp.</i>	18	4
F	<i>Eriogonum racemosum</i>	-	3
F	<i>Gentiana amarella heterosepala</i>	-	2
F	<i>Geranium richardsonii</i>	36	26
F	<i>Helenium hoopesii</i>	34	33
F	<i>Iris missouriensis</i>	21	17
F	<i>Lupinus argenteus</i>	7	12
F	<i>Penstemon sp.</i>	1	-
F	<i>Phacelia heterophylla</i>	-	2
F	<i>Phlox austromontana</i>	-	3
F	<i>Potentilla gracilis</i>	-	1
F	<i>Senecio eremophilus</i>	8	-

WILDLIFE MANAGEMENT UNIT 25

Type	Species	Nested Frequency	
		'87	'91
F	Taraxacum officinale	224	221
F	Trifolium gymnocarpon	1	-
F	Unknown forb-perennial	4	-
F	Vicia americana	68	73
F	Viola sp.	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		719	681
Total for Forbs		719	681

BASIC COVER--

Management unit 25C, Study no: 20

Cover Type	Average Cover %	
	'87	'91
Vegetation	4.00	3.50
Rock	8.25	6.25
Pavement	0	0
Litter	85.75	85.25
Cryptogams	0	.25
Bare Ground	2.00	4.75

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 20

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Chrysothamnus nauseosus									
87	0	0	0	-	-	0	0	0	-/-
91	0	0	0	-	66	0	0	0	-/-
Populus tremuloides									
87	999	53	40	7	-	20	20	7	341/144
91	932	50	50	0	-	36	0	14	355/124
Ribes montigenum									
87	66	0	100	-	-	0	0	0	30/39
91	66	0	100	-	-	0	0	0	35/55

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Rosa woodsii</i>										
87	132	50	0	50	-	0	50	0	-/-	
91	66	100	0	0	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
87	2399	31	69	0	66	61	25	0	18/27	
91	6266	31	56	13	66	29	7	4	16/24	

GRIFFIN – STUDY NO. 25C-21

HERBACEOUS TRENDS--

Management unit 25C, Study no: 21

Type	Species	Nested Frequency	
		'87	'91
G	Agropyron trachycaulum	-	5
G	Bromus carinatus	4	3
G	Carex obtusata	239	258
G	Poa fendleriana	31	42
G	Poa pratensis	81	100
G	Sitanion hystrix	27	19
G	Stipa columbiana	1	-
G	Stipa lettermani	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		383	437
Total for Grasses		383	437
F	Antennaria parvifolia	-	6
F	Cirsium wheeleri	3	2
F	Corallorhiza sp.	-	1
F	Descurainia pinnata (a)	-	1
F	Lupinus argenteus	-	1
F	Osmorhiza occidentalis	4	4
F	Penstemon sp.	3	-
F	Taraxacum officinale	8	3
F	Unknown forb-perennial	-	1
Total for Annual Forbs		0	1
Total for Perennial Forbs		18	18
Total for Forbs		18	19

BASIC COVER--

Management unit 25C, Study no: 21

Cover Type	Average Cover %	
	'87	'91
Vegetation	2.00	1.25
Rock	.25	.25
Pavement	0	0
Litter	94.50	98.00
Cryptogams	0	0
Bare Ground	3.25	.50

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 21

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Abies concolor</i>										
87	66	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Amelanchier alnifolia</i>										
87	200	100	0	-	-	0	0	0	-/-	
91	0	0	0	-	-	0	0	0	-/-	
<i>Mahonia repens</i>										
87	866	92	8	-	-	0	0	38	7/5	
91	733	73	27	-	133	0	0	0	4/7	
<i>Populus tremuloides</i>										
87	1932	55	45	-	733	24	14	0	393/100	
91	1133	35	65	-	800	0	0	0	393/143	
<i>Pseudotsuga menziesii</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	100	0	-	-	100	0	0	-/-	
<i>Quercus gambelii</i>										
87	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	
<i>Rosa woodsii</i>										
87	999	100	0	-	200	7	0	0	-/-	
91	466	71	29	-	-	14	0	0	22/6	

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
87	6199	61	39	0	266	42	1	0	14/14	
91	9799	42	56	1	66	2	0	0	11/10	

SALT GULCH – STUDY NO. 25C-22

HERBACEOUS TRENDS--

Management unit 25C, Study no: 22

Type	Species	Nest Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	82	74
G	<i>Carex</i> sp.	6	2
G	<i>Hilaria jamesii</i>	-	3
G	<i>Oryzopsis hymenoides</i>	58	49
G	<i>Poa fendleriana</i>	4	-
G	<i>Sitanion hystrix</i>	29	16
G	<i>Stipa comata</i>	2	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		181	144
Total for Grasses		181	144
F	<i>Arabis holboellii</i>	2	-
F	<i>Artemisia dracunculus</i>	-	4
F	<i>Astragalus</i> sp.	-	2
F	<i>Chaenactis douglasii</i>	1	-
F	<i>Cryptantha fulvocanescens</i>	27	17
F	<i>Dalea searlsiae</i>	11	4
F	<i>Hymenoxys acaulis</i>	9	9
F	<i>Hymenoxys cooperi</i>	17	5
F	<i>Ipomopsis aggregata</i>	-	2
F	<i>Lesquerella ludoviciana</i>	63	59
F	<i>Orthocarpus purpureo-albus</i> (a)	7	-
F	<i>Penstemon strictus</i>	1	1
F	<i>Psilostrophe sparsiflora</i>	11	9
F	<i>Salsola iberica</i> (a)	-	6
F	<i>Streptanthus cordatus</i>	-	4
F	<i>Townsendia incana</i>	6	6
Total for Annual Forbs		7	6
Total for Perennial Forbs		148	122
Total for Forbs		155	128

WILDLIFE MANAGEMENT UNIT 25

BASIC COVER--

Management unit 25C, Study no: 22

Cover Type	Average Cover %	
	'87	'91
Vegetation	3.25	1.25
Rock	27.00	28.75
Pavement	6.50	11.75
Litter	46.25	40.00
Cryptogams	0	.25
Bare Ground	17.00	18.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 22

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Gutierrezia sarothrae</i>										
87	8199	21	79	0	266	0	0	0	8/8	
91	665	40	50	10	66	0	0	10	4/4	
<i>Juniperus osteosperma</i>										
87	266	25	75	0	66	0	0	25	171/118	
91	199	33	0	67	-	0	0	33	-/-	
<i>Opuntia sp.</i>										
87	199	33	67	0	133	0	0	0	7/13	
91	666	50	30	20	66	0	0	10	8/11	
<i>Pinus edulis</i>										
87	66	0	100	-	-	0	0	0	138/63	
91	66	100	0	-	-	0	0	0	-/-	

COAL BENCH – STUDY NO. 25C-23

HERBACEOUS TRENDS--

Management unit 25C, Study no: 23

Type	Species	Nested Frequency	
		'87	'91
G	Agropyron cristatum	277	250
G	Aristida purpurea	-	3
G	Oryzopsis hymenoides	3	5
G	Sitanion hystrix	1	-
G	Unknown grass - perennial	3	-
Total for Annual Grasses		0	0
Total for Perennial Grasses		284	258
Total for Grasses		284	258
F	Arabis demissa	-	4
F	Astragalus sp.	3	-
F	Cruciferae	1	-
F	Cryptantha sp.	40	32
F	Ipomopsis aggregata	2	-
F	Lesquerella intermedia	2	-
F	Lithospermum ruderales	6	-
F	Penstemon sp.	-	2
F	Phlox austromontana	2	3
F	Townsendia incana	2	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		58	42
Total for Forbs		58	42

BASIC COVER--

Management unit 25C, Study no: 23

Cover Type	Average Cover %	
	'87	'91
Vegetation	4.25	5.50
Rock	.50	1.50
Pavement	10.00	4.75
Litter	53.75	45.75
Cryptogams	.50	1.00
Bare Ground	31.00	41.50

WILDLIFE MANAGEMENT UNIT 25

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 23

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
87	933	32	68	0	3133	29	7	4	10/14
91	4599	70	27	3	33	64	2	0	8/10
<i>Artemisia tridentata wyomingensis</i>									
87	33	0	100	-	-	0	0	0	26/16
91	33	0	100	-	-	100	0	0	20/27
<i>Chrysothamnus nauseosus</i>									
87	33	0	0	100	-	100	0	0	-/-
91	0	0	0	0	-	0	0	0	-/-
<i>Cowania mexicana stansburiana</i>									
87	66	0	100	-	-	100	0	0	84/96
91	33	0	100	-	33	0	0	0	93/107
<i>Opuntia sp.</i>									
87	0	0	0	0	-	0	0	0	-/-
91	99	33	33	33	-	0	0	0	4/8
<i>Pinus edulis</i>									
87	33	100	0	-	-	0	0	0	-/-
91	0	0	0	-	-	0	0	0	-/-

BLACK RIDGE – STUDY NO. 25C-24

HERBACEOUS TRENDS--

Management unit 25C, Study no: 24

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	85	107
G	<i>Hilaria jamesii</i>	3	-
G	<i>Muhlenbergia pungens</i>	67	78
G	<i>Oryzopsis hymenoides</i>	25	39
G	<i>Sitanion hystrix</i>	6	7
G	<i>Sporobolus cryptandrus</i>	-	17
G	<i>Stipa comata</i>	16	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		202	252
Total for Grasses		202	252
F	<i>Artemisia carruthii</i>	28	39
F	<i>Astragalus convallarius</i>	34	15
F	<i>Cordylanthus wrightii</i> (a)	85	-
F	Cruciferae	7	-
F	<i>Cryptantha cinerea</i>	14	14
F	<i>Eriogonum cernuum</i> (a)	55	10
F	<i>Heterotheca villosa</i>	3	2
F	<i>Hymenopappus filifolius</i>	2	10
F	<i>Machaeranthera canescens</i>	-	11
F	<i>Oenothera pallida</i>	-	3
F	<i>Tradescantia occidentalis</i>	7	25
F	Unknown forb-perennial	3	-
Total for Annual Forbs		140	10
Total for Perennial Forbs		98	119
Total for Forbs		238	129

BASIC COVER--

Management unit 25C, Study no: 24

Cover Type	Average Cover %	
	'87	'91
Vegetation	7.25	9.75
Rock	0	0
Pavement	0	0
Litter	44.00	34.00
Cryptogams	3.00	3.25
Bare Ground	45.75	53.00

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 24

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
87	4799	1	36	63	-	36	7	14	22/21	
91	3666	4	11	85	66	36	4	25	23/24	
<i>Pinus edulis</i>										
87	0	0	0	-	66	0	0	0	-/-	
91	0	0	0	-	133	0	0	0	-/-	

CENTER CREEK – STUDY NO. 25C-25

HERBACEOUS TRENDS--

Management unit 25C, Study no: 25

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	110	148
G	<i>Agropyron intermedium</i>	19	11
G	<i>Agropyron spicatum</i>	4	3
G	<i>Bouteloua gracilis</i>	26	27
G	<i>Bromus inermis</i>	58	124
G	<i>Bromus japonicus</i> (a)	6	-
G	<i>Carex</i> sp.	8	3
G	<i>Festuca ovina</i>	-	1
G	<i>Poa fendleriana</i>	49	62
G	<i>Sitanion hystrix</i>	126	200
G	<i>Stipa comata</i>	-	54
G	<i>Stipa pinetorum</i>	171	198
Total for Annual Grasses		6	0
Total for Perennial Grasses		571	831
Total for Grasses		577	831
F	<i>Agoseris glauca</i>	-	4
F	<i>Androsace septentrionalis</i> (a)	14	5
F	<i>Antennaria parvifolia</i>	-	1
F	<i>Astragalus convallarius</i>	-	4
F	<i>Chaenactis douglasii</i>	37	46
F	Cruciferae	4	6
F	<i>Descurainia pinnata</i> (a)	17	22
F	<i>Dracocephalum parviflorum</i>	2	-
F	<i>Erigeron eatonii</i>	-	16
F	<i>Erigeron flagellaris</i>	-	8
F	<i>Erigeron pumilus</i>	13	33
F	<i>Eriogonum cernuum</i> (a)	-	2
F	<i>Eriogonum hookeri</i> (a)	12	9
F	<i>Eriogonum racemosum</i>	63	79
F	<i>Hymenoxys richardsonii</i>	-	3
F	<i>Ipomopsis aggregata</i>	-	4
F	<i>Lappula occidentalis</i> (a)	3	5
F	<i>Lotus utahensis</i>	188	136
F	<i>Lupinus sericeus</i>	132	59
F	<i>Lychnis drummondii</i>	1	22
F	<i>Machaeranthera canescens</i>	-	3
F	<i>Penstemon comarrhenus</i>	12	9

Type	Species	Nested Frequency	
		'87	'91
F	Phlox longifolia	198	79
F	Potentilla hippiana	1	-
F	Senecio multilobatus	8	34
F	Taraxacum officinale	209	187
F	Tragopogon dubius (a)	6	6
Total for Annual Forbs		52	49
Total for Perennial Forbs		868	733
Total for Forbs		920	782

BASIC COVER--

Management unit 25C, Study no: 25

Cover Type	Average Cover %	
	'87	'91
Vegetation	18.25	11.25
Rock	.50	.75
Pavement	41.50	42.00
Litter	30.25	35.75
Cryptogams	0	0
Bare Ground	9.50	10.25

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata vaseyana										
87	200	100	0	-	66	0	0	0	-/-	
91	733	73	27	-	200	27	0	0	10/12	
Chrysothamnus nauseosus										
87	66	0	100	-	-	0	0	0	26/26	
91	333	60	40	-	-	0	0	0	34/35	
Chrysothamnus viscidiflorus viscidiflorus										
87	3999	2	98	-	-	0	0	0	19/23	
91	35066	85	15	-	34866	.57	0	2	23/30	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Tetradymia canescens										
87	533	38	62	-	-	0	0	0	11/11	
91	533	62	38	-	-	13	0	0	13/17	

BLACK CANYON – STUDY NO. 25C-26

HERBACEOUS TRENDS--

Management unit 25C, Study no: 26

Type	Species	Nestled Frequency	
		'87	'91
G	Aristida purpurea	8	-
G	Bouteloua gracilis	261	251
G	Sitanion hystrix	1	1
G	Sporobolus cryptandrus	2	17
G	Stipa comata	11	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		283	281
Total for Grasses		283	281
F	Astragalus sp.	15	32
F	Chenopodium sp. (a)	-	43
F	Erigeron pumilus	7	-
F	Machaeranthera canescens	1	-
F	Phlox longifolia	5	1
F	Sphaeralcea coccinea	9	6
F	Unknown forb-perennial	15	-
Total for Annual Forbs		0	43
Total for Perennial Forbs		52	39
Total for Forbs		52	82

BASIC COVER--

Management unit 25C, Study no: 26

Cover Type	Average Cover %	
	'87	'91
Vegetation	12.00	14.50
Rock	7.00	7.50
Pavement	34.00	43.75
Litter	36.25	24.50
Cryptogams	0	0
Bare Ground	10.75	9.75

BROWSE CHARACTERISTICS--
Management unit 25C, Study no: 26

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	0	0	0	0	-	0	0	0	-/-	
91	133	0	0	100	-	100	0	50	-/-	
<i>Artemisia tridentata wyomingensis</i>										
87	6799	65	30	5	533	53	29	0	11/18	
91	8732	55	19	26	133	83	11	17	7/17	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
87	1065	63	31	6	66	13	0	0	10/13	
91	1599	13	58	29	-	50	0	21	5/6	
<i>Gutierrezia sarothrae</i>										
87	11999	28	68	4	800	0	0	1	7/6	
91	2266	15	76	9	66	9	0	6	6/6	
<i>Opuntia sp.</i>										
87	66	0	100	-	-	0	0	0	3/4	
91	66	100	0	-	-	0	0	0	-/-	

POISON CREEK BENCH – STUDY NO. 25C-27

HERBACEOUS TRENDS--

Management unit 25C, Study no: 27

Type	Species	Nested Frequency	
		'87	'91
G	<i>Bouteloua gracilis</i>	64	73
G	<i>Bromus inermis</i>	8	-
G	<i>Carex</i> sp.	36	48
G	<i>Koeleria cristata</i>	6	9
G	<i>Poa fendleriana</i>	84	69
G	<i>Sitanion hystrix</i>	160	158
G	<i>Stipa comata</i>	-	35
G	<i>Stipa lettermani</i>	147	149
Total for Annual Grasses		0	0
Total for Perennial Grasses		505	541
Total for Grasses		505	541
F	<i>Agoseris glauca</i>	-	1
F	<i>Antennaria parvifolia</i>	25	19
F	<i>Arabis demissa</i>	53	27
F	<i>Artemisia ludoviciana</i>	2	-
F	<i>Astragalus convallarius</i>	13	8
F	<i>Astragalus</i> sp.	3	-
F	<i>Castilleja linariaefolia</i>	69	33
F	<i>Chaenactis douglasii</i>	63	8
F	<i>Crepis acuminata</i>	-	3
F	Cruciferae	-	2
F	<i>Cryptantha flavoculata</i>	5	20
F	<i>Erigeron eatonii</i>	72	79
F	<i>Erigeron pumilus</i>	37	32
F	<i>Eriogonum racemosum</i>	67	68
F	<i>Eriogonum umbellatum</i>	35	38
F	<i>Gilia</i> sp. (a)	23	-
F	<i>Hymenoxys richardsonii</i>	5	7
F	<i>Ipomopsis aggregata</i>	1	4
F	<i>Linum lewisii</i>	6	7
F	<i>Lotus utahensis</i>	118	28
F	<i>Lupinus argenteus</i>	101	59
F	<i>Lychnis drummondii</i>	-	12
F	<i>Lygodesmia spinosa</i>	10	13
F	<i>Machaeranthera canescens</i>	26	13
F	<i>Penstemon comarrhenus</i>	17	6
F	<i>Petradoria pumila</i>	2	3
F	<i>Phlox longifolia</i>	67	65

Type	Species	Nested Frequency	
		'87	'91
F	Potentilla hippiana	6	3
F	Senecio multilobatus	108	23
F	Taraxacum officinale	7	4
F	Unknown forb-perennial	2	-
Total for Annual Forbs		23	0
Total for Perennial Forbs		920	585
Total for Forbs		943	585

BASIC COVER--

Management unit 25C, Study no: 27

Cover Type	Average Cover %	
	'87	'91
Vegetation	11.75	7.50
Rock	20.50	13.75
Pavement	18.75	26.50
Litter	44.25	45.00
Cryptogams	.25	.25
Bare Ground	4.50	7.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 27

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata vaseyana									
87	8398	25	53	22	1799	21	10	2	28/24
91	8331	22	41	37	800	31	2	8	25/24
Chrysothamnus parryi									
87	732	64	9	27	200	0	0	0	8/6
91	799	33	25	42	-	17	33	25	7/7
Chrysothamnus viscidiflorus viscidiflorus									
87	666	30	70	0	133	0	0	0	15/18
91	999	20	67	13	133	33	7	7	6/6

WILDLIFE MANAGEMENT UNIT 25

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Leptodactylon pungens</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	199	67	33	-	-	0	0	0	9/10	
<i>Purshia tridentata</i>										
87	1332	10	70	20	133	25	70	0	23/29	
91	1532	4	13	83	66	26	26	48	11/14	
<i>Tetradymia canescens</i>										
87	133	0	100	-	-	0	0	0	11/10	
91	399	83	17	-	-	33	0	0	4/3	

NORTH CREEK – STUDY NO. 25C-28

HERBACEOUS TRENDS--

Management unit 25C, Study no: 28

Type	Species	Nested Frequency	
		'87	'91
G	<i>Agropyron cristatum</i>	28	10
G	<i>Agropyron spicatum</i>	2	-
G	<i>Bouteloua gracilis</i>	-	2
G	<i>Bromus inermis</i>	12	6
G	<i>Oryzopsis hymenoides</i>	9	2
G	<i>Poa fendleriana</i>	-	3
G	<i>Poa secunda</i>	2	3
G	<i>Sitanion hystrix</i>	82	90
G	<i>Stipa lettermani</i>	19	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		154	120
Total for Grasses		154	120
F	<i>Antennaria</i> sp.	1	1
F	<i>Arabis</i> sp.	16	6
F	<i>Astragalus beckwithii</i>	-	7
F	<i>Astragalus convallarius</i>	2	3
F	<i>Chaenactis douglasii</i>	-	6
F	<i>Crepis acuminata</i>	-	4
F	<i>Cryptantha bakeri</i>	10	8
F	<i>Erigeron pumilus</i>	-	3
F	<i>Eriogonum racemosum</i>	7	6
F	<i>Hymenopappus filifolius</i>	10	-
F	<i>Hymenoxys richardsonii</i>	12	4
F	<i>Linum lewisii</i>	4	2
F	<i>Lotus utahensis</i>	5	4
F	<i>Lygodesmia spinosa</i>	16	11
F	<i>Machaeranthera canescens</i>	13	6
F	<i>Oenothera caespitosa</i>	8	7
F	<i>Petradoria pumila</i>	15	14
F	<i>Phlox longifolia</i>	9	20
F	<i>Physaria</i> sp.	-	3
F	<i>Senecio multilobatus</i>	11	-
F	<i>Streptanthus cordatus</i>	4	3
F	<i>Tragopogon dubius</i> (a)	1	-
F	Unknown forb-perennial	17	-
Total for Annual Forbs		1	0
Total for Perennial Forbs		160	118

WILDLIFE MANAGEMENT UNIT 25

Type	Species	Nested Frequency	
		'87	'91
Total for Forbs		161	118

BASIC COVER--

Management unit 25C, Study no: 28

Cover Type	Average Cover %	
	'87	'91
Vegetation	2.50	4.25
Rock	18.75	21.25
Pavement	34.00	31.25
Litter	39.75	36.25
Cryptogams	0	0
Bare Ground	5.00	7.00

BROWSE CHARACTERISTICS--

Management unit 25C, Study no: 28

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	266	0	100	-	-	50	0	0	9/11	
91	0	0	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
87	8465	6	78	16	-	35	0	0	12/15	
91	12599	6	68	26	-	28	6	15	12/16	
<i>Chrysothamnus nauseosus</i>										
87	0	0	0	0	-	0	0	0	-/-	
91	266	0	50	50	-	0	75	25	4/4	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	466	0	100	0	-	0	0	0	11/7	
91	266	0	75	25	-	50	0	0	5/5	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Eriogonum microthecum</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	66	0	100	-	-	0	0	0	5/8	
<i>Gutierrezia sarothrae</i>										
87	800	0	100	0	-	0	0	0	9/7	
91	1132	12	77	12	-	0	0	6	7/5	
<i>Juniperus scopulorum</i>										
87	0	0	0	-	-	0	0	0	-/-	
91	0	0	0	-	66	0	0	0	-/-	
<i>Purshia tridentata</i>										
87	599	11	89	0	-	22	0	0	33/37	
91	1666	12	56	32	200	84	8	0	35/44	

WILDLIFE MANAGEMENT UNIT 27

PROCTOR CANYON – STUDY NO. 27-1

HERBACEOUS TRENDS--

Management unit 27, Study no: 1

Typ e	Species	Nested Frequenc y '87
G	Agropyron spicatum	6
G	Agropyron trachycaulum	185
G	Bouteloua gracilis	34
G	Bromus anomalus	8
G	Carex sp.	64
G	Koeleria cristata	54
G	Poa fendleriana	88
G	Stipa comata	17
G	Stipa lettermani	133
Total for Annual Grasses		0
Total for Perennial Grasses		589
Total for Grasses		589
F	Achillea millefolium	74
F	Artemisia dracunculus	40
F	Artemisia ludoviciana	15
F	Aster chilensis	95
F	Astragalus humistratus	16
F	Astragalus tenellus	27
F	Chaenactis douglasii	7
F	Cirsium arizonicum	37
F	Cruciferae	5
F	Erigeron flagellaris	148
F	Erigeron pumilus	1
F	Eriogonum racemosum	36
F	Eriogonum umbellatum	23
F	Hymenoxys richardsonii	13
F	Ipomopsis aggregata	6
F	Linum lewisii	4
F	Lotus utahensis	4
F	Machaeranthera canescens	12
F	Orthocarpus luteus (a)	6
F	Penstemon comarrhenus	50
F	Phlox longifolia	37
F	Potentilla hippiana	65
F	Senecio douglasii	6

Type	Species	Nested Frequency '87
F	Taraxacum officinale	42
F	Tragopogon dubius (a)	31
Total for Annual Forbs		37
Total for Perennial Forbs		763
Total for Forbs		800

BASIC COVER--

Management unit 27, Study no: 1

Cover Type	Average Cover % '87
Vegetation	11.00
Rock	2.25
Pavement	5.25
Litter	64.50
Cryptogams	0
Bare Ground	17.00

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 1

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier utahensis									
87	466	57	43	-	66	0	86	43	52/49
Artemisia nova									
87	3531	13	51	36	-	38	45	4	14/19
Chrysothamnus depressus									
87	133	0	100	-	-	50	50	0	4/7
Chrysothamnus parryi attenuatus									
87	3732	14	71	14	200	14	2	0	17/16
Gutierrezia sarothrae									
87	333	0	100	-	-	0	0	0	7/6

WILDLIFE MANAGEMENT UNIT 27

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
87	2732	20	78	2	333	24	68	0	22/35	
<i>Tetradymia canescens</i>										
87	1266	32	68	-	200	37	16	0	9/10	

AHLSTROM HOLLOW – STUDY NO. 27-2

HERBACEOUS TRENDS--

Management unit 27, Study no: 2

Type	Species	Nested Frequency '87
G	<i>Agropyron trachycaulum</i>	8
G	<i>Bouteloua gracilis</i>	96
G	<i>Bromus inermis</i>	2
G	<i>Koeleria cristata</i>	148
G	<i>Poa fendleriana</i>	129
G	<i>Poa secunda</i>	229
G	<i>Stipa comata</i>	130
Total for Annual Grasses		0
Total for Perennial Grasses		742
Total for Grasses		742
F	<i>Antennaria</i> sp.	7
F	Cruciferae	6
F	<i>Cryptantha bakeri</i>	60
F	<i>Erigeron eatonii</i>	14
F	<i>Erigeron pumilus</i>	11
F	<i>Eriogonum racemosum</i>	6
F	<i>Eriogonum umbellatum</i>	20
F	<i>Euphorbia robusta</i>	11
F	<i>Heterotheca villosa</i>	15
F	<i>Lotus utahensis</i>	34
F	<i>Orthocarpus luteus</i> (a)	21
F	<i>Penstemon comarrhenus</i>	36
F	<i>Phlox longifolia</i>	29
F	<i>Tragopogon dubius</i> (a)	2
F	Unknown forb-perennial	1
Total for Annual Forbs		23
Total for Perennial Forbs		250
Total for Forbs		273

BASIC COVER--

Management unit 27, Study no: 2

Cover Type	Average Cover % '87
Vegetation	5.50
Rock	1.25
Pavement	12.75
Litter	66.25
Cryptogams	0
Bare Ground	14.25

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 2

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia nova										
87	9532	24	64	11	2600	33	13	0	16/20	
Chrysothamnus depressus										
87	3132	8	87	4	800	17	15	0	4/10	
Chrysothamnus viscidiflorus viscidiflorus										
87	3332	14	76	10	733	32	4	0	16/18	
Opuntia sp.										
87	133	0	100	-	-	0	0	0	3/8	
Tetradymia canescens										
87	266	0	100	-	-	75	0	0	9/9	

WHITEMAN BENCH – STUDY NO. 27-3

HERBACEOUS TRENDS--

Management unit 27, Study no: 3

Type	Species	Nested Frequency '87
G	Carex sp.	57
G	Koeleria cristata	12
G	Oryzopsis hymenoides	21
G	Poa fendleriana	209
G	Sitanion hystrix	87
G	Stipa comata	19
G	Stipa lettermani	93
G	Stipa sp.	3
Total for Annual Grasses		0
Total for Perennial Grasses		501
Total for Grasses		501
F	Antennaria sp.	2
F	Arabis demissa	10
F	Arenaria fendleri	33
F	Artemisia ludoviciana	5
F	Aster chilensis	25
F	Astragalus humistratus	11
F	Cruciferae	8
F	Erigeron flagellaris	7
F	Erigeron pumilus	5
F	Erigeron sp.	5
F	Eriogonum racemosum	24
F	Erysimum asperum	18
F	Ipomopsis aggregata	6
F	Orthocarpus luteus (a)	5
F	Penstemon sp.	5
F	Petradoria pumila	88
F	Tragopogon dubius (a)	4
F	Unknown forb-perennial	1
Total for Annual Forbs		9
Total for Perennial Forbs		253
Total for Forbs		262

BASIC COVER--

Management unit 27, Study no: 3

Cover Type	Average Cover % '87
Vegetation	2.00
Rock	8.75
Pavement	4.25
Litter	75.75
Cryptogams	.25
Bare Ground	9.00

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 3

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	2399	13	85	3	133	3	0	22	11/9	
<i>Ceanothus fendleri</i>										
87	433	46	54	-	-	0	0	0	4/14	
<i>Chrysothamnus depressus</i>										
87	8199	10	90	0	133	1	0	.81	4/7	
<i>Chrysothamnus parryi attenuatus</i>										
87	1132	15	85	-	-	0	0	0	6/5	
<i>Gutierrezia sarothrae</i>										
87	499	0	100	-	-	0	0	0	6/5	
<i>Mahonia repens</i>										
87	2099	97	3	-	33	0	0	0	5/9	
<i>Pinus ponderosa</i>										
87	166	40	60	-	-	0	0	20	367/144	
<i>Purshia tridentata</i>										
87	1132	38	56	6	233	68	6	6	15/23	
<i>Ribes cereum inebrians</i>										
87	100	0	100	-	-	0	0	0	26/29	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
87	100	0	100	-	-	0	100	0	15/20	
<i>Tetradymia canescens</i>										
87	66	50	50	-	-	0	0	50	8/6	

SAND PASS – STUDY NO. 27-4

HERBACEOUS TRENDS--

Management unit 27, Study no: 4

Type	Species	Nested Frequency '87
G	Bromus ciliatus	58
G	Carex sp.	67
G	Oryzopsis hymenoides	1
G	Poa fendleriana	32
G	Sitanion hystrix	202
G	Stipa lettermani	47
Total for Annual Grasses		0
Total for Perennial Grasses		407
Total for Grasses		407
F	Arabis sp.	11
F	Astragalus sp.	5
F	Cirsium wheeleri	137
F	Erigeron speciosus	73
F	Frasera speciosa	45
F	Gentiana sp.	11
F	Geranium caespitosum	3
F	Lomatium sp.	59
F	Penstemon sp.	40
F	Senecio multilobatus	78
F	Solidago sparsiflora	11
F	Taraxacum officinale	42
F	Thlaspi sp.	100
F	Tragopogon dubius (a)	9
Total for Annual Forbs		9
Total for Perennial Forbs		615
Total for Forbs		624

BASIC COVER--

Management unit 27, Study no: 4

Cover Type	Average Cover % '87
Vegetation	6.00
Rock	4.50
Pavement	1.25
Litter	66.75
Cryptogams	.50
Bare Ground	21.00

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 4

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Arctostaphylos patula</i>									
87	133	0	100	-	-	0	0	0	23/71
<i>Ceanothus fendleri</i>									
87	66	0	100	-	-	0	100	0	17/65
<i>Clematis columbiana</i>									
87	466	86	14	-	133	0	0	0	29/4
<i>Mahonia repens</i>									
87	36799	98	2	-	6266	0	0	0	4/4
<i>Pachistima myrsinites</i>									
87	1933	100	0	-	600	0	0	0	-/-
<i>Pinus ponderosa</i>									
87	266	100	0	-	-	0	0	0	-/-
<i>Pseudotsuga menziesii</i>									
87	66	100	0	-	-	0	0	0	-/-
<i>Ribes cereum inebrians</i>									
87	1733	31	69	-	-	4	0	4	35/27
<i>Rosa woodsii</i>									
87	1932	66	34	-	66	41	3	0	9/6

WILDLIFE MANAGEMENT UNIT 27

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
87	1066	19	69	12	66	50	38	19	15/27	

PODUNK CREEK – STUDY NO. 27-5

HERBACEOUS TRENDS--

Management unit 27, Study no: 5

Type	Species	Nested Frequency '87
G	Agropyron intermedium	18
G	Bromus inermis	356
G	Koeleria cristata	10
G	Muhlenbergia montana	60
G	Poa fendleriana	1
G	Poa pratensis	227
G	Poa secunda	4
G	Stipa lettermani	152
Total for Annual Grasses		0
Total for Perennial Grasses		828
Total for Grasses		828
F	Arenaria fendleri	10
F	Aster occidentalis	40
F	Astragalus humistratus	2
F	Cruciferae	5
F	Equisetum laevigatum	2
F	Erigeron flagellaris	298
F	Eriogonum racemosum	17
F	Hymenoxys richardsonii	4
F	Potentilla gracilis	36
F	Senecio spartioides	9
F	Taraxacum officinale	3
F	Tragopogon dubius (a)	3
F	Unknown forb-perennial	2
Total for Annual Forbs		3
Total for Perennial Forbs		428
Total for Forbs		431

BASIC COVER--

Management unit 27, Study no: 5

Cover Type	Average Cover % '87
Vegetation	19.75
Rock	1.25
Pavement	3.50
Litter	52.00
Cryptogams	0
Bare Ground	23.50

NEPHI PASTURE I – STUDY NO. 27-6

HERBACEOUS TRENDS--

Management unit 27, Study no: 6

Type	Species	Nested Frequency '87
G	Agropyron sp.	9
G	Bouteloua gracilis	3
G	Muhlenbergia pungens	122
G	Oryzopsis hymenoides	1
G	Poa secunda	6
G	Sitanion hystrix	15
G	Sporobolus cryptandrus	19
Total for Annual Grasses		0
Total for Perennial Grasses		175
Total for Grasses		175
F	Astragalus sp.	3
F	Calochortus nuttallii	3
F	Comandra pallida	49
F	Eriogonum cernuum (a)	6
F	Lathyrus brachycalyx	65
F	Penstemon sp.	1
F	Sphaeralcea parvifolia	1
Total for Annual Forbs		6
Total for Perennial Forbs		122
Total for Forbs		128

\BASIC COVER--

Management unit 27, Study no: 6

Cover Type	Average Cover % '87
Vegetation	8.00
Rock	.50
Pavement	2.00
Litter	60.50
Cryptogams	1.00
Bare Ground	28.00

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	66	0	100	-	-	0	100	0	55/59	
<i>Artemisia tridentata tridentata</i>										
87	3466	13	40	46	1066	27	10	25	44/32	
<i>Gutierrezia sarothrae</i>										
87	1399	19	81	-	66	0	0	0	8/10	
<i>Purshia tridentata</i>										
87	199	33	67	-	-	100	0	0	31/22	

NEPHI PASTURE ENCLOSURE OUTSIDE – STUDY NO. 27-7

HERBACEOUS TRENDS--

Management unit 27, Study no: 7

Type	Species	Nested Frequency '87
G	Agropyron smithii	24
G	Oryzopsis hymenoides	11
G	Poa secunda	8
G	Sitanion hystrix	54
G	Sporobolus cryptandrus	24
G	Stipa comata	22
Total for Annual Grasses		0
Total for Perennial Grasses		143
Total for Grasses		143
F	Astragalus sp.	8
F	Comandra pallida	72
F	Eriogonum racemosum	1
F	Euphorbia glyptosperma (a)	17
F	Senecio multilobatus	4
F	Sphaeralcea parvifolia	12
Total for Annual Forbs		17
Total for Perennial Forbs		97
Total for Forbs		114

BASIC COVER--

Management unit 27, Study no: 7

Cover Type	Average Cover % '87
Vegetation	.75
Rock	0
Pavement	0
Litter	59.75
Cryptogams	1.00
Bare Ground	38.50

WILDLIFE MANAGEMENT UNIT 27

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	265	25	50	25	66	0	100	25	60/56	
<i>Artemisia tridentata tridentata</i>										
87	1865	25	68	7	66	54	21	0	34/35	
<i>Chrysothamnus viscidiflorus</i>										
87	133	100	0	-	66	0	0	50	-/-	
<i>Gutierrezia sarothrae</i>										
87	3932	0	98	2	66	0	0	0	9/12	
<i>Leptodactylon pungens</i>										
87	599	22	67	11	533	0	0	0	5/6	
<i>Purshia tridentata</i>										
87	1465	27	68	5	-	0	100	0	12/41	

FIVEMILE MOUNTAIN – STUDY NO. 27-8

HERBACEOUS TRENDS--

Management unit 27, Study no: 8

Type	Species	Nested Frequency '87
G	<i>Bouteloua gracilis</i>	15
G	<i>Oryzopsis hymenoides</i>	12
G	<i>Sitanion hystrix</i>	51
G	<i>Stipa comata</i>	48
Total for Annual Grasses		0
Total for Perennial Grasses		126
Total for Grasses		126
F	<i>Astragalus</i> sp.	13
F	<i>Erigeron pumilus</i>	23
F	<i>Phlox longifolia</i>	3
Total for Annual Forbs		0
Total for Perennial Forbs		39
Total for Forbs		39

BASIC COVER--

Management unit 27, Study no: 8

Cover Type	Average Cover % '87
Vegetation	2.75
Rock	19.50
Pavement	28.00
Litter	36.00
Cryptogams	5.25
Bare Ground	8.50

WILDLIFE MANAGEMENT UNIT 27

BROWSE CHARACTERISTICS--

Management unit 27, Study no: 8

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
87	2532	3	66	32	133	37	11	16	12/20
<i>Chrysothamnus viscidiflorus stenophyllus</i>									
87	933	0	57	43	-	0	0	43	10/9
<i>Cowania mexicana stansburiana</i>									
87	0	0	0	-	66	0	0	0	-/-
<i>Gutierrezia sarothrae</i>									
87	1198	6	89	6	400	0	0	6	7/7
<i>Juniperus osteosperma</i>									
87	66	0	0	100	-	0	0	0	-/-
<i>Sclerocactus sp.</i>									
87	0	0	0	-	66	0	0	0	-/-

WILDLIFE MANAGEMENT UNIT 28

THREE CREEKS – STUDY NO. 28-1

HERBACEOUS TRENDS--

Management unit 28, Study no: 1

Type	Species	Nested Frequency '87
G	Agropyron cristatum	288
G	Agropyron intermedium	45
G	Bouteloua gracilis	27
G	Carex sp.	3
G	Stipa comata	9
Total for Annual Grasses		0
Total for Perennial Grasses		372
Total for Grasses		372
F	Arabis sp.	11
F	Astragalus argophyllus	1
F	Astragalus sp.	2
F	Cryptantha fulvocanescens	15
F	Erigeron pumilus	4
F	Ipomopsis aggregata	7
F	Lupinus argenteus	46
F	Machaeranthera canescens	3
F	Penstemon sp.	11
F	Phlox longifolia	8
F	Senecio multilobatus	13
F	Streptanthus cordatus	3
Total for Annual Forbs		0
Total for Perennial Forbs		124
Total for Forbs		124

BASIC COVER--

Management unit 28, Study no: 1

Cover Type	Average Cover % '87
Vegetation	4.75
Rock	3.25
Pavement	11.00
Litter	54.25
Cryptogams	.75
Bare Ground	26.00

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 1

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata tridentata</i>									
87	399	33	67	-	33	67	17	0	31/31
<i>Artemisia tridentata vaseyana</i>									
87	33	0	100	-	-	100	0	0	9/11
<i>Gutierrezia sarothrae</i>									
87	5132	7	92	1	-	0	0	0	9/9
<i>Leptodactylon pungens</i>									
87	333	0	100	-	-	0	0	0	6/7
<i>Opuntia sp.</i>									
87	266	12	88	-	-	0	0	13	4/14
<i>Pinus edulis</i>									
87	33	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
87	66	0	100	-	-	0	100	0	6/18

PANGUITCH – STUDY NO. 28-2

HERBACEOUS TRENDS--

Management unit 28, Study no: 2

Type	Species	Nested Frequency '87
G	<i>Bouteloua gracilis</i>	85
G	<i>Oryzopsis hymenoides</i>	34
G	<i>Sitanion hystrix</i>	72
Total for Annual Grasses		0
Total for Perennial Grasses		191
Total for Grasses		191
F	Cruciferae	3
F	<i>Erigeron pumilus</i>	5
F	<i>Sphaeralcea coccinea</i>	8
Total for Annual Forbs		0
Total for Perennial Forbs		16
Total for Forbs		16

BASIC COVER--

Management unit 28, Study no: 2

Cover Type	Average Cover % '87
Vegetation	3.75
Rock	1.00
Pavement	23.25
Litter	31.75
Cryptogams	5.00
Bare Ground	35.25

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	3999	12	18	71	266	34	25	25	13/13	
<i>Artemisia tridentata vaseyana</i>										
87	199	67	17	17	-	33	50	0	23/19	
<i>Gutierrezia sarothrae</i>										
87	533	56	38	6	300	0	6	6	8/4	
<i>Juniperus osteosperma</i>										
87	33	0	100	-	-	0	0	0	157/118	
<i>Opuntia sp.</i>										
87	133	0	100	-	-	0	0	0	4/8	
<i>Pinus edulis</i>										
87	1032	45	52	3	433	3	0	3	144/110	

BEAR VALLEY – STUDY NO. 28-3

HERBACEOUS TRENDS--

Management unit 28, Study no: 3

Type	Species	Nested Frequency '87
G	Agropyron cristatum	320
G	Agropyron smithii	41
G	Bouteloua gracilis	32
G	Carex sp.	19
G	Elymus junceus	3
G	Poa pratensis	5
G	Stipa comata	27
Total for Annual Grasses		0
Total for Perennial Grasses		447
Total for Grasses		447
F	Arabis sp.	2
F	Artemisia ludoviciana	11
F	Astragalus panguicensis	3
F	Chaenactis douglasii	3
F	Erigeron flagellaris	1
F	Lupinus argenteus	91
F	Lygodesmia spinosa	10
F	Oenothera pallida	35
F	Phlox longifolia	50
F	Senecio douglasii	30
F	Taraxacum officinale	11
F	Tragopogon dubius (a)	18
Total for Annual Forbs		18
Total for Perennial Forbs		247
Total for Forbs		265

BASIC COVER--

Management unit 28, Study no: 3

Cover Type	Average Cover % '87
Vegetation	7.00
Rock	4.75
Pavement	11.50
Litter	58.50
Cryptogams	0
Bare Ground	18.25

WILDLIFE MANAGEMENT UNIT 28

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	933	36	64	-	-	36	7	7	7/6	
<i>Chrysothamnus nauseosus</i>										
87	266	25	75	-	-	0	0	0	20/13	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
87	10665	61	34	6	133	.62	0	6	17/12	

BUCKSKIN VALLEY – STUDY NO. 28-4

HERBACEOUS TRENDS--

Management unit 28, Study no: 4

Typ e	Species	Nested Frequenc y '87
G	Agropyron smithii	173
G	Poa fendleriana	37
G	Sitanion hystrix	119
G	Stipa comata	5
Total for Annual Grasses		0
Total for Perennial Grasses		334
Total for Grasses		334
F	Arabis holboellii	44
F	Astragalus convallarius	1
F	Astragalus oophorus	15
F	Astragalus panguicensis	6
F	Calochortus nuttallii	2
F	Chaenactis douglasii	84
F	Cirsium wheeleri	35
F	Comandra pallida	5
F	Erigeron eatonii	11
F	Eriogonum racemosum	41
F	Eriogonum umbellatum	19
F	Ipomopsis aggregata	2
F	Lupinus argenteus	31
F	Machaeranthera canescens	36
F	Phlox longifolia	118
F	Senecio douglasii	4
F	Senecio multilobatus	18
F	Sphaeralcea coccinea	8
F	Taraxacum officinale	6
F	Tragopogon dubius (a)	8
F	Trifolium sp.	16
F	Zigadenus paniculatus	7
Total for Annual Forbs		8
Total for Perennial Forbs		509
Total for Forbs		517

BASIC COVER--

Management unit 28, Study no: 4

Cover Type	Average Cover % '87
Vegetation	7.50
Rock	5.50
Pavement	1.00
Litter	74.50
Cryptogams	2.25
Bare Ground	9.25

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 4

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	8732	11	53	36	66	53	20	7	26/28	
<i>Opuntia sp.</i>										
87	1132	41	59	-	200	18	0	53	3/4	
<i>Purshia tridentata</i>										
87	1732	50	50	-	866	19	73	0	22/31	
<i>Quercus gambelii</i>										
87	133	100	0	-	66	50	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
87	599	78	22	-	-	22	0	0	20/19	

SWAYBACK KNOLL – STUDY NO. 28-5

HERBACEOUS TRENDS--

Management unit 28, Study no: 5

Type	Species	Nested Frequency '87
G	Aristida purpurea	13
G	Oryzopsis hymenoides	2
G	Sitanion hystrix	127
Total for Annual Grasses		0
Total for Perennial Grasses		142
Total for Grasses		142

BASIC COVER--

Management unit 28, Study no: 5

Cover Type	Average Cover % '87
Vegetation	5.00
Rock	9.50
Pavement	39.75
Litter	27.75
Cryptogams	.25
Bare Ground	17.75

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 5

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata wyomingensis									
87	4866	18	53	29	466	23	75	4	21/20
Opuntia sp.									
87	532	50	25	25	-	0	0	13	6/13

COTTONWOOD – STUDY NO. 28-6

HERBACEOUS TRENDS--

Management unit 28, Study no: 6

Typ e	Species	Nested Frequenc y '87
G	Agropyron cristatum	35
G	Aristida purpurea	8
G	Bouteloua gracilis	3
G	Oryzopsis hymenoides	8
G	Sitanion hystrix	11
G	Sporobolus cryptandrus	3
G	Stipa comata	6
Total for Annual Grasses		0
Total for Perennial Grasses		74
Total for Grasses		74
F	Astragalus panguicensis	2
F	Euphorbia fendleri	90
F	Sphaeralcea coccinea	71
Total for Annual Forbs		0
Total for Perennial Forbs		163
Total for Forbs		163

BASIC COVER--

Management unit 28, Study no: 6

Cover Type	Average Cover % '87
Vegetation	3.25
Rock	12.75
Pavement	10.50
Litter	64.25
Cryptogams	0
Bare Ground	9.25

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 6

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Artemisia tridentata wyomingensis										
8 7	2465	19	73	8	-	11	89	3	23/29	

PARAGONAH – STUDY NO. 28-7

HERBACEOUS TRENDS--

Management unit 28, Study no: 7

Typ e	Species	Nested Frequenc y '87
G	Agropyron cristatum	211
G	Agropyron intermedium	58
G	Oryzopsis hymenoides	10
G	Poa secunda	2
G	Sitanion hystrix	13
Total for Annual Grasses		0
Total for Perennial Grasses		294
Total for Grasses		294
F	Astragalus newberryi	1
F	Erigeron pumilus	10
F	Eriogonum umbellatum	5
F	Euphorbia fendleri	80
F	Machaeranthera canescens	3
F	Petradoria pumila	1
F	Senecio douglasii	2
F	Streptanthus cordatus	3
F	Tragopogon dubius (a)	1
F	Unknown forb-perennial	24
Total for Annual Forbs		1
Total for Perennial Forbs		129
Total for Forbs		130

BASIC COVER--

Management unit 28, Study no: 7

Cover Type	Average Cover % '87
Vegetation	2.75
Rock	12.25
Pavement	27.00
Litter	43.50
Cryptogams	0
Bare Ground	14.50

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 7

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
87	3665	13	80	7	333	11	76	2	10/18	
<i>Artemisia tridentata vaseyana</i>										
87	199	67	0	33	66	0	100	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	7932	5	92	3	466	0	0	3	8/5	
<i>Juniperus osteosperma</i>										
87	0	0	0	-	66	0	0	0	-/-	
<i>Leptodactylon pungens</i>										
87	932	7	93	-	-	0	0	93	3/5	
<i>Opuntia sp.</i>										
87	66	0	100	-	-	0	0	100	2/8	
<i>Pinus edulis</i>										
87	200	0	100	-	-	0	0	0	85/47	
<i>Quercus gambelii</i>										
87	200	100	0	-	-	0	0	0	-/-	

GRASS VALLEY – STUDY NO. 28-8

HERBACEOUS TRENDS--

Management unit 28, Study no: 8

Typ e	Species	Nested Frequenc y '87
G	Agropyron cristatum	144
G	Agropyron intermedium	133
G	Bromus inermis	21
G	Oryzopsis hymenoides	6
G	Sitanion hystrix	29
G	Stipa comata	53
Total for Annual Grasses		0
Total for Perennial Grasses		386
Total for Grasses		386
F	Chaenactis douglasii	1
F	Unknown forb-perennial	1
Total for Annual Forbs		0
Total for Perennial Forbs		2
Total for Forbs		2

BASIC COVER--

Management unit 28, Study no: 8

Cover Type	Average Cover % '87
Vegetation	4.75
Rock	3.00
Pavement	21.25
Litter	54.25
Cryptogams	0
Bare Ground	16.75

BROWSE CHARACTERISTICS--
Management unit 28, Study no: 8

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
87	5533	4	46	51	66	20	80	11	20/20	
<i>Juniperus osteosperma</i>										
87	66	0	100	-	-	0	0	0	57/39	
<i>Peraphyllum ramosissimum</i>										
87	133	0	0	100	-	0	100	0	-/-	

LITTLE VALLEY – STUDY NO. 28-9

HERBACEOUS TRENDS--

Management unit 28, Study no: 9

Type	Species	Nested Frequency '87
G	Agropyron trachycaulum	10
G	Bromus carinatus	124
G	Bromus ciliatus	92
G	Carex sp.	33
G	Poa fendleriana	23
G	Poa pratensis	63
G	Sitanion hystrix	19
G	Stipa columbiana	37
G	Stipa comata	49
G	Unknown grass - perennial	5
Total for Annual Grasses		0
Total for Perennial Grasses		455
Total for Grasses		455
F	Achillea millefolium	63
F	Agoseris glauca	13
F	Antennaria sp.	3
F	Artemisia ludoviciana	21
F	Aster chilensis	34
F	Astragalus miser	78
F	Cymopterus sp.	17
F	Erigeron flagellaris	59
F	Fragaria virginiana	36
F	Geranium sp.	13
F	Penstemon sp.	2
F	Taraxacum officinale	171
F	Thalictrum fendleri	32
F	Tragopogon dubius (a)	28
F	Trifolium longipes	40
Total for Annual Forbs		28
Total for Perennial Forbs		582
Total for Forbs		610

BASIC COVER--

Management unit 28, Study no: 9

Cover Type	Average Cover % '87
Vegetation	7.25
Rock	0
Pavement	0
Litter	91.50
Cryptogams	0
Bare Ground	1.25

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 9

		Age class distribution					Utilization				
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)		
<i>Amelanchier utahensis</i>											
87	1199	94	6	-	400	17	6	0	63/28		
<i>Cercocarpus ledifolius</i>											
87	66	100	0	-	-	100	0	0	-/-		
<i>Chrysothamnus viscidiflorus</i>											
87	865	38	54	8	200	0	0	0	17/5		
<i>Juniperus communis</i>											
87	200	0	100	-	66	0	0	0	27/105		
<i>Mahonia repens</i>											
87	13132	1	99	-	133	0	0	0	6/16		
<i>Populus tremuloides</i>											
87	5798	87	1	11	2800	24	18	7	393/157		
<i>Quercus gambelii</i>											
87	66	100	0	-	-	100	0	0	-/-		
<i>Ribes sp.</i>											
87	66	0	100	-	-	0	0	0	57/26		
<i>Rosa woodsii</i>											
87	133	100	0	-	-	100	0	0	-/-		

WILDLIFE MANAGEMENT UNIT 28

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
8 7	6265	29	71	-	200	19	0	0	24/26	

RED DESERT – STUDY NO. 28-10

HERBACEOUS TRENDS--

Management unit 28, Study no: 10

Type	Species	Nested Frequency '87
G	Bromus ciliatus	44
G	Carex sp.	151
G	Festuca ovina	81
G	Muhlenbergia montana	99
G	Poa fendleriana	57
G	Sitanion hystrix	56
G	Stipa lettermani	2
Total for Annual Grasses		0
Total for Perennial Grasses		490
Total for Grasses		490
F	Achillea millefolium	12
F	Antennaria sp.	109
F	Astragalus miser	39
F	Cirsium foliosum	35
F	Cruciferae	17
F	Erigeron sp.	13
F	Fragaria virginiana	31
F	Gentianella heterosepala	45
F	Lomatium sp.	54
F	Penstemon leiophyllus	22
F	Potentilla gracilis	24
F	Senecio multilobatus	156
F	Smilacina racemosa amplexicaulis	2
F	Taraxacum officinale	60
F	Tragopogon dubius (a)	20
F	Trifolium longipes	60
Total for Annual Forbs		20
Total for Perennial Forbs		679
Total for Forbs		699

BASIC COVER--

Management unit 28, Study no: 10

Cover Type	Average Cover % '87
Vegetation	6.25
Rock	2.00
Pavement	0
Litter	83.25
Cryptogams	1.00
Bare Ground	7.50

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 10

		Age class distribution					Utilization		
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Abies lasiocarpa</i>									
87	1599	83	17	-	366	0	2	0	379/143
<i>Populus tremuloides</i>									
87	1099	6	21	73	433	45	15	6	393/74

ELLIKER BASIN – STUDY NO. 28-11

HERBACEOUS TRENDS--

Management unit 28, Study no: 11

Type	Species	Nested Frequency '87
G	Agropyron cristatum	7
G	Agropyron intermedium	25
G	Agropyron smithii	3
G	Aristida purpurea	77
G	Sitanion hystrix	18
G	Sporobolus cryptandrus	6
Total for Annual Grasses		0
Total for Perennial Grasses		136
Total for Grasses		136

BASIC COVER--

Management unit 28, Study no: 11

Cover Type	Average Cover % '87
Vegetation	3.75
Rock	19.75
Pavement	37.75
Litter	37.25
Cryptogams	0
Bare Ground	1.50

BROWSE CHARACTERISTICS--

Management unit 28, Study no: 11

		Age class distribution			Utilization				
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Artemisia tridentata vaseyana									
87	2465	0	73	27	66	57	30	5	27/33
Gutierrezia sarothrae									
87	265	25	50	25	-	0	0	0	10/4

WILDLIFE MANAGEMENT UNIT 29

WILSON RANCH – STUDY NO. 29-1

HERBACEOUS TRENDS--

Management unit 29, Study no: 1

Type	Species	Nested Frequency '87
G	Oryzopsis hymenoides	17
G	Poa fendleriana	29
G	Sitanion hystrix	75
G	Sporobolus cryptandrus	21
Total for Annual Grasses		0
Total for Perennial Grasses		142
Total for Grasses		142
F	Astragalus piutensis	3
F	Dalea searlsiae	2
F	Erigeron divergens	59
F	Ipomopsis aggregata	4
F	Penstemon linarioides	11
F	Portulaca oleracea (a)	4
F	Sphaeralcea parvifolia	1
Total for Annual Forbs		4
Total for Perennial Forbs		80
Total for Forbs		84

BASIC COVER--

Management unit 29, Study no: 1

Cover Type	Average Cover % '87
Vegetation	1.00
Rock	2.25
Pavement	0
Litter	43.00
Cryptogams	.50
Bare Ground	53.25

BROWSE CHARACTERISTICS--

Management unit 29, Study no: 1

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia nova</i>									
87	66	0	100	-	-	0	100	0	16/26
<i>Artemisia tridentata wyomingensis</i>									
87	2466	19	57	24	333	41	46	3	18/28
<i>Gutierrezia sarothrae</i>									
87	2933	18	82	-	1400	0	0	0	11/12
<i>Peraphyllum ramosissimum</i>									
87	66	0	100	-	-	0	100	0	35/71
<i>Pinus edulis</i>									
87	0	0	0	-	200	0	0	0	-/-
<i>Purshia tridentata</i>									
87	66	0	100	-	-	0	100	0	19/53
<i>Quercus gambelii</i>									
87	466	71	29	-	600	0	0	0	198/162

WILDLIFE MANAGEMENT UNIT 30

COMANCHE CREEK DITCH – STUDY NO. 30-2

HERBACEOUS TRENDS--

Management unit 30, Study no: 2

Type	Species	Nested Frequency	
		'82	'92
G	Poa fendleriana	-	43
G	Sitanion hystrix	-	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	50
Total for Grasses		0	50
F	Allium sp.	-	19
F	Arabis sp.	-	7
F	Astragalus lentiginosus	-	5
F	Calochortus nuttallii	-	1
F	Chaenactis douglasii	-	6
F	Crepis acuminata	-	3
F	Eriogonum umbellatum	-	5
F	Lactuca serriola (a)	-	3
F	Phlox longifolia	-	5
F	Senecio multilobatus	-	5
F	Stipa comata	-	5
F	Trifolium sp.	-	7
Total for Annual Forbs		0	3
Total for Perennial Forbs		0	68
Total for Forbs		0	71

BASIC COVER--

Management unit 30, Study no: 2

Cover Type	Average Cover %	
	'82	'92
Vegetation	0	2.25
Rock	0	20.25
Pavement	0	7.75
Litter	0	58.25
Cryptogams	0	2.00
Bare Ground	0	9.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 2

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	266	25	75	0	33	0	0	0	30/17	
92	233	14	43	43	100	43	57	0	30/18	
Ceanothus greggii										
82	100	0	100	0	-	33	0	0	15/18	
92	166	40	0	60	-	60	20	0	-/-	
Cercocarpus montanus										
82	133	0	100	-	-	75	0	0	24/10	
92	0	0	0	-	-	0	0	0	-/-	
Juniperus osteosperma										
82	66	0	100	0	-	0	0	0	67/118	
92	99	0	67	33	-	0	0	0	199/141	
Opuntia sp.										
82	0	0	0	0	-	0	0	0	-/-	
92	466	21	43	36	33	0	0	64	5/6	
Pinus monophylla										
82	33	0	100	-	33	0	0	0	67/89	
92	66	50	50	-	100	0	0	0	169/87	
Quercus gambelii										
82	0	0	0	-	-	0	0	0	-/-	
92	0	0	0	-	33	0	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Quercus turbinella										
8 2	10332	52	46	2	766	.32	.96	2	28/26	
9 2	2499	33	51	16	400	13	0	9	32/22	

UPPER BROAD HOLLOW – STUDY NO. 30-3

HERBACEOUS TRENDS--

Management unit 30, Study no: 3

Type	Species	Nested Frequency	
		'82	'92
G	<i>Bouteloua gracilis</i>	-	2
G	<i>Koeleria cristata</i>	-	34
G	<i>Poa fendleriana</i>	-	166
G	<i>Sitanion hystrix</i>	-	118
G	<i>Stipa comata</i>	-	7
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	327
Total for Grasses		0	327
F	<i>Agoseris glauca</i>	-	6
F	<i>Androstephium breviflorum</i>	-	1
F	<i>Artemisia ludoviciana</i>	-	18
F	<i>Astragalus</i> sp.	-	32
F	<i>Astragalus straturensis</i>	-	7
F	<i>Castilleja linariaefolia</i>	-	23
F	<i>Erigeron pumilus</i>	-	1
F	<i>Erysimum asperum</i>	-	4
F	<i>Lactuca serriola</i> (a)	-	6
F	<i>Stephanomeria tenuifolia</i>	-	16
Total for Annual Forbs		0	6
Total for Perennial Forbs		0	108
Total for Forbs		0	114

BASIC COVER--

Management unit 30, Study no: 3

Cover Type	Average Cover %	
	'82	'92
Vegetation	12.75	15.25
Rock	13.50	19.50
Pavement	0	4.25
Litter	49.00	51.75
Cryptogams	3.25	0
Bare Ground	21.50	9.25

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 3

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	200	0	100	-	-	33	0	0	33/41	
92	333	40	60	-	-	0	40	0	34/36	
Artemisia tridentata vaseyana										
82	2599	8	74	18	-	31	10	0	18/26	
92	2198	12	67	21	66	48	9	0	16/18	
Cercocarpus ledifolius										
82	133	0	100	-	-	0	0	0	47/51	
92	66	0	100	-	-	0	100	0	106/106	
Opuntia sp.										
82	199	0	67	33	-	0	0	0	3/8	
92	200	0	100	0	-	0	0	67	6/8	
Purshia tridentata										
82	2133	0	100	0	-	31	22	0	24/32	
92	1066	31	38	31	-	13	69	13	20/35	
Quercus turbinella										
82	266	25	75	0	-	0	0	0	45/55	
92	399	33	17	50	-	17	50	0	39/47	

HARMONY MOUNTAIN SUMMIT – STUDY NO. 30-5

HERBACEOUS TRENDS--

Management unit 30, Study no: 5

Type	Species	Nested Frequency	
		'82	'92
G	<i>Bromus carinatus</i>	-	8
G	<i>Carex</i> sp.	-	7
G	<i>Poa fendleriana</i>	-	3
G	<i>Poa pratensis</i>	-	27
G	<i>Stipa columbiana</i>	-	289
G	<i>Stipa comata</i>	-	119
G	<i>Stipa lettermani</i>	-	287
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	740
Total for Grasses		0	740
F	<i>Agoseris glauca</i>	-	251
F	<i>Antennaria</i> sp.	-	3
F	<i>Artemisia ludoviciana</i>	-	3
F	<i>Astragalus</i> sp.	-	4
F	<i>Castilleja linariaefolia</i>	-	53
F	<i>Erigeron pumilus</i>	-	3
F	<i>Eriogonum racemosum</i>	-	4
F	<i>Fritillaria atropurpurea</i>	-	1
F	<i>Hackelia patens</i>	-	10
F	<i>Hydrophyllum occidentale</i>	-	3
F	<i>Lupinus sericeus</i>	-	219
F	<i>Taraxacum officinale</i>	-	32
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	586
Total for Forbs		0	586

BASIC COVER--

Management unit 30, Study no: 5

Cover Type	Average Cover %	
	'82	'92
Vegetation	29.00	33.00
Rock	0	0
Pavement	0	.25
Litter	61.75	63.25
Cryptogams	0	0
Bare Ground	9.25	3.50

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
82	1532	4	52	43	-	57	0	0	15/12	
92	6665	64	30	6	1933	14	1	5	15/30	
<i>Chrysothamnus parryi</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	666	40	60	-	133	30	0	0	7/6	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	8666	25	58	18	-	0	0	0	12/15	
92	14131	25	68	7	400	11	1	2	11/13	
<i>Eriogonum microthecum</i>										
82	4733	30	62	8	-	4	0	0	10/12	
92	10799	55	43	2	-	6	0	3	5/7	

UPPER LIME SPRING – STUDY NO. 30-9

HERBACEOUS TRENDS--

Management unit 30, Study no: 9

Type	Species	Nested Frequency	
		'82	'92
G	<i>Oryzopsis hymenoides</i>	-	7
G	<i>Stipa comata</i>	-	5
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	12
Total for Grasses		0	12
F	<i>Arabis</i> sp.	-	1
F	<i>Cymopterus</i> sp.	-	13
F	<i>Hymenopappus filifolius</i>	-	3
F	<i>Lotus utahensis</i>	-	9
F	<i>Pedicularis centranthera</i>	-	3
F	<i>Penstemon leonardi</i>	-	26
F	<i>Penstemon linarioides</i>	-	44
F	<i>Phlox austromontana</i>	-	2
F	<i>Phlox longifolia</i>	-	3
F	<i>Physaria chambersii</i>	-	3
F	<i>Senecio multilobatus</i>	-	15
F	<i>Trifolium</i> sp.	-	3
F	<i>Vicia americana</i>	-	131
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	256
Total for Forbs		0	256

BASIC COVER--

Management unit 30, Study no: 9

Cover Type	Average Cover %	
	'82	'92
Vegetation	2.00	6.50
Rock	2.00	1.25
Pavement	0	4.50
Litter	71.25	78.75
Cryptogams	0	0
Bare Ground	24.75	10.25

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 9

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	4199	13	78	10	66	13	67	0	27/23	
92	10466	45	44	11	733	23	34	6	32/24	
Arctostaphylos patula										
82	1932	0	97	3	-	0	0	0	20/16	
92	3766	26	32	42	-	1	0	0	27/30	
Cercocarpus montanus										
82	199	33	67	-	-	67	0	0	29/18	
92	332	20	80	-	33	20	20	0	36/49	
Gutierrezia sarothrae										
82	0	0	0	-	-	0	0	0	-/-	
92	100	100	0	-	-	0	0	0	-/-	
Mahonia repens										
82	733	0	100	-	-	0	0	0	4/5	
92	1600	88	13	-	33	0	0	0	7/4	
Quercus gambelii										
82	11199	40	58	2	933	0	.59	0	72/34	
92	15132	69	26	6	733	34	6	2	94/43	

UPPER BUMBLEBEE SPRING – STUDY NO. 30-10

HERBACEOUS TRENDS--

Management unit 30, Study no: 10

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron cristatum	-	20
G	Bromus carinatus	-	27
G	Carex sp.	-	67
G	Oryzopsis hymenoides	-	1
G	Poa fendleriana	-	27
G	Poa pratensis	-	13
G	Sitanion hystrix	-	2
G	Stipa columbiana	-	3
G	Stipa comata	-	4
G	Stipa lettermani	-	23
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	187
Total for Grasses		0	187
F	Achillea millefolium	-	4
F	Agoseris glauca	-	16
F	Arabis sp.	-	1
F	Arenaria macradenia	-	29
F	Artemisia ludoviciana	-	7
F	Aster sp.	-	1
F	Crepis acuminata	-	14
F	Delphinium nuttallianum	-	13
F	Draba sp. (a)	-	1
F	Erigeron eatonii	-	35
F	Eriogonum racemosum	-	24
F	Fritillaria atropurpurea	-	9
F	Hydrophyllum capitatum	-	13
F	Lathyrus lanszwertii	-	194
F	Lomatium sp.	-	4
F	Lomatium triternatum	-	3
F	Lotus utahensis	-	33
F	Lupinus caudatus	-	20
F	Penstemon leonardi	-	12
F	Penstemon sp.	-	6
F	Unknown forb-perennial	-	3
F	Vicia americana	-	6
Total for Annual Forbs		0	1
Total for Perennial Forbs		0	447

WILDLIFE MANAGEMENT UNIT 30

Type	Species	Nested Frequency	
		'82	'92
Total for Forbs		0	448

BASIC COVER--

Management unit 30, Study no: 10

Cover Type	Average Cover %	
	'82	'92
Vegetation	.50	8.75
Rock	3.00	4.50
Pavement	1.25	8.50
Litter	67.00	65.00
Cryptogams	.25	0
Bare Ground	28.00	13.25

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 10

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Acer grandidentatum</i>									
82	0	0	0	-	-	0	0	0	-/-
92	2599	95	5	-	533	0	0	3	106/43
<i>Amelanchier utahensis</i>									
82	999	67	33	-	266	0	0	0	20/14
92	1666	72	28	-	400	36	4	4	33/13
<i>Artemisia tridentata vaseyana</i>									
82	733	0	100	0	66	0	0	0	15/26
92	666	0	80	20	200	10	0	10	20/33
<i>Quercus gambelii</i>									
82	26266	67	33	0	5800	0	0	0	47/27
92	17399	56	26	18	18533	25	5	14	71/47

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Rosa woodsii									
82	3199	58	42	-	466	0	0	0	22/5
92	0	0	0	-	-	0	0	0	-/-
Rosa woodsii									
82	0	0	0	-	-	0	0	0	-/-
92	3200	94	6	-	999	2	0	0	17/14
Symphoricarpos oreophilus									
82	0	0	0	-	-	0	0	0	-/-
92	1133	29	71	-	66	18	6	0	24/21

PINTURA BENCH – STUDY NO. 30-12

HERBACEOUS TRENDS--

Management unit 30, Study no: 12

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron cristatum	-	2
G	Poa sp.	-	3
G	Sitanion hystrix	-	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	14
Total for Grasses		0	14
F	Chaenactis douglasii	-	1
F	Cryptantha sp.	-	-
F	Euphorbia fendleri	-	16
F	Melilotus officinalis	-	3
F	Pediomelum mephiticum	-	23
F	Penstemon sp.	-	6
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	49
Total for Forbs		0	49

BASIC COVER--

Management unit 30, Study no: 12

Cover Type	Average Cover %	
	'82	'92
Vegetation	2.50	1.00
Rock	2.75	11.25
Pavement	11.75	22.25
Litter	49.75	47.25
Cryptogams	0	0
Bare Ground	33.25	18.25

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 12

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	266	0	100	-	-	50	50	0	28/30	
92	133	0	100	-	-	50	50	0	69/45	
<i>Artemisia tridentata vaseyana</i>										
82	199	33	67	0	533	33	0	0	32/26	
92	199	33	0	67	-	100	0	0	-/-	
<i>Ceanothus greggii</i>										
82	599	22	78	0	-	0	0	0	25/31	
92	866	15	69	15	-	62	23	0	32/44	
<i>Chrysothamnus viscidiflorus</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	332	80	20	-	800	0	0	0	9/5	
<i>Eriodictyon angustifolium</i>										
82	1599	42	58	-	866	0	0	0	20/17	
92	0	0	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
82	332	20	80	0	-	0	0	0	12/14	
92	1132	35	41	23	600	35	12	0	10/10	
<i>Gutierrezia sarothrae</i>										
82	4532	38	60	1	200	0	0	0	11/11	
92	8732	91	8	1	4866	0	0	0	9/9	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Juniperus osteosperma</i>										
82	66	0	100	-	-	0	0	0	67/74	
92	66	0	100	-	-	0	0	0	118/100	
<i>Pinus monophylla</i>										
82	199	67	33	-	-	0	0	0	67/47	
92	199	33	67	-	-	33	0	0	82/68	
<i>Quercus turbinella</i>										
82	199	33	67	0	-	0	0	0	37/26	
92	465	57	29	14	266	57	0	0	31/23	
<i>Rhus trilobata</i>										
82	66	0	100	-	-	100	0	0	47/41	
92	66	0	100	-	-	100	0	0	50/51	

BLACK RIDGE – STUDY NO. 30-13

HERBACEOUS TRENDS--

Management unit 30, Study no: 13

Type	Species	Nested Frequency	
		'82	'92
G	<i>Agropyron cristatum</i>	-	249
G	<i>Agropyron intermedium</i>	-	3
G	<i>Elymus junceus</i>	-	10
G	<i>Koeleria cristata</i>	-	26
G	<i>Poa fendleriana</i>	-	47
G	<i>Sitanion hystrix</i>	-	32
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	367
Total for Grasses		0	367
F	<i>Antennaria</i> sp.	-	3
F	<i>Arabis</i> sp.	-	2
F	<i>Artemesia biennis</i>	-	1
F	<i>Aster</i> sp.	-	2
F	<i>Balsamorhiza hookeri</i>	-	2
F	<i>Cirsium calcareum</i>	-	4
F	<i>Collinsia parviflora</i> (a)	-	43
F	<i>Crepis acuminata</i>	-	1
F	<i>Erigeron pumilus</i>	-	2
F	<i>Eriogonum umbellatum</i>	-	15
F	<i>Melilotus officinalis</i>	-	28
F	<i>Tragopogon dubius</i> (a)	-	1
F	<i>Viguiera multiflora</i>	-	35
Total for Annual Forbs		0	44
Total for Perennial Forbs		0	95
Total for Forbs		0	139

BASIC COVER--

Management unit 30, Study no: 13

Cover Type	Average Cover %	
	'82	'92
Vegetation	12.00	6.75
Rock	17.25	34.50
Pavement	5.25	6.00
Litter	57.00	44.00
Cryptogams	1.50	.75
Bare Ground	7.00	8.75

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 13

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
82	333	0	100	-	-	20	0	0	11/18
92	133	100	0	-	-	0	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
82	599	22	78	0	-	0	0	0	14/25
92	10198	61	37	1	5466	7	0	.65	14/18
<i>Gutierrezia sarothrae</i>									
82	0	0	0	-	-	0	0	0	-/-
92	2066	19	81	-	2733	0	0	0	9/9
<i>Juniperus osteosperma</i>									
82	799	17	83	-	-	0	0	0	47/27
92	333	40	60	-	66	0	0	0	30/62
<i>Opuntia sp.</i>									
82	0	0	0	-	-	0	0	0	-/-
92	132	50	50	-	-	0	0	0	11/17
<i>Quercus gambelii</i>									
82	133	100	0	-	-	0	0	0	-/-
92	0	0	0	-	-	0	0	0	-/-

UPPER LEEDS CREEK – STUDY NO. 30-16

HERBACEOUS TRENDS--

Management unit 30, Study no: 16

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron intermedium	-	4
G	Agropyron sp.	-	1
G	Bromus carinatus	-	15
G	Bromus inermis	-	52
G	Carex sp.	-	3
G	Dactylis glomerata	-	4
G	Festuca ovina	-	6
G	Leucopoa kingii	-	3
G	Poa fendleriana	-	13
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	101
Total for Grasses		0	101
F	Arabis holboellii	-	22
F	Arabis sp.	-	28
F	Artemisia ludoviciana	-	3
F	Astragalus sp.	-	4
F	Calochortus nuttallii	-	27
F	Erigeron sp.	-	11
F	Eriogonum racemosum	-	14
F	Lotus utahensis	-	20
F	Senecio multilobatus	-	47
F	Trifolium sp.	-	3
F	Unknown forb-perennial	-	5
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	184
Total for Forbs		0	184

BASIC COVER--

Management unit 30, Study no: 16

Cover Type	Average Cover %	
	'82	'92
Vegetation	4.25	4.25
Rock	17.00	32.75
Pavement	0	4.50
Litter	69.75	55.00
Cryptogams	6.50	0
Bare Ground	2.50	3.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 16

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	399	8	75	17	-	33	0	17	48/31	
92	366	91	9	0	-	0	0	0	33/41	
Arctostaphylos patula										
82	200	0	100	-	-	0	0	0	32/44	
92	0	0	0	-	-	0	0	0	-/-	
Artemisia tridentata vaseyana										
82	66	0	50	50	-	0	50	50	33/35	
92	0	0	0	0	-	0	0	0	-/-	
Ceanothus greggii										
82	166	0	60	40	-	0	40	40	42/32	
92	1633	73	27	0	66	0	0	0	14/22	
Cercocarpus ledifolius										
82	33	0	100	-	-	0	0	0	54/31	
92	0	0	0	-	-	0	0	0	-/-	
Garrya flavescens										
82	0	0	0	-	-	0	0	0	-/-	
92	933	64	36	-	333	0	0	7	58/57	
Garrya flavescens flavescens										
82	265	25	63	12	-	0	0	13	50/37	
92	0	0	0	0	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Quercus gambelii</i>										
82	3065	37	61	2	-	0	5	2	61/30	
92	2699	31	69	0	466	0	0	0	62/47	
<i>Quercus turbinella</i>										
82	332	10	80	10	-	0	10	10	42/35	
92	200	0	100	0	-	0	0	0	58/38	

GRANTS RANCH TRAIL – STUDY NO. 30-18

HERBACEOUS TRENDS--

Management unit 30, Study no: 18

Type	Species	Nested Frequency	
		'82	'92
G	Bouteloua gracilis	-	11
G	Carex sp.	-	6
G	Poa fendleriana	-	47
G	Poa pratensis	-	7
G	Sitanion hystrix	-	5
G	Stipa comata	-	33
G	Stipa lettermani	-	50
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	159
Total for Grasses		0	159
F	Achillea millefolium	-	2
F	Agoseris glauca	-	5
F	Arabis sp.	-	4
F	Balsamorhiza sagittata	-	17
F	Erigeron sp.	-	12
F	Eriogonum racemosum	-	11
F	Frasera speciosa	-	1
F	Hackelia patens	-	8
F	Helianthus sp.	-	7
F	Lupinus holosericeus	-	19
F	Petradoria pumila	-	4
F	Phlox austromontana	-	35
F	Trifolium sp.	-	2
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	127
Total for Forbs		0	127

BASIC COVER--

Management unit 30, Study no: 18

Cover Type	Average Cover %	
	'82	'92
Vegetation	4.25	10.75
Rock	11.75	10.50
Pavement	0	3.75
Litter	62.50	64.50
Cryptogams	7.75	0
Bare Ground	11.25	.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 18

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	200	0	100	0	66	100	0	0	24/15	
92	5799	92	6	2	266	5	6	0	27/14	
<i>Artemisia tridentata vaseyana</i>										
82	1933	0	100	0	-	0	0	86	13/22	
92	2465	3	73	24	-	22	54	11	13/25	
<i>Cercocarpus ledifolius</i>										
82	266	50	50	-	-	50	0	0	59/43	
92	466	43	57	-	266	14	86	0	51/54	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	0	0	0	-	66	0	0	0	-/-	
<i>Opuntia sp.</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	0	0	0	-/-	
<i>Pinus edulis</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	100	0	-	66	0	0	0	-/-	
<i>Quercus gambelii</i>										
82	5266	0	100	0	-	0	0	100	25/25	
92	18865	48	49	2	1466	38	42	.35	22/16	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
8 2	0	0	0	-	-	0	0	0	-/-	
9 2	999	93	7	-	-	7	0	0	16/31	

BIG WATER RESERVOIR – STUDY NO. 30-19

HERBACEOUS TRENDS--

Management unit 30, Study no: 19

Type	Species	Nest Frequency	
		'82	'92
G	Bromus ciliatus	-	7
G	Poa fendleriana	-	26
G	Sitanion hystrix	-	10
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	43
Total for Grasses		0	43
F	Arabis sp.	-	3
F	Astragalus sp.	-	11
F	Cirsium sp.	-	3
F	Hackelia patens	-	1
F	Ipomopsis aggregata	-	4
F	Lotus utahensis	-	4
F	Lupinus holosericeus	-	1
F	Penstemon sp.	-	1
F	Poa fendleriana	-	2
F	Senecio multilobatus	-	1
F	Solidago sparsiflora	-	32
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	63
Total for Forbs		0	63

BASIC COVER--

Management unit 30, Study no: 19

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.00	3.50
Rock	14.75	27.00
Pavement	0	4.00
Litter	62.00	50.50
Cryptogams	5.25	.50
Bare Ground	17.00	14.50

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 19

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	3366	42	58	0	-	14	0	0	22/9	
92	1666	86	6	8	66	6	13	0	45/17	
Artemisia tridentata vaseyana										
82	1299	15	80	3	-	0	0	0	29/33	
92	532	25	44	31	-	6	6	0	22/30	
Cercocarpus ledifolius										
82	199	17	83	0	66	17	0	0	63/38	
92	299	0	56	44	33	14	0	0	106/58	
Chrysothamnus viscidiflorus viscidiflorus										
82	166	0	100	-	-	0	0	0	22/23	
92	100	0	100	-	-	0	0	0	21/21	
Mahonia repens										
82	1799	0	100	-	-	0	0	0	5/7	
92	1533	22	78	-	66	0	0	0	5/4	
Purshia tridentata										
82	33	0	100	-	-	0	0	0	8/10	
92	0	0	0	-	-	0	0	0	-/-	
Quercus gambelii										
82	5666	25	75	0	-	6	.58	0	29/16	
92	4866	68	25	7	933	16	4	0	65/26	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Rosa woodsii										
82	266	25	75	-	-	0	0	0	23/11	
92	466	100	0	-	-	0	0	0	-/-	

UPPER COMANCHE CANYON – STUDY NO. 30-21

HERBACEOUS TRENDS--

Management unit 30, Study no: 21

Type	Species	Nestled Frequency	
		'82	'92
G	Agropyron smithii	-	22
G	Bouteloua gracilis	-	21
G	Carex sp.	-	5
G	Koeleria cristata	-	10
G	Melica bulbosa	-	3
G	Poa fendleriana	-	225
G	Poa secunda	-	3
G	Sitanion hystrix	-	121
G	Stipa comata	-	43
G	Stipa lettermani	-	117
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	570
Total for Grasses		0	570
F	Agoseris glauca	-	9
F	Antennaria sp.	-	17
F	Arabis sp.	-	3
F	Artemisia ludoviciana	-	6
F	Artemisia ludoviciana	-	11
F	Aster sp.	-	17
F	Astragalus argophyllus	-	11
F	Balsamorhiza sagittata	-	196
F	Calochortus nuttallii	-	2
F	Cymopterus sp.	-	5
F	Erigeron eatonii	-	43
F	Eriogonum racemosum	-	69
F	Hackelia patens	-	96
F	Lithospermum ruderae	-	2
F	Lotus utahensis	-	13
F	Lupinus holosericeus	-	19
F	Petradoria pumila	-	30
F	Taraxacum officinale	-	1
F	Trifolium sp.	-	67
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	620
Total for Forbs		0	620

BASIC COVER--

Management unit 30, Study no: 21

Cover Type	Average Cover %	
	'82	'92
Vegetation	7.25	20.50
Rock	16.00	20.00
Pavement	0	7.25
Litter	43.25	37.00
Cryptogams	1.25	0
Bare Ground	32.25	1.50

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 21

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	133	100	0	0	-	100	0	0	-/-	
92	132	50	0	50	-	50	50	0	-/-	
<i>Cercocarpus ledifolius</i>										
82	199	33	67	-	-	0	0	33	67/55	
92	66	0	100	-	-	0	0	0	217/169	
<i>Chrysothamnus greenei</i>										
82	1200	0	100	0	-	56	28	11	3/5	
92	732	36	45	18	-	27	73	0	6/20	
<i>Chrysothamnus parryi</i>										
82	1466	0	59	0	-	9	0	0	6/7	
92	932	50	36	14	-	29	43	0	9/9	
<i>Chrysothamnus viscidiflorus</i>										
82	0	0	0	0	-	0	0	0	-/-	
92	999	40	27	33	-	13	67	20	4/5	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Juniperus scopulorum</i>									
82	0	0	0	-	-	0	0	0	-/-
92	66	100	0	-	-	0	0	0	-/-
<i>Opuntia sp.</i>									
82	0	0	0	0	-	0	0	0	-/-
92	266	0	50	50	-	0	0	100	6/18
<i>Quercus gambelii</i>									
82	7933	29	61	10	-	6	55	10	7/11
92	8265	40	3	57	2133	28	44	11	94/51

WATER CANYON – STUDY NO. 30-24

HERBACEOUS TRENDS--

Management unit 30, Study no: 24

Type	Species	Nested Frequency	
		'82	'92
G	<i>Agropyron cristatum</i>	-	18
G	<i>Agropyron smithii</i>	-	127
G	<i>Koeleria cristata</i>	-	124
G	<i>Poa fendleriana</i>	-	197
G	<i>Poa pratensis</i>	-	36
G	<i>Poa secunda</i>	-	24
G	<i>Stipa comata</i>	-	18
G	<i>Stipa lettermani</i>	-	164
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	708
Total for Grasses		0	708
F	<i>Achillea millefolium</i>	-	6
F	<i>Agoseris glauca</i>	-	36
F	<i>Allium</i> sp.	-	2
F	<i>Antennaria</i> sp.	-	21
F	<i>Arabis</i> sp.	-	4
F	<i>Astragalus convallarius</i>	-	1
F	<i>Astragalus moencopensis</i>	-	12
F	<i>Balsamorhiza sagittata</i>	-	41
F	<i>Calochortus nuttallii</i>	-	36
F	<i>Castilleja chromosa</i>	-	4
F	<i>Chrysothamnus greenei</i>	-	3
F	<i>Cirsium</i> sp.	-	9
F	<i>Comandra pallida</i>	-	79
F	<i>Crepis acuminata</i>	-	36
F	<i>Delphinium</i> sp.	-	9
F	<i>Erigeron eatonii</i>	-	139
F	<i>Erigeron pumilus</i>	-	1
F	<i>Eriogonum racemosum</i>	-	143
F	<i>Eriogonum umbellatum</i>	-	112
F	<i>Hackelia patens</i>	-	6
F	<i>Linum lewisii</i>	-	24
F	<i>Lomatium</i> sp.	-	35
F	<i>Lotus utahensis</i>	-	91
F	<i>Lupinus</i> sp.	-	37
F	<i>Lychnis drummondii</i>	-	28
F	<i>Machaeranthera canescens</i>	-	5
F	<i>Petradoria pumila</i>	-	28

Type	Species	Nested Frequency	
		'82	'92
F	Phlox longifolia	-	100
F	Poa secunda	-	1
F	Taraxacum officinale	-	1
F	Wyethia arizonica	-	10
F	Zigadenus paniculatus	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	1061
Total for Forbs		0	1061

BASIC COVER--

Management unit 30, Study no: 24

Cover Type	Average Cover %	
	'82	'92
Vegetation	5.25	12.75
Rock	1.25	1.25
Pavement	0	2.75
Litter	53.50	64.75
Cryptogams	0	1.25
Bare Ground	40.00	17.25

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 24

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Amelanchier utahensis									
82	0	0	0	-	-	0	0	0	-/-
92	0	0	0	-	66	0	0	0	-/-
Artemisia tridentata vaseyana									
82	1999	10	37	53	3200	3	3	40	21/25
92	3199	33	44	23	733	8	6	2	22/30
Chrysothamnus greenei									
82	266	25	75	0	-	25	75	25	4/7
92	399	33	50	17	-	0	0	50	5/6

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Chrysothamnus parryi										
82	0	0	0	0	-	0	0	0	-/-	
92	1332	35	40	25	66	0	0	10	10/10	
Chrysothamnus viscidiflorus viscidiflorus										
82	6399	43	55	2	733	0	0	2	15/21	
92	7266	17	66	17	-	14	5	0	13/22	
Purshia tridentata										
82	66	0	100	-	-	0	0	0	18/35	
92	133	0	100	-	66	0	100	0	21/27	
Rosa woodsii										
82	266	100	0	-	-	0	0	0	-/-	
92	1333	30	60	10	-	0	0	0	6/4	

GRASSY FLAT RIDGE – STUDY NO. 30-26

HERBACEOUS TRENDS--

Management unit 30, Study no: 26

Type	Species	Nested Frequency	
		'82	'92
G	<i>Agropyron cristatum</i>	-	17
G	<i>Agropyron intermedium</i>	-	39
G	<i>Agropyron smithii</i>	-	110
G	<i>Koeleria cristata</i>	-	32
G	<i>Poa fendleriana</i>	-	144
G	<i>Poa secunda</i>	-	44
G	<i>Sitanion hystrix</i>	-	153
G	<i>Stipa lettermani</i>	-	65
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	604
Total for Grasses		0	604
F	<i>Achillea millefolium</i>	-	3
F	<i>Agoseris glauca</i>	-	24
F	<i>Allium acuminatum</i>	-	158
F	<i>Antennaria parvifolia</i>	-	111
F	<i>Arabis</i> sp.	-	9
F	<i>Astragalus agrestis</i>	-	10
F	<i>Astragalus argophyllus</i>	-	1
F	<i>Astragalus</i> sp.	-	8
F	<i>Calochortus nuttallii</i>	-	11
F	<i>Cirsium wheeleri</i>	-	5
F	<i>Erigeron eatonii</i>	-	56
F	<i>Erigeron pumilus</i>	-	4
F	<i>Eriogonum umbellatum</i>	-	76
F	<i>Haplopappus</i> sp.	-	1
F	<i>Hymenoxys richardsonii</i>	-	4
F	<i>Lomatium</i> sp.	-	1
F	<i>Lupinus argenteus</i>	-	2
F	<i>Machaeranthera canescens</i>	-	3
F	<i>Penstemon caespitosus</i>	-	1
F	<i>Phlox longifolia</i>	-	7
F	<i>Sphaeralcea coccinea</i>	-	3
F	<i>Viguiera multiflora</i>	-	1
F	<i>Zigadenus paniculatus</i>	-	93
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	592
Total for Forbs		0	592

BASIC COVER--

Management unit 30, Study no: 26

Cover Type	Average Cover %	
	'82	'92
Vegetation	7.00	9.75
Rock	27.75	28.75
Pavement	.75	17.75
Litter	31.00	25.00
Cryptogams	.75	0
Bare Ground	32.75	18.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 26

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	200	0	100	-	-	100	0	0	20/24	
92	333	0	100	-	-	20	80	0	29/26	
<i>Artemisia tridentata vaseyana</i>										
82	2333	0	94	6	-	6	0	6	11/18	
92	6398	56	29	15	3733	22	9	4	18/21	
<i>Chrysothamnus depressus</i>										
82	1132	12	88	0	-	0	0	0	7/9	
92	3732	45	46	9	400	14	13	0	4/8	
<i>Gutierrezia sarothrae</i>										
82	1332	95	5	0	-	0	0	0	9/10	
92	5199	27	72	1	466	0	0	0	12/7	
<i>Opuntia sp.</i>										
82	200	0	100	0	-	0	0	0	6/15	
92	399	0	83	17	-	0	0	17	7/9	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Purshia tridentata</i>										
8 2	533	0	100	0	-	88	0	0	16/22	
9 2	732	18	64	18	-	0	82	0	11/25	

PARADISE – STUDY NO. 30-27

HERBACEOUS TRENDS--

Management unit 30, Study no: 27

Type	Species	Nestled Frequency	
		'82	'92
G	Hilaria jamesii	-	354
G	Oryzopsis hymenoides	-	80
G	Poa fendleriana	-	10
G	Sitanion hystrix	-	158
G	Stipa comata	-	34
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	636
Total for Grasses		0	636
F	Arabis sp.	-	8
F	Astragalus sp.	-	8
F	Chaenactis douglasii	-	6
F	Chrysothamnus viscidiflorus stenophyllus	-	20
F	Ephedra viridis	-	6
F	Erigeron pumilus	-	10
F	Sphaeralcea grossulariifolia	-	10
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	68
Total for Forbs		0	68

BASIC COVER--

Management unit 30, Study no: 27

Cover Type	Average Cover %	
	'82	'92
Vegetation	4.50	9.00
Rock	16.50	22.50
Pavement	30.00	39.50
Litter	31.25	22.00
Cryptogams	0	.50
Bare Ground	19.75	6.50

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 27

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	2365	7	82	11	-	18	31	13	22/27	
92	4666	14	60	26	533	9	0	4	28/33	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
82	2365	6	80	14	-	25	32	27	13/19	
92	6200	10	84	6	-	0	0	1	12/13	
<i>Echinocereus triglochidatus</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	0	100	-	-	0	0	0	7/9	
<i>Ephedra viridis</i>										
82	833	0	88	12	-	12	8	12	32/27	
92	1865	14	46	39	-	4	0	0	28/15	
<i>Pinus monophylla</i>										
82	33	100	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	0	0	0	-/-	

SOUTHWEST OF NEWCASTLE – STUDY NO. 30-29

HERBACEOUS TRENDS--

Management unit 30, Study no: 29

Type	Species	Nested Frequency	
		'82	'92
G	<i>Hilaria jamesii</i>	-	124
G	<i>Oryzopsis hymenoides</i>	-	26
G	<i>Poa secunda</i>	-	77
G	<i>Sitanion hystrix</i>	-	151
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	378
Total for Grasses		0	378
F	<i>Astragalus newberryi</i>	-	2
F	<i>Calochortus flexuosus</i>	-	3
F	<i>Erigeron pumilus</i>	-	3
F	<i>Eriogonum ovalifolium</i>	-	4
F	<i>Phlox longifolia</i>	-	14
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	26
Total for Forbs		0	26

BASIC COVER--

Management unit 30, Study no: 29

Cover Type	Average Cover %	
	'82	'92
Vegetation	4.00	24.25
Rock	11.50	10.50
Pavement	0	3.75
Litter	36.50	54.00
Cryptogams	.25	0
Bare Ground	47.75	7.50

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 29

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	3633	15	66	19	499	3	0	2	20/33	
92	5799	26	36	37	100	34	57	9	17/22	
<i>Chrysothamnus viscidiflorus stenophyllus</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	466	21	79	-	-	0	0	0	11/11	
<i>Gutierrezia sarothrae</i>										
82	433	0	100	-	-	46	0	0	8/7	
92	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia sp.</i>										
82	33	0	100	-	-	0	0	0	4/17	
92	0	0	0	-	-	0	0	0	-/-	
<i>Opuntia whipplei</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	0	100	-	-	0	0	0	5/14	

SWETT HILLS – STUDY NO. 30-30

HERBACEOUS TRENDS--

Management unit 30, Study no: 30

Type	Species	Nestled Frequency	
		'82	'92
G	Aristida purpurea	-	1
G	Hilaria jamesii	-	38
G	Oryzopsis hymenoides	-	26
G	Poa secunda	-	4
G	Sitanion hystrix	-	73
G	Stipa comata	-	1
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	143
Total for Grasses		0	143
F	Arabis sp.	-	10
F	Astragalus sp.	-	8
F	Calochortus nuttallii	-	2
F	Cryptantha sp.	-	5
F	Erigeron sp.	-	6
F	Phlox longifolia	-	8
F	Zigadenus paniculatus	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	43
Total for Forbs		0	43

BASIC COVER--

Management unit 30, Study no: 30

Cover Type	Average Cover %	
	'82	'92
Vegetation	2.75	4.25
Rock	8.00	14.50
Pavement	7.00	20.50
Litter	38.00	28.50
Cryptogams	.25	1.25
Bare Ground	44.00	31.00

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 30

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata wyomingensis</i>									
82	4365	4	95	2	133	76	15	2	21/21
92	5198	3	65	33	-	49	33	26	19/24
<i>Chrysothamnus viscidiflorus viscidiflorus</i>									
82	33	0	100	-	-	0	0	0	12/7
92	0	0	0	-	-	0	0	0	-/-
<i>Cowania mexicana stansburiana</i>									
82	66	0	100	0	-	0	100	0	23/14
92	33	0	0	100	-	0	100	0	-/-
<i>Gutierrezia sarothrae</i>									
82	833	52	48	0	400	0	0	0	8/5
92	1066	25	66	9	33	0	0	6	7/7
<i>Juniperus osteosperma</i>									
82	199	33	67	-	-	0	0	0	67/69
92	200	50	50	-	-	0	0	0	94/63
<i>Pinus edulis</i>									
82	33	100	0	-	-	0	0	0	-/-
92	0	0	0	-	-	0	0	0	-/-

OAK SPRING – STUDY NO. 30-31

HERBACEOUS TRENDS--

Management unit 30, Study no: 31

Type	Species	Nested Frequency	
		'82	'92
G	Aristida purpurea	-	2
G	Poa fendleriana	-	1
G	Sitanion hystrix	-	58
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	61
Total for Grasses		0	61
F	Arabis sp.	-	1
F	Astragalus sp.	-	1
F	Cryptantha sp.	-	5
F	Mammillaria sp.	-	2
F	Penstemon caespitosus	-	86
F	Petradoria pumila	-	24
F	Phacelia coerulea	-	8
F	Senecio multilobatus	-	8
F	Stipa comata	-	32
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	167
Total for Forbs		0	167

BASIC COVER--

Management unit 30, Study no: 31

Cover Type	Average Cover %	
	'82	'92
Vegetation	2.25	3.25
Rock	10.00	12.50
Pavement	6.50	23.75
Litter	52.00	53.75
Cryptogams	.75	0
Bare Ground	28.50	6.75

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 31

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	33	0	100	-	-	0	100	0	47/53	
<i>Artemisia tridentata wyomingensis</i>										
82	132	0	50	50	-	0	0	0	19/27	
92	133	25	75	0	-	50	50	0	15/11	
<i>Cercocarpus montanus</i>										
82	133	0	100	-	-	100	0	0	19/27	
92	99	33	67	-	66	67	33	0	55/37	
<i>Cowania mexicana stansburiana</i>										
82	333	0	100	-	-	80	0	0	19/19	
92	433	54	46	-	33	46	38	0	26/25	
<i>Echinocactus sp.</i>										
82	66	0	100	-	-	0	0	0	7/13	
92	100	0	100	-	-	0	0	0	7/8	
<i>Eriogonum sp.</i>										
82	533	0	100	-	-	0	0	0	7/5	
92	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
82	100	0	100	-	-	0	0	0	7/7	
92	0	0	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Juniperus osteosperma</i>										
82	200	0	100	-	-	0	0	0	46/31	
92	299	56	44	-	100	0	0	0	124/72	
<i>Opuntia sp.</i>										
82	1633	0	100	0	-	0	0	4	4/14	
92	1832	29	67	4	-	2	0	16	4/6	
<i>Pinus edulis</i>										
82	33	100	0	0	-	0	0	0	-/-	
92	66	50	0	50	66	0	0	0	-/-	
<i>Purshia tridentata</i>										
82	232	28	72	-	-	57	14	0	14/32	
92	266	0	100	-	-	13	75	0	16/22	

WHITEROCKS RESERVOIR – STUDY NO. 30-32

HERBACEOUS TRENDS--

Management unit 30, Study no: 32

Type	Species	Nested Frequency	
		'82	'92
G	<i>Agropyron smithii</i>	-	105
G	<i>Bouteloua gracilis</i>	-	80
G	<i>Carex</i> sp.	-	23
G	<i>Koeleria cristata</i>	-	39
G	<i>Poa fendleriana</i>	-	117
G	<i>Poa pratensis</i>	-	149
G	<i>Sitanion hystrix</i>	-	14
G	<i>Stipa comata</i>	-	39
G	<i>Stipa lettermani</i>	-	222
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	755
Total for Grasses		0	755
F	<i>Agoseris glauca</i>	-	32
F	<i>Antennaria</i> sp.	-	30
F	<i>Arabis</i> sp.	-	14
F	<i>Aster</i> sp.	-	46
F	<i>Astragalus</i> sp.	-	30
F	<i>Balsamorhiza sagittata</i>	-	23
F	<i>Calochortus nuttallii</i>	-	16
F	<i>Carex</i> sp.	-	8
F	<i>Castilleja linariaefolia</i>	-	14
F	<i>Crepis acuminata</i>	-	51
F	<i>Cymopterus</i> sp.	-	25
F	<i>Erigeron eatonii</i>	-	169
F	<i>Eriogonum racemosum</i>	-	224
F	<i>Eriogonum umbellatum</i>	-	41
F	<i>Frasera speciosa</i>	-	6
F	<i>Hackelia patens</i>	-	58
F	<i>Linum lewisii</i>	-	10
F	<i>Lithospermum ruderales</i>	-	18
F	<i>Lomatium</i> sp.	-	5
F	<i>Lotus utahensis</i>	-	16
F	<i>Lupinus holosericeus</i>	-	182
F	<i>Lychnis drummondii</i>	-	18
F	<i>Machaeranthera canescens</i>	-	7
F	<i>Penstemon</i> sp.	-	6
F	<i>Petradoria pumila</i>	-	18
F	<i>Phlox austromontana</i>	-	229

Type	Species	Nest Frequency	
		'82	'92
F	Taraxacum officinale	-	16
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	1345
Total for Forbs		0	1345

BASIC COVER--

Management unit 30, Study no: 32

Cover Type	Average Cover %	
	'82	'92
Vegetation	15.00	2.25
Rock	6.50	16.00
Pavement	0	5.25
Litter	54.25	180.25
Cryptogams	.75	1.25
Bare Ground	23.50	.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 32

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
82	3399	10	84	6	-	0	0	4	14/21
92	14132	17	67	16	13199	10	.94	4	11/21
<i>Chrysothamnus nauseosus</i>									
82	0	0	0	-	-	0	0	0	-/-
92	133	0	100	-	-	0	0	0	7/9
<i>Chrysothamnus parryi</i>									
82	1133	0	100	0	-	0	0	0	6/8
92	933	43	43	14	266	29	14	0	6/9

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Chrysothamnus viscidiflorus lanceolatus</i>										
82	1932	48	52	-	-	0	0	0	10/15	
92	266	0	100	-	-	0	0	0	10/4	
<i>Eriogonum microthecum</i>										
82	466	0	100	-	-	0	0	0	5/6	
92	1200	0	100	-	-	0	0	0	5/4	
<i>Tetradymia canescens</i>										
82	333	100	0	-	66	0	0	0	-/-	
92	266	0	100	-	133	0	0	0	9/7	

WEST OF LONG FLAT – STUDY NO. 30-34

HERBACEOUS TRENDS--

Management unit 30, Study no: 34

Type	Species	Nested Frequency	
		'82	'92
G	Carex sp.	-	16
G	Melica bulbosa	-	8
G	Poa fendleriana	-	144
G	Poa secunda	-	1
G	Sitanion hystrix	-	65
G	Stipa comata	-	1
G	Stipa lettermani	-	35
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	270
Total for Grasses		0	270
F	Agoseris glauca	-	3
F	Allium sp.	-	68
F	Arabis sp.	-	1
F	Arenaria macradenia	-	5
F	Artemisia sp.	-	1
F	Astragalus sp.	-	15
F	Balsamorhiza sagittata	-	98
F	Calochortus nuttallii	-	9
F	Carex sp.	-	13
F	Castilleja chromosa	-	7
F	Cruciferae	-	1
F	Cymopterus sp.	-	2
F	Erigeron eatonii	-	46
F	Eriogonum racemosum	-	20
F	Eriogonum umbellatum	-	2
F	Fritillaria atropurpurea	-	4
F	Penstemon leonardi	-	11
F	Petradoria pumila	-	22
F	Trifolium sp.	-	5
F	Unknown forb-perennial	-	3
F	Viguiera multiflora	-	4
F	Zigadenus paniculatus	-	5
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	345
Total for Forbs		0	345

BASIC COVER--

Management unit 30, Study no: 34

Cover Type	Average Cover %	
	'82	'92
Vegetation	3.75	3.00
Rock	19.50	27.75
Pavement	0	9.50
Litter	48.75	54.00
Cryptogams	7.00	0
Bare Ground	21.00	5.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 34

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia nova</i>										
82	0	0	0	0	-	0	0	0	-/-	
92	398	17	67	17	-	17	17	33	19/26	
<i>Artemisia tridentata vaseyana</i>										
82	999	0	87	13	66	0	0	7	18/26	
92	799	25	67	8	66	33	50	8	11/22	
<i>Cercocarpus ledifolius</i>										
82	66	0	100	-	-	0	0	0	67/39	
92	199	67	33	-	-	33	67	0	96/59	
<i>Opuntia sp.</i>										
82	66	0	100	-	-	0	0	0	8/12	
92	266	0	100	-	-	0	0	0	7/9	
<i>Quercus gambelii</i>										
82	6399	73	27	0	1133	1	0	0	25/23	
92	13065	71	16	13	5733	17	14	.51	19/18	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Symphoricarpos oreophilus										
82	66	100	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	0	0	0	-/-	

DEEP CANYON – STUDY NO. 30-35

HERBACEOUS TRENDS--

Management unit 30, Study no: 35

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron trachycaulum	-	5
G	Bouteloua gracilis	-	14
G	Carex sp.	-	3
G	Poa fendleriana	-	217
G	Sitanion hystrix	-	89
G	Stipa columbiana	-	8
G	Stipa comata	-	5
G	Stipa lettermani	-	137
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	478
Total for Grasses		0	478
F	Antennaria sp.	-	10
F	Arabis sp.	-	9
F	Astragalus argophyllus	-	13
F	Astragalus sp.	-	7
F	Erigeron eatonii	-	91
F	Eriogonum racemosum	-	70
F	Hackelia patens	-	56
F	Heuchera parvifolia	-	2
F	Lathyrus brachycalyx	-	60
F	Lupinus argenteus	-	23
F	Machaeranthera canescens	-	8
F	Pedicularis centranthera	-	3
F	Petradoria pumila	-	9
F	Phlox austromontana	-	79
F	Senecio multilobatus	-	3
F	Silene douglasii	-	8
F	Taraxacum officinale	-	14
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	465
Total for Forbs		0	465

BASIC COVER--

Management unit 30, Study no: 35

Cover Type	Average Cover %	
	'82	'92
Vegetation	3.75	7.75
Rock	9.00	12.25
Pavement	1.50	17.00
Litter	44.50	46.00
Cryptogams	.25	.50
Bare Ground	41.00	16.50

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 35

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Abies concolor</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
82	1266	26	47	26	-	0	0	0	19/27	
92	2665	48	37	15	1066	18	3	8	20/26	
<i>Cercocarpus ledifolius</i>										
82	866	23	77	0	-	31	0	0	40/42	
92	1199	28	61	11	600	11	56	0	57/35	
<i>Chrysothamnus parryi</i>										
82	66	0	100	-	-	0	0	0	21/22	
92	66	100	0	-	-	0	100	0	-/-	
<i>Eriogonum microthecum</i>										
82	2266	0	100	0	-	9	0	0	9/18	
92	6198	30	69	1	-	41	3	2	7/8	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Opuntia sp.</i>									
82	133	0	100	0	-	0	0	0	4/5
92	398	17	67	17	-	0	0	17	7/9
<i>Quercus gambelii</i>									
82	600	0	100	-	-	0	100	0	12/5
92	133	100	0	-	133	0	0	0	-/-
<i>Symphoricarpos oreophilus</i>									
82	1000	20	80	0	-	47	0	0	22/24
92	1399	43	48	10	400	5	38	0	20/26

ATCHINSON MOUNTAIN – STUDY NO. 30-36

HERBACEOUS TRENDS--

Management unit 30, Study no: 36

Type	Species	Nestled Frequency	
		'82	'92
G	<i>Agropyron smithii</i>	-	95
G	<i>Agropyron</i> sp.	-	91
G	<i>Bouteloua gracilis</i>	-	6
G	<i>Koeleria cristata</i>	-	15
G	<i>Poa fendleriana</i>	-	27
G	<i>Poa pratensis</i>	-	1
G	<i>Sitanion hystrix</i>	-	68
G	<i>Stipa columbiana</i>	-	7
G	<i>Stipa comata</i>	-	24
G	<i>Stipa lettermani</i>	-	2
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	336
Total for Grasses		0	336
F	<i>Agoseris glauca</i>	-	44
F	<i>Allium</i> sp.	-	3
F	<i>Antennaria</i> sp.	-	7
F	<i>Artemisia ludoviciana</i>	-	10
F	<i>Astragalus aretioides</i>	-	23
F	<i>Balsamorhiza sagittata</i>	-	37
F	<i>Calochortus nuttallii</i>	-	6
F	<i>Comandra pallida</i>	-	49
F	<i>Crepis acuminata</i>	-	12
F	<i>Crepis occidentalis</i>	-	4
F	<i>Eriogonum racemosum</i>	-	38
F	<i>Eriogonum umbellatum</i>	-	5
F	<i>Lomatium</i> sp.	-	8
F	<i>Lotus utahensis</i>	-	6
F	<i>Lupinus holosericeus</i>	-	90
F	<i>Phlox longifolia</i>	-	66
F	<i>Tragopogon dubius</i> (a)	-	2
Total for Annual Forbs		0	2
Total for Perennial Forbs		0	408
Total for Forbs		0	410

BASIC COVER--

Management unit 30, Study no: 36

Cover Type	Average Cover %	
	'82	'92
Vegetation	7.25	18.75
Rock	4.75	4.25
Pavement	0	4.75
Litter	66.25	61.50
Cryptogams	0	0
Bare Ground	21.75	10.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 36

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	1733	0	65	35	-	15	4	19	18/19	
92	2199	0	67	33	66	3	0	15	34/34	
<i>Chrysothamnus viscidiflorus</i>										
82	1999	13	87	0	-	0	0	7	13/15	
92	3932	37	54	8	333	0	0	3	13/13	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	0	-	0	0	0	-/-	
92	2798	2	95	2	-	0	0	0	8/12	

TRUMAN BENCH – STUDY NO. 30-37

HERBACEOUS TRENDS--

Management unit 30, Study no: 37

Type	Species	Nestled Frequency	
		'82	'92
G	Koeleria cristata	-	60
G	Poa fendleriana	-	207
G	Sitanion hystrix	-	171
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	438
Total for Grasses		0	438
F	Agoseris glauca	-	22
F	Arabis sp.	-	6
F	Astragalus sp.	-	17
F	Calochortus nuttallii	-	2
F	Castilleja chromosa	-	1
F	Cirsium vulgare	-	27
F	Erigeron pumilus	-	19
F	Eriogonum umbellatum	-	7
F	Lotus utahensis	-	16
F	Penstemon leonardi	-	78
F	Penstemon palmeri	-	1
F	Phlox hoodii	-	21
F	Senecio multilobatus	-	2
F	Trifolium sp.	-	1
F	Viguiera multiflora	-	1
F	Zigadenus paniculatus	-	3
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	224
Total for Forbs		0	224

BASIC COVER--

Management unit 30, Study no: 37

Cover Type	Average Cover %	
	'82	'92
Vegetation	6.25	11.25
Rock	31.25	25.00
Pavement	16.75	16.75
Litter	41.75	42.50
Cryptogams	1.00	0
Bare Ground	3.00	4.50

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 37

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
82	266	0	100	-	-	100	0	0	41/33	
92	66	0	100	-	-	0	100	0	55/91	
Artemisia tridentata vaseyana										
82	6199	6	91	2	333	0	0	0	15/23	
92	5865	24	58	18	533	36	35	3	17/26	
Chrysothamnus depressus										
82	0	0	0	0	-	0	0	0	-/-	
92	1466	5	82	14	-	0	0	0	11/13	
Cowania mexicana stansburiana										
82	66	0	100	0	-	0	0	0	41/47	
92	132	0	50	50	66	0	50	0	102/93	
Gutierrezia microrcephala										
82	200	0	100	-	-	0	0	0	8/13	
92	666	0	100	-	133	0	0	0	8/9	
Juniperus osteosperma										
82	66	100	0	-	-	0	0	0	-/-	
92	66	100	0	-	66	0	0	0	-/-	
Purshia tridentata										
82	533	0	100	0	-	0	0	0	35/43	
92	799	8	67	25	-	17	83	0	37/52	

WIDE CANYON – STUDY NO. 30-38

HERBACEOUS TRENDS--

Management unit 30, Study no: 38

Type	Species	Nestled Frequency	
		'82	'92
G	Agropyron sp.	-	9
G	Poa fendleriana	-	13
G	Poa secunda	-	22
G	Sitanion hystrix	-	12
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	56
Total for Grasses		0	56
F	Agoseris glauca	-	3
F	Calochortus flexuosus	-	9
F	Sphaeralcea grossulariifolia	-	8
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	20
Total for Forbs		0	20

BASIC COVER--

Management unit 30, Study no: 38

Cover Type	Average Cover %	
	'82	'92
Vegetation	.75	.75
Rock	20.75	28.25
Pavement	11.25	10.75
Litter	55.00	41.00
Cryptogams	1.00	4.00
Bare Ground	11.25	15.25

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 38

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Artemisia tridentata vaseyana									
82	799	4	88	8	-	21	13	8	22/26
92	1599	46	35	19	300	69	13	6	19/23

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
<i>Cowania mexicana stansburiana</i>									
82	466	0	100	0	-	57	14	0	32/31
92	466	43	21	36	133	21	29	7	33/29
<i>Ephedra viridis</i>									
82	200	0	100	-	-	0	0	0	24/26
92	300	33	67	-	-	33	0	0	24/36
<i>Gutierrezia sarothrae</i>									
82	3265	8	87	5	-	0	0	5	8/9
92	3898	12	87	1	30033	0	0	3	13/12
<i>Juniperus osteosperma</i>									
82	33	100	0	-	-	0	0	0	-/-
92	33	100	0	-	66	0	0	0	-/-

TELEGRAPH DRAW – STUDY NO. 30-40

HERBACEOUS TRENDS--

Management unit 30, Study no: 40

Type	Species	Nested Frequency	
		'82	'92
G	<i>Agropyron cristatum</i>	-	12
G	<i>Elymus junceus</i>	-	9
G	<i>Koeleria cristata</i>	-	3
G	<i>Oryzopsis hymenoides</i>	-	5
G	<i>Poa fendleriana</i>	-	2
G	<i>Sitanion hystrix</i>	-	65
G	<i>Stipa comata</i>	-	3
G	<i>Stipa coronata depauperata</i>	-	45
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	144
Total for Grasses		0	144
F	<i>Astragalus sp.</i>	-	1
F	<i>Balsamorhiza hookeri</i>	-	1
F	<i>Chaenactis douglasii</i>	-	5
F	<i>Comandra pallida</i>	-	9
F	<i>Crepis acuminata</i>	-	2
F	<i>Dalea searlsiae</i>	-	12
F	<i>Eriogonum racemosum</i>	-	8
F	<i>Eriogonum shockleyi</i>	-	1
F	<i>Eriogonum umbellatum</i>	-	34
F	<i>Hymenopappus filifolius</i>	-	1
F	<i>Ipomopsis aggregata</i>	-	1
F	<i>Lotus utahensis</i>	-	8
F	<i>Lupinus argenteus</i>	-	17
F	<i>Machaeranthera canescens</i>	-	5
F	<i>Penstemon caespitosus</i>	-	45
F	<i>Penstemon sp.</i>	-	8
F	<i>Petradoria pumila</i>	-	55
F	<i>Phlox austromontana</i>	-	63
F	<i>Phlox longifolia</i>	-	14
F	<i>Senecio multilobatus</i>	-	9
F	<i>Sphaeralcea grossulariifolia</i>	-	1
F	<i>Trifolium sp.</i>	-	22
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	322
Total for Forbs		0	322

WILDLIFE MANAGEMENT UNIT 30

BASIC COVER--

Management unit 30, Study no: 40

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.50	4.25
Rock	6.00	6.00
Pavement	7.75	22.25
Litter	56.50	58.00
Cryptogams	.25	0
Bare Ground	27.25	9.50

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 40

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	6165	54	46	0	466	6	2	0	16/18	
92	11833	40	55	5	833	17	2	5	13/15	
<i>Chrysothamnus viscidiflorus</i>										
82	0	0	0	0	-	0	0	0	-/-	
92	133	75	0	25	-	0	0	25	-/-	
<i>Gutierrezia sarothrae</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	50	50	-	-	0	0	0	6/4	
<i>Juniperus osteosperma</i>										
82	166	0	100	-	-	0	0	0	39/26	
92	99	67	33	-	-	0	0	0	81/54	
<i>Pinus monophylla</i>										
82	166	0	100	0	-	0	0	0	32/31	
92	332	80	10	10	33	10	0	10	110/74	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Polygala subspinosa subspinosa</i>										
82	66	0	100	-	-	0	0	0	5/8	
92	266	12	88	-	-	0	0	0	3/4	
<i>Purshia tridentata</i>										
82	200	0	100	0	-	50	17	0	26/31	
92	332	10	70	20	66	10	20	0	34/43	

JOE SPRING – STUDY NO. 30-41

HERBACEOUS TRENDS--

Management unit 30, Study no: 41

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron intermedium	-	12
G	Agropyron smithii	-	16
G	Agropyron spicatum	-	56
G	Bouteloua gracilis	-	10
G	Bromus carinatus	-	13
G	Oryzopsis hymenoides	-	2
G	Poa fendleriana	-	3
G	Sitanion hystrix	-	30
G	Stipa comata	-	9
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	151
Total for Grasses		0	151
F	Artemisia ludoviciana	-	30
F	Astragalus argophyllus	-	2
F	Balsamorhiza sagittata	-	3
F	Comandra pallida	-	17
F	Erigeron eatonii	-	11
F	Eriogonum racemosum	-	2
F	Lupinus argenteus	-	84
F	Machaeranthera canescens	-	18
F	Phacelia heterophylla	-	1
F	Phlox austromontana	-	85
F	Vicia americana	-	54
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	307
Total for Forbs		0	307

BASIC COVER--

Management unit 30, Study no: 41

Cover Type	Average Cover %	
	'82	'92
Vegetation	2.75	0
Rock	1.25	0
Pavement	.50	0
Litter	67.25	0
Cryptogams	0	0
Bare Ground	28.25	0

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 41

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	1599	13	83	4	66	0	33	0	46/11	
92	466	43	43	14	-	0	43	0	20/36	
<i>Artemisia tridentata vaseyana</i>										
82	1265	11	79	11	-	5	0	0	24/32	
92	1332	20	60	20	66	15	5	15	22/27	
<i>Cercocarpus ledifolius</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
82	1732	62	23	15	-	0	100	15	8/6	
92	1132	47	12	41	200	35	53	18	6/7	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	1066	0	100	-	-	0	0	0	15/29	
92	0	0	0	-	-	0	0	0	-/-	
<i>Eriogonum microthecum</i>										
82	266	0	100	-	-	0	0	0	5/15	
92	66	0	100	-	-	0	0	0	6/9	
<i>Quercus gambelii</i>										
82	1066	31	69	0	-	13	31	0	47/23	
92	1865	39	25	36	800	7	79	0	71/47	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Symphoricarpos oreophilus</i>										
82	666	0	100	0	-	0	0	0	25/22	
92	599	56	33	11	-	22	0	0	19/29	
<i>Tetradymia canescens</i>										
82	66	0	100	-	-	0	0	0	12/15	
92	199	67	33	-	-	33	0	0	11/14	

GRAPEVINE SPRING – STUDY NO. 30-42

HERBACEOUS TRENDS--

Management unit 30, Study no: 42

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron intermedium	-	8
G	Sitanion hystrix	-	32
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	40
Total for Grasses		0	40
F	Cordylanthus parviflorus	-	9
F	Lotus plebeius	-	6
F	Phlox hoodii	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	19
Total for Forbs		0	19

BASIC COVER--

Management unit 30, Study no: 42

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.00	0
Rock	1.50	0
Pavement	19.75	0
Litter	60.00	0
Cryptogams	0	0
Bare Ground	17.75	0

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 42

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor	
Artemisia tridentata vaseyana									
82	566	47	53	0	166	0	0	0	15/20
92	2432	31	66	3	200	27	1	0	26/32

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Ceanothus greggii</i>										
82	233	0	100	0	-	0	14	0	31/29	
92	499	33	60	7	300	13	27	0	26/40	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
82	533	0	100	-	-	0	0	0	11/16	
92	0	0	0	-	-	0	0	0	-/-	
<i>Cowania mexicana stansburiana</i>										
82	99	33	67	0	-	0	0	0	31/44	
92	532	63	31	6	66	38	6	0	61/66	
<i>Eriodictyon angustifolium</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	0	100	-	-	0	0	0	20/22	
<i>Garrya flavescens</i>										
82	33	0	100	-	-	0	0	0	24/30	
92	33	0	100	-	-	0	0	0	20/24	
<i>Gutierrezia sarothrae</i>										
82	8799	6	94	0	-	0	0	0	12/12	
92	11932	8	84	9	2333	.27	0	.55	10/12	
<i>Juniperus osteosperma</i>										
82	133	25	75	-	-	0	0	0	53/43	
92	199	33	67	-	33	33	0	0	73/58	
<i>Pinus monophylla</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	33	100	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Y e a r	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Quercus turbinella										
8 2	33	0	100	-	-	0	0	0	44/59	
9 2	66	0	100	-	266	100	0	0	51/49	

MOTOQUA – STUDY NO. 30-44

HERBACEOUS TRENDS--

Management unit 30, Study no: 44

Type	Species	Nestled Frequency	
		'82	'92
G	Sitanion hystrix	-	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	4
Total for Grasses		0	4
F	Astragalus sp.	-	21
F	Sphaeralcea grossulariifolia	-	1
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	22
Total for Forbs		0	22

BASIC COVER--

Management unit 30, Study no: 44

Cover Type	Average Cover %	
	'82	'92
Vegetation	.25	3.75
Rock	3.00	15.25
Pavement	49.50	50.25
Litter	33.50	27.00
Cryptogams	0	0
Bare Ground	13.75	3.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 44

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
Coleogyne ramosissima									
82	1866	0	79	21	-	0	0	54	29/35
92	2133	2	70	28	-	38	6	3	31/33

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Ephedra viridis</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	100	0	100	-	-	0	0	0	32/42	
<i>Purshia glandulosa</i>										
82	433	0	92	8	-	0	0	8	58/48	
92	566	0	23	77	-	24	0	0	63/48	
<i>Thamnosma montana</i>										
82	33	0	100	0	-	0	0	0	26/30	
92	66	0	50	50	-	0	0	0	23/37	
<i>Yucca baccata baccata</i>										
82	1366	0	100	0	-	0	0	10	37/21	
92	1666	0	98	2	-	0	0	0	34/25	

FLAT TOP MOUNTAIN – STUDY NO. 30-45

BASIC COVER--

Management unit 30, Study no: 45

Cover Type	Average Cover % '82
Vegetation	2.50
Rock	10.00
Pavement	0
Litter	80.50
Cryptogams	.75
Bare Ground	6.25

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 45

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Amelanchier utahensis										
8 2	200	0	100	-	-	0	0	0	10/10	
Artemisia tridentata vaseyana										
8 2	66	0	100	-	-	0	0	0	15/16	
Chrysothamnus depressus										
8 2	133	0	100	-	-	100	0	0	7/16	
Prunus virginiana										
8 2	1066	0	100	-	-	0	0	0	10/5	
Quercus gambelii										
8 2	7599	15	85	-	66	30	4	0	19/20	

PAHCOON BENCH – STUDY NO. 30-46

HERBACEOUS TRENDS--

Management unit 30, Study no: 46

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron cristatum	-	44
G	Agropyron intermedium	-	136
G	Elymus junceus	-	3
G	Poa pratensis	-	4
G	Sporobolus cryptandrus	-	4
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	191
Total for Grasses		0	191
F	Sphaeralcea grossulariifolia	-	4
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	4
Total for Forbs		0	4

BASIC COVER--

Management unit 30, Study no: 46

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.50	5.50
Rock	5.75	7.25
Pavement	7.25	8.50
Litter	73.75	70.50
Cryptogams	0	0
Bare Ground	11.75	8.25

WILDLIFE MANAGEMENT UNIT 30

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 46

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia tridentata vaseyana</i>									
82	4866	68	32	0	733	0	0	0	25/19
92	3400	0	94	6	6933	0	0	0	28/28
<i>Cowania mexicana stansburiana</i>									
82	66	0	100	-	-	0	0	0	28/28
92	66	0	100	-	-	0	0	0	57/44
<i>Gutierrezia microrcephala</i>									
82	466	0	100	-	-	0	0	0	13/11
92	3933	5	95	-	7933	0	0	0	14/15
<i>Juniperus osteosperma</i>									
82	0	0	0	-	66	0	0	0	-/-
92	66	100	0	-	-	0	0	0	-/-
<i>Purshia glandulosa</i>									
82	266	75	25	-	-	25	0	0	32/44
92	266	100	0	-	-	0	0	0	-/-
<i>Purshia tridentata</i>									
82	0	0	0	-	-	0	0	0	-/-
92	466	14	86	-	66	29	0	0	34/50
<i>Yucca baccata baccata</i>									
82	133	0	100	-	-	50	0	0	7/10
92	200	100	0	-	-	0	0	0	-/-

RATTLESNAKE SPRING – STUDY

HERBACEOUS TRENDS--

Management unit 30, Study no: 49

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron intermedium	-	84
G	Bromus carinatus	-	17
G	Elymus cinereus	-	22
G	Koeleria cristata	-	2
G	Poa bulbosa	-	157
G	Poa fendleriana	-	53
G	Sitanion hystrix	-	22
G	Stipa comata		3
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	357
Total for Grasses		0	357
F	Achillea millefolium	-	10
F	Arabis sp.	-	4
F	Artemisia ludoviciana	-	25
F	Astragalus sp.	-	3
F	Balsamorhiza sagittata	-	5
F	Cymopterus sp.	-	1
F	Erigeron eatonii	-	3
F	Eriogonum racemosum	-	1
F	Ipomopsis aggregata	-	2
F	Lathyrus lanszwertii	-	50
F	Lupinus holosericeus	-	2
F	Phlox longifolia	-	33
F	Trifolium sp.	-	38
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	180
Total for Forbs		0	180

BASIC COVER--

Management unit 30, Study no: 49

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.25	4.25
Rock	.25	.25
Pavement	2.00	8.75
Litter	82.25	82.00
Cryptogams	0	0
Bare Ground	14.25	4.75

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 49

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	465	17	76	-	-	70	30	33	34/25	
92	866	8	92	-	666	15	15	0	51/29	
<i>Artemisia nova</i>										
82	0	0	0	0	-	0	0	0	-/-	
92	1799	30	52	19	-	26	7	0	9/13	
<i>Artemisia tridentata vaseyana</i>										
82	2131	50	47	3	733	3	0	0	14/16	
92	1932	17	76	7	-	14	24	0	18/14	
<i>Chrysothamnus sp.</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	200	0	100	-	-	0	0	0	8/14	
<i>Eriogonum sp.</i>										
82	133	0	100	-	-	0	0	0	10/13	
92	0	0	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Juniperus osteosperma</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	0	0	0	-	66	0	0	0	-/-	
<i>Pinus monophylla</i>										
82	66	100	0	-	-	0	0	0	-/-	
92	132	50	50	-	-	0	0	0	18/11	
<i>Quercus gambelii</i>										
82	7265	34	65	1	2466	16	0	0	44/21	
92	17599	69	27	4	666	16	2	0	43/17	
<i>Rosa woodsii</i>										
82	66	0	100	-	-	0	0	0	9/13	
92	0	0	0	-	-	0	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
82	999	7	93	-	-	0	0	0	18/10	
92	2533	92	8	-	200	8	0	0	20/27	

PINNACLES – STUDY NO. 30-51

HERBACEOUS TRENDS--

Management unit 30, Study no: 51

Type	Species	Nestled Frequency	
		'82	'92
G	Bromus carinatus	-	3
G	Poa fendleriana	-	18
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	21
Total for Grasses		0	21
F	Arabis sp.	-	11
F	Balsamorhiza sagittata	-	1
F	Erigeron eatonii	-	5
F	Hackelia patens	-	2
F	Ipomopsis aggregata	-	3
F	Lathyrus lanszwertii	-	33
F	Lathyrus sp.	-	3
F	Lomatium sp.	-	5
F	Lupinus holosericeus	-	4
F	Phlox austromontana	-	12
F	Phlox longifolia	-	20
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	99
Total for Forbs		0	99

BASIC COVER--

Management unit 30, Study no: 51

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.25	4.75
Rock	.75	1.75
Pavement	.50	4.25
Litter	88.50	82.00
Cryptogams	.25	.25
Bare Ground	8.75	7.00

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 51

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
82	10999	28	70	2	1799	0	0	2	31/16	
92	11066	49	49	2	9466	16	4	0	69/37	
<i>Artemisia tridentata vaseyana</i>										
82	599	0	78	22	-	0	11	11	20/21	
92	800	0	75	25	533	42	0	0	28/21	
<i>Cercocarpus montanus</i>										
82	66	0	100	0	-	100	0	0	32/24	
92	532	75	12	12	333	100	0	0	30/43	
<i>Quercus gambelii</i>										
82	400	0	100	-	-	0	0	0	18/16	
92	2866	72	28	-	266	7	0	0	43/18	
<i>Ribes velutinum velutinum</i>										
82	200	0	100	-	-	0	0	0	51/39	
92	200	0	100	-	-	33	0	0	41/50	
<i>Symphoricarpos oreophilus</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	66	0	100	-	66	100	0	0	10/25	

NORTHWEST OF ENTERPRISE – STUDY NO. 30-52

HERBACEOUS TRENDS--

Management unit 30, Study no: 52

Type	Species	Nested Frequency	
		'82	'92
G	Agropyron smithii	-	68
G	Hilaria jamesii	-	55
G	Koeleria cristata	-	2
G	Oryzopsis hymenoides	-	11
G	Poa fendleriana	-	60
G	Poa secunda	-	41
G	Sitanion hystrix	-	54
G	Unknown grass - perennial	-	3
Total for Annual Grasses		0	0
Total for Perennial Grasses		0	294
Total for Grasses		0	294
F	Astragalus sp.	-	5
F	Calochortus nuttallii	-	3
F	Eriogonum umbellatum	-	2
F	Lotus plebeius	-	94
F	Machaeranthera canescens	-	3
F	Phlox longifolia	-	15
Total for Annual Forbs		0	0
Total for Perennial Forbs		0	122
Total for Forbs		0	122

BASIC COVER--

Management unit 30, Study no: 52

Cover Type	Average Cover %	
	'82	'92
Vegetation	1.50	4.25
Rock	20.25	30.50
Pavement	6.25	10.75
Litter	56.75	45.75
Cryptogams	2.25	.75
Bare Ground	13.00	7.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 52

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata wyomingensis</i>										
82	6733	9	68	23	-	33	23	24	22/23	
92	3932	5	46	49	-	61	14	2	24/24	
<i>Chrysothamnus viscidiflorus</i>										
82	66	0	100	-	-	0	0	0	4/7	
92	66	0	100	-	-	0	0	0	11/14	
<i>Cowania mexicana stansburiana</i>										
82	0	0	0	-	-	0	0	0	-/-	
92	133	100	0	-	-	0	0	0	-/-	
<i>Ephedra viridis</i>										
82	133	0	100	-	-	50	0	0	11/6	
92	200	100	0	-	-	33	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
82	8265	6	80	14	-	0	0	6	8/11	
92	5466	0	100	0	66	0	0	0	11/10	
<i>Juniperus osteosperma</i>										
82	66	0	100	-	-	0	0	0	67/131	
92	0	0	0	-	66	0	0	0	-/-	

SPIRIT CREEK SOUTH BURNED – STUDY NO. 30-58

HERBACEOUS TRENDS--

Management unit 30, Study no: 58

Type	Species	Nested Frequency		
		'86	'87	'92
G	Agropyron cristatum	-	187	223
G	Agropyron intermedium	-	163	268
G	Bromus inermis	-	33	62
G	Dactylis glomerata	-	19	-
G	Festuca ovina	-	15	2
G	Poa fendleriana	2	14	-
G	Sitanion hystrix	5	10	2
Total for Annual Grasses		0	0	0
Total for Perennial Grasses		7	441	557
Total for Grasses		7	441	557
F	Chenopodium sp. (a)	3	-	2
F	Crepis acuminata	-	-	1
F	Erigeron sp.	-	-	3
F	Euphorbia sp.	17	16	23
F	Lotus utahensis	6	12	6
F	Medicago sativa	-	88	41
F	Melilotus officinalis	-	24	-
F	Nicotiana attenuata (a)	-	39	-
F	Penstemon leonardi	-	2	-
F	Physalis sp.	-	5	-
F	Sanguisorba minor	-	2	-
F	Sphaeralcea grossulariifolia	-	3	-
F	Unknown forb-perennial	-	-	6
Total for Annual Forbs		3	39	2
Total for Perennial Forbs		23	152	80
Total for Forbs		26	191	82

BASIC COVER--

Management unit 30, Study no: 58

Cover Type	Average Cover %		
	'86	'87	'92
Vegetation	.25	9.75	22.50
Rock	0	0	0
Pavement	0	.25	.75
Litter	5.50	15.75	48.50
Cryptogams	0	0	0
Bare Ground	94.25	74.25	28.25

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 58

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia tridentata vaseyana</i>										
86	0	0	0	0	-	0	0	0	-/-	
87	0	0	0	0	433	0	0	0	-/-	
92	166	80	0	20	33	20	20	0	-/-	
<i>Ceanothus greggii</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	133	0	0	0	-/-	
92	0	0	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	366	9	91	-	-	0	0	9	9/7	
92	266	50	50	-	-	0	0	0	10/15	
<i>Opuntia sp.</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	66	100	0	-	-	0	0	0	-/-	
92	33	0	100	-	-	0	0	100	6/9	
<i>Quercus gambelii</i>										
86	0	0	0	-	3533	0	0	0	-/-	
87	633	100	0	-	-	5	0	0	-/-	
92	0	0	0	-	-	0	0	0	-/-	

UPPER HORSE CREEK – STUDY NO. 30-59

HERBACEOUS TRENDS--

Management unit 30, Study no: 59

Type	Species	Nested Frequency		
		'86	'87	'92
G	Agropyron cristatum	-	26	80
G	Agropyron intermedium	-	45	179
G	Bromus inermis	-	4	4
G	Dactylis glomerata	-	3	-
G	Leucopoa kingii	-	2	-
G	Poa fendleriana	-	-	4
G	Sitanion hystrix	-	-	1
Total for Annual Grasses		0	0	0
Total for Perennial Grasses		0	80	268
Total for Grasses		0	80	268
F	Artemisia dracunculus	-	-	2
F	Artemisia ludoviciana	-	-	4
F	Crepis acuminata	-	-	3
F	Dracocephalum parviflorum	-	-	7
F	Erodium cicutarium (a)	-	5	-
F	Machaeranthera canescens	-	-	8
F	Medicago sativa	-	74	85
F	Nicotiana attenuata (a)	-	2	-
F	Senecio multilobatus	-	1	3
F	Sphaeralcea grossulariifolia	4	17	29
F	Taraxacum officinale	-	-	1
F	Trifolium sp.	-	1	-
F	Unknown forb-annual (a)	-	4	-
F	Unknown forb-perennial	2	-	-
F	Verbascum thapsus	-	-	3
Total for Annual Forbs		0	11	0
Total for Perennial Forbs		6	93	145
Total for Forbs		6	104	145

BASIC COVER--

Management unit 30, Study no: 59

Cover Type	Average Cover %		
	'86	'87	'92
Vegetation	0	5.00	13.75
Rock	25.75	25.75	24.75
Pavement	5.00	4.00	1.75
Litter	50.00	20.75	48.25
Cryptogams	0	0	0
Bare Ground	19.25	44.50	11.50

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 59

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	0	0	0	-	2600	0	0	0	-/-	
87	4333	100	0	-	400	38	0	0	-/-	
92	1999	38	62	-	-	55	5	2	26/25	
<i>Arctostaphylos patula</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	-	0	0	0	-/-	
92	33	100	0	-	-	0	100	0	-/-	
<i>Ceanothus greggii</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	600	100	0	-	133	0	0	0	-/-	
92	565	12	88	-	-	18	18	0	11/18	
<i>Cercocarpus ledifolius</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	-	0	0	0	-/-	
92	66	100	0	-	-	50	0	0	-/-	

WILDLIFE MANAGEMENT UNIT 30

		Age class distribution				Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)
Garrya flavescens									
86	0	0	0	-	233	0	0	0	-/-
87	266	100	0	-	233	0	0	0	-/-
92	233	0	100	-	-	86	14	0	12/11
Opuntia sp.									
86	0	0	0	-	-	0	0	0	-/-
87	33	100	0	-	-	0	0	0	-/-
92	33	0	100	-	-	0	0	100	7/13
Quercus gambelii									
86	0	0	0	-	1766	0	0	0	-/-
87	833	100	0	-	133	0	0	0	-/-
92	166	20	80	-	133	20	0	0	50/43
Quercus gambelii-turbinella hybrid									
86	0	0	0	-	1733	0	0	0	-/-
87	533	100	0	-	33	0	0	0	-/-
92	433	8	92	-	-	8	0	0	63/47

JONES HOLLOW – STUDY NO. 30-60

HERBACEOUS TRENDS--

Management unit 30, Study no: 60

Type	Species	Nested Frequency		
		'86	'87	'92
G	Agropyron cristatum	-	16	11
G	Agropyron intermedium	-	1	12
G	Bromus inermis	-	11	31
G	Dactylis glomerata	-	6	5
G	Festuca ovina	-	-	6
G	Poa fendleriana	-	-	4
G	Poa secunda	-	9	-
G	Unknown grass - perennial	7	-	-
Total for Annual Grasses		0	0	0
Total for Perennial Grasses		7	43	69
Total for Grasses		7	43	69
F	Agoseris glauca	-	-	8
F	Arabis sp.	-	6	1
F	Astragalus straturensis	-	2	-
F	Calochortus nuttallii	-	-	4
F	Chenopodium fremontii (a)	-	5	-
F	Collomia grandiflora (a)	-	1	-
F	Dichelostemma pulchellum	-	2	24
F	Lotus utahensis	-	-	2
F	Medicago sativa	-	12	-
F	Melilotus officinalis	-	1	-
F	Nicotiana attenuata (a)	-	3	-
F	Penstemon eatoni	-	2	3
F	Senecio multilobatus	-	-	7
F	Sphaeralcea grossulariifolia	-	13	14
F	Streptanthus cordatus	-	3	1
F	Unknown forb-perennial	3	-	-
F	Vicia americana	37	54	106
Total for Annual Forbs		0	9	0
Total for Perennial Forbs		40	95	170
Total for Forbs		40	104	170

BASIC COVER--

Management unit 30, Study no: 60

Cover Type	Average Cover %		
	'86	'87	'92
Vegetation	2.00	1.50	5.25
Rock	9.50	9.75	6.00
Pavement	5.25	9.50	15.50
Litter	12.25	16.00	50.25
Cryptogams	0	0	0
Bare Ground	71.00	63.25	23.00

BROWSE CHARACTERISTICS--

Management unit 30, Study no: 60

		Age class distribution					Utilization			
Y	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
86	6133	100	0	-	4400	0	0	16	-/-	
87	2900	100	0	-	700	11	3	0	-/-	
92	1133	62	38	-	466	0	0	0	40/49	
<i>Arctostaphylos patula</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	-	0	0	0	-/-	
92	300	100	0	-	-	0	0	0	-/-	
<i>Artemisia tridentata vaseyana</i>										
86	0	0	0	0	-	0	0	0	-/-	
87	0	0	0	0	100	0	0	0	-/-	
92	165	40	40	20	-	0	0	0	17/18	
<i>Ceanothus greggii</i>										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	1533	0	0	0	-/-	
92	166	100	0	-	-	0	0	0	-/-	

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
Eriodictyon angustifolium										
86	0	0	0	-	-	0	0	0	-/-	
87	700	100	0	-	333	0	0	0	-/-	
92	833	24	76	-	133	0	0	0	14/11	
Garrya flavescens										
86	1866	100	0	-	1166	0	0	0	-/-	
87	266	100	0	-	233	0	0	0	-/-	
92	100	0	100	-	33	0	0	0	60/56	
Quercus gambelii										
86	5966	100	0	-	1833	0	0	0	-/-	
87	3100	100	0	-	300	0	0	0	-/-	
92	1000	20	80	-	33	0	0	0	64/51	
Quercus gambelii-turbinella hybrid										
86	0	0	0	-	-	0	0	0	-/-	
87	433	100	0	-	33	0	0	0	-/-	
92	0	0	0	-	-	0	0	0	-/-	
Quercus turbinella										
86	2566	100	0	-	499	0	0	39	-/-	
87	33	100	0	-	-	0	0	0	-/-	
92	0	0	0	-	33	0	0	0	-/-	
Unknown browse										
86	0	0	0	-	-	0	0	0	-/-	
87	0	0	0	-	499	0	0	0	-/-	
92	0	0	0	-	-	0	0	0	-/-	

OAK GROVE – STUDY NO. 30-70

HERBACEOUS TRENDS--

Management unit 30, Study no: 70

Type	Species	Nested Frequency '87
G	Agropyron cristatum	5
G	Agropyron intermedium	30
G	Bromus sp.	4
Total for Annual Grasses		0
Total for Perennial Grasses		39
Total for Grasses		39
F	Asclepias sp.	1
F	Erysimum asperum	5
F	Medicago sativa	3
F	Penstemon leonardi	25
F	Penstemon palmeri	1
F	Phlox austromontana	1
F	Physaria chambersii	1
F	Solidago sparsiflora	5
F	Viguiera multiflora	4
Total for Annual Forbs		0
Total for Perennial Forbs		46
Total for Forbs		46

BASIC COVER--

Management unit 30, Study no: 70

Cover Type	Average Cover % '87
Vegetation	5.25
Rock	31.00
Pavement	7.00
Litter	6.50
Cryptogams	0
Bare Ground	50.25

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 70

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	9733	100	0	-	2533	0	0	3	-/-	
<i>Ceanothus greggii</i>										
87	0	0	0	-	3533	0	0	0	-/-	
<i>Cercocarpus montanus</i>										
87	133	100	0	-	200	0	0	0	-/-	
<i>Garrya flavescens</i>										
87	1266	100	0	-	1200	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	333	0	100	-	-	0	0	0	9/13	
<i>Purshia tridentata</i>										
87	66	100	0	-	-	0	0	0	-/-	
<i>Quercus gambelii</i>										
87	1999	100	0	-	400	0	0	0	-/-	
<i>Quercus turbinella</i>										
87	1333	100	0	-	200	0	0	0	-/-	
<i>Yucca baccata baccata</i>										
87	466	100	0	-	-	0	0	0	-/-	

PIG CREEK – STUDY NO. 30-71

HERBACEOUS TRENDS--

Management unit 30, Study no: 71

Type	Species	Nested Frequency '87
G	Agropyron cristatum	3
G	Agropyron intermedium	23
G	Bromus inermis	11
G	Bromus sp.	6
G	Poa fendleriana	8
G	Poa secunda	4
G	Sitanion hystrix	7
Total for Annual Grasses		0
Total for Perennial Grasses		62
Total for Grasses		62
F	Arabis sp.	1
F	Erigeron divergens	5
F	Lathyrus lanszwertii	16
F	Medicago sativa	16
F	Melilotus officinalis	3
F	Penstemon eatoni	4
F	Penstemon leonardi	44
F	Senecio multilobatus	2
F	Vicia americana	66
F	Viguiera multiflora	1
Total for Annual Forbs		0
Total for Perennial Forbs		158
Total for Forbs		158

BASIC COVER--

Management unit 30, Study no: 71

Cover Type	Average Cover % '87
Vegetation	2.00
Rock	15.50
Pavement	5.00
Litter	15.00
Cryptogams	0
Bare Ground	62.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 71

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Amelanchier utahensis</i>										
87	6000	100	0	-	4800	21	1	0	-/-	
<i>Cercocarpus montanus</i>										
87	66	100	0	-	-	0	0	0	-/-	
<i>Gutierrezia sarothrae</i>										
87	400	0	100	-	-	0	0	0	11/3	
<i>Mahonia repens</i>										
87	333	0	100	-	66	0	0	0	2/4	
<i>Quercus gambelii</i>										
87	5866	100	0	-	533	17	0	0	-/-	
<i>Symphoricarpos oreophilus</i>										
87	266	100	0	-	-	0	0	0	-/-	

SPIRIT CREEK – STUDY NO. 30-72

HERBACEOUS TRENDS--

Management unit 30, Study no: 72

Type	Species	Nested Frequency '87
G	Agropyron cristatum	1
G	Agropyron intermedium	29
G	Bromus inermis	11
G	Bromus sp.	3
G	Dactylis glomerata	5
G	Poa fendleriana	45
G	Unknown grass - perennial	2
Total for Annual Grasses		0
Total for Perennial Grasses		96
Total for Grasses		96
F	Arabis holboellii	20
F	Chenopodium fremontii (a)	1
F	Melilotus officinalis	9
F	Nicotiana attenuata (a)	1
F	Penstemon sp.	4
F	Phlox austromontana	7
F	Sanguisorba minor	3
F	Senecio multilobatus	14
F	Unknown forb-perennial	5
Total for Annual Forbs		2
Total for Perennial Forbs		62
Total for Forbs		64

BASIC COVER--

Management unit 30, Study no: 72

Cover Type	Average Cover % '87
Vegetation	2.75
Rock	43.75
Pavement	15.00
Litter	11.75
Cryptogams	.25
Bare Ground	26.50

BROWSE CHARACTERISTICS--
Management unit 30, Study no: 72

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Amelanchier utahensis</i>									
87	1466	100	0	-	200	0	0	0	-/-
<i>Artemisia tridentata vaseyana</i>									
87	66	100	0	-	-	0	0	0	-/-
<i>Ceanothus greggii</i>									
87	0	0	0	-	333	0	0	0	-/-
<i>Garrya flavescens</i>									
87	2400	100	0	-	133	0	0	0	-/-
<i>Opuntia sp.</i>									
87	133	100	0	-	-	0	0	0	-/-
<i>Quercus gambelii (burned)</i>									
87	133	100	0	-	-	0	0	0	-/-
<i>Quercus gambelii-turbinella hybrid</i>									
87	266	100	0	-	-	0	0	0	-/-
<i>Quercus turbinella</i>									
87	600	100	0	-	-	0	0	0	-/-
<i>Yucca sp.</i>									
87	66	100	0	-	-	0	0	0	-/-