ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit 1
Box Elder
May 2012

BOUNDARY DESCRIPTION

Box Elder, Tooele, Salt Lake, Davis and Weber counties- Boundary begins at the Utah-Idaho state line and I-15; west along this state line to the Utah-Nevada state line; south along this state line to I-80; east on I-80 to I-15; north on I-15 to the Utah-Idaho state line.

Subunit 1a Grouse Creek: Box Elder County- Boundary begins at the extreme northwest corner of Utah; east on the Utah-Idaho state line to the Lynn Valley/Oakley county road; south along this road following what becomes the Dove Creek road to SR-30; west on SR-30 to the Nevada state line; north along this state line to the extreme northwest corner of Utah.

Subunit 1b Raft River Mtn.: Box Elder County- Boundary begins at the Utah state line and SR-42; east along SR-42 to SR-30; west on SR-30 to the Dove Creek county road; north along the Dove Creek road to the Lynn Valley road; north along the Lynn valley/Oakley road to the Utah-Idaho state line.

Subunit 1c Pilot Mtn: Box Elder and Tooele counties- Boundary begins at SR-30 and the Utah-Nevada state line; east along SR-30 to the township line separating Range 17 West and Range 18 West; south along this township line to I-80; west along I-80 to the Utah-Nevada state line; north along this state line to SR-30. This subunit also includes the Nevada's s newly formed/named unit 091. (Prior to 2007, it was known as unit 079. The Nevada Pilot subunit used to include the Toanna range to the west. The Toanna's were removed from the Pilot subunit and retained the old Nevada subunit name of 079).

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service			30,115	54	5,913	13
Bureau of Land Management	190,324	48	5,459	10	21,528	48
Utah State Institutional Trust Lands	28,082	7	1,553	3	3,447	8
Native American Trust Lands						
Private	182,078	45	18,277	33	13,800	31
Department of Defense						
USFWS Refuge						
National Parks						
Utah State Parks						
Utah Division of Wildlife Resources						
TOTAL	400,484	100	55,404	100	44,688	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

Manage the Grouse Creek/Raft subunits as approved by the West Box Elder elk committee and subsequently the Utah Wildlife Board. This required managing the elk population using CWMUs to address the complex private/public checkerboard land pattern, a stipulation stating that "landowners will not be expected to tolerate elk following into a pattern of causing sustained measurable damage to crops" and both the Raft subunit and Grouse Cr. population could increase by immigration only.

Co-manage the Pilot subunit with the State of Nevada to abide by the interstate hunt agreement.

Prioritize habitat restoration and enhancement efforts to stem the loss of grasslands to Juniper and cheatgrass encroachment or conversion.

UNIT MANAGEMENT OBJECTIVES

Maintain West Box Elder Elk Committee Requirements

-CWMU's-Maximize the use of elk CWMUs in subunit 1a and 1b to manage elk.
-Crop depredation- Immediate response to all crop damage complaints
-Elk population cannot exceed 275 animals (at any time) on combined subunits 1a and 1b.
-Proposed option: If elk immigrate into the Raft subunit 1b- the population cannot exceed 100 animals

Habitat

-Increase 1000 acres of winter range on subunit 1a.
-Increase summer and winter carrying capacity on subunit 1c.

Population

Target Winter Herd Size

-Subunits 1a and 1b combined cannot exceed 275 total
- Subunit 1b Raft: Allow population to increase up to100 animals

-Subunit 1c Pilot Mtn.: Increase population to achieve 400 animals (computer modeled population).

Bull Age Harvest Composition-

-Subunit 1a and 1b: Average age of harvested bulls will be maintained at 4.5-5.0 years.
-Subunit 1c: Average age of harvested bulls will be maintained at 5.5-6.0 years.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

-Habitat conditions: All areas of this desert unit appear to be declining. Cheatgrass invasion is occurring at a rapid rate.

-Determining population objectives: When looking at population objectives, the Division has taken into account numerous barriers which include: 1) depredation issues 2) winter range that is beyond Division control 3) social and political factors 4) current and future range improvements and 5) current range health.

-Subunit 1a: The West Box Elder Elk Committee approved 175-275

animals after reviewing the above information. The summer and winter populations are constantly straddling the border with Nevada. Movement of 100 plus animals every week is common.
-Subunit 1b: The West Box Elder Elk Committee approved 100 animals after reviewing the above information.
-Subunit 1c: It appears that the current 400 wintering elk objective may be too high for the current winter habitat. In 2000 this unit experienced a winter migration of 200-250 elk out of a population that was at the 400 objective. These elk appeared to move into the north Montello (Nevada) population and never returned. This was the beginning of the drought. The 1980's objective of 400 animals was based on an AUM allotment that required the elk to utilize feed that was on steep hillsides and thus not used by livestock. No livestock AUMs were lost during the process of "finding" approved feed for a new elk herd. Winter feed may be limiting and it is recommended that close scrutiny occur in winter as this unit approaches objective in 5+ years.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2002 through 2010		**Proposed Projects – 2011 and beyond**	
Meacham Cr.	1600 acres	Ensign PJ chaining	640 acres
Cook Cyn/Kimbal Cr	640 acres		
Dairy Valley wildfire-Utah	9200 acres		
Bettridge wildfire	3000 acres		
Pole Cr	1000 acres		
Project total acreage	**15,440 acres**		**640 acres**

Population Dynamics

-Subunit 1a:

-Population status: This area currently winters approximately 100 animals. This is essentially the same number as 10 years ago, however; the summer peak average population has more than doubled (100 to 200). It appears that quite a few of Utah's summering elk, winter in Nevada. Their Utah winter distribution is as follows: 10-20 elk on the southern Grouse Creek range, 10 -20 on the Goose Creek drainage (Nevada/Idaho border area) and 80 in the Kilgore Basin/Nevada line area. The Nevada population is being maintained at objective. Routine discussions of management and populations take place with the Nevada Division of Wildlife. The Nevada portion of this area supports 1250 elk. The Grouse Creek Subunit appears to occupy the easternmost edge of their range.
- Harvest: The 4 CWMUs have averaged17 permits annually. There are 2 Limited Entry public land tags as well as a general season spike only hunt. For the CWMU and Limited Entry hunts, the past 5 year average yearly harvest has been 15 bulls at 4.86 years of age. Age structure is based on various sample sizes (4-15).

-Subunit 1b:

-Population status: In the late 1990's small groups of elk routinely moved through this area but none stayed. There were approximately 60 elk in 2010 that moved back into Idaho in October. In 2011, similar population results as 2010 were observed.
-Harvest: In 2011, one CWMU harvested 2 bulls with the average age of 3.5.

-Subunit 1c:

-Population status: There are approximately 250 elk. This population is slowly increasing. Bull/ cow ratios have averaged 40+ and cow/calf ratio's averaged 39 with an increasing trend.

-Harvest: The past 5 year average annual harvest has been 3 bulls with an age of 5.2 and increasing (3 yr average is 5.3)

-Unit 1 East Box Elder:

This is an "unauthorized" population and currently numbers about 50 animals. Beginning in the late 1980's Idaho had a growing elk population that started wintering by Snowville, after going around an Idaho wildlife drift fence. The fence was removed in the mid 1990's and 200-300 elk started crossing I-84 to winter on the southern end of the Hansel Mountain range. Several elk stayed during the summer. When the summer population reached 20+ DWR initiated several hunts to attempt to eliminate this population. An open bull season was started along with free and fee antlerless tags to landowners and a public antlerless hunt. The public antlerless hunt was discontinued after 6 years due to lack of access. The summer resident population has tripled over the last 15 years. The annual winter influx makes this rogue population even harder to manage. Numerous elk damage discussions have taken place with concerned smaller acreage landowners and all landowners are still content to maintain the population with free/fee mitigation tags. This has slowed the growth down considerably. The elk spend most of the summer and fall on one landowner with nightly jaunts off the property for water, alfalfa, or corn. An open bull hunt continues to harvest an increasing number of bulls. This equals about 30 bulls annually (3 year average is 36). The Idaho population appears to be increasing with around 500 elk coming into Utah in winter 2011.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

West Box Elder Elk Committee Requirements

-CWMU's. The Grouse Creek Subunit elk population would be eliminated if CWMUs were not used to manage the population. Currently 4 CWMU's help manage 80% of the elk and the associated crop depredation issue's.

-Crop depredation. Landowners will not be expected to tolerate elk following into a pattern of causing sustained measurable damage to crops.

-Population increases allowed by immigration only.

Habitat

-Subunit 1a: The majority of the current late August/September population winters mostly in Nevada. There are around 80 elk that winter on the Kilgore Basin Nevada/Utah border. This area also winters several hundred deer. The small eastern Grouse Creek Range population appears to have very limited summer habitat. Currently there is only one small group of 10-20 elk that rarely depredate and live on rangeland. This area is an un-grazed BLM allotment. Summer crop depredation occurs by almost the entire population.

-Subunit 1b: Either there is little/no available feed or public use is intense enough to keep most elk off of this mountain.

-Subunit 1c: Winter feed appears to be limiting. Summer habitat changes such as increased cheatgrass and low mountain grass production may have forced elk into crop depredation circumstances. Very little crop damage occurred in the 1980's and 1990's but during and following this last drought all cropland has depredation beginning in early June. The fall 2011 helicopter survey found 68 of 95 elk classified in agricultural fields.

Population (Public resistance to increasing numbers of bull hunting permits to reduce mean age of harvest) This does not appear to be a factor.

Other Barriers

Crop Depredation is a huge problem in the Grouse Creek Subunit and is an increasing problem in the Pilot Mountain Subunit.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

West Box Elder Elk Committee Requirements

-CWMU'S Subunit 1a: Maintain and enhance the existing CWMU's and pursue ways to address the remaining elk that are depredating on cropland.

Actions to Remove Elk Committee Barriers

-Recommend no additional losses for elk management in the CWMU program. This includes the 4 current CWMU's, their acreage requirements, percent splits and the use of additional public/private checkerboard properties to manage this elk population as mandated.

-Crop depredation: Continue to encourage and support the damage control technicians to promptly respond and address elk damage complaints.

Habitat

Monitoring-Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

-Encourage and support the habitat section in enhancement of summer and winter range conditions on subunits 1a and 1c:

-1a: Continue working with the landowner on the proposed Bovine PJ removal/reseeding project. Elk winter range will be enhanced and haystack depredation may decline.

-1c: Work with the BLM on all wildfire reseeding on the wilderness study area. This should help increase winter carrying capacity and limit summer crop damage.

Population

Monitoring

-Population Size - The majority of elk on Subunit 1a winter in Nevada and is surveyed by Nevada during their annual winter flight. The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. Constant discussion with Nevada regarding their population computer model and management has been occurring. The Utah proportion of this overall elk population is around 10-15%. Subunit 1c is also co- managed with Nevada and is shared 50:50.

-Bull Age Structure - Monitor age class structure of the bull population through the use of uniform harvest surveys, limited entry tooth aging, and aerial classification.

-Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Achieve the target population size through antlerless harvest using a variety of harvest methods and seasons. Bull harvest strategies will be developed through coordination with Nevada.

Actions to Remove Population Barriers

Continue annual proactive meetings and mailings for landowners affected by depredating elk. The last ten years of proactive fee/free mitigation permit mailings and meetings have removed most depredating population barriers.

The Division will attempt to increase the population objective on this unit when the biological and social carry capacity allow for an upward adjustment.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 2
Cache
May 2012

BOUNDARY DESCRIPTION

Cache, Rich, Weber, and Box Elder counties — Boundary begins at the Utah-Idaho state line and I-15; south on I-15 to US-91; northeast on US-91 to SR-101; east on SR-101 to Hardware Ranch and USFS Road 054 (Ant Flat); south on USFS 054 to SR-39; east on SR-39 to SR-16; southeast on SR-16 to the Utah-Wyoming state line; north along this state line to the Utah-Idaho state line; west along this state line to I-15.

Limited Entry Unit Boundaries

North Cache: Cache and Rich counties — Boundary begins at US-89 and the Utah-Idaho state line; southwest on US-89 and US-89/91 to Brigham City; west on US-91 to I-15; north on I-15 to the Utah-Idaho state line; east along this state line to US-89.

South Cache: Cache and Rich counties — Boundary begins at US-89 and the Utah-Idaho state line; southwest on US-89 to Logan and US-89/91; southwest on US-89/91 to SR-101; east on SR-101 to Hardware Ranch and USFS Road 054; south on USFS Road 054 (Ant Flat Road) to SR-39; east on SR-39 to SR-16 (Woodruff); southeast on SR-16 to the Utah-Wyoming state line; north along this state line to the Utah-Idaho State line; west along this state line to US-89; excludes Cache, Meadowville Unit.

Cache, Meadowville: Rich County — Boundary begins at US-89 and the USFS boundary west of Garden City; south along this boundary to SR-39; east on SR-39 to SR-16; north on SR-16 to SR-30; northwest on SR-30 to US-89; west on US-89 to the USFS boundary.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	5701	25	202,884	65	116,462	32
Bureau of Land Management	0	0	16,627	5	97,367	27
Utah State Institutional Trust Lands	0	0	13,432	4	18,929	5
Native American Trust Lands	0	0	0	0	0	0
Private	16,043	72	78,415	25	118,553	32
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	629	3	1,187	<1	14,972	4
TOTAL	22,374	100	312,544	100	366,283	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

Summer range is abundant and in good to excellent condition. Winter range is in acceptable condition for wintering elk with the possible exceptions of two feed sites at Hardware Ranch Wildlife Management Area (HRWMA) and Millville Face Wildlife Management Area (MFWMA). Elk at HRWMA are fed to hold them away from Cache Valley where they would probably become a depredation problem. Habitat at HRWMA is in good condition and improving, but without the feeding program these elk would not stay most years. Millville Face Wildlife Management Area (MFWMA) is a feed site established to provide wintering elk with food during lean months because they are held behind a high fence, and would become a problem if they made it into Cache Valley. MFWMA is a traditional winter range for elk. Habitat condition there is poor due to frequent fires and overuse by wintering elk.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives. Pay special attention to WMA's and areas were holding elk could alleviate pressure on private landowners experiencing damage by wintering elk.

Work with private and federal agencies to maintain and protect critical and existing winter range from future losses.

Population

Target winter herd size of 2300 elk (computer modeled population).

Bull Age Harvest Composition – Average age of bulls harvested from the North Cache will be 4.5–5.0 years old, on the South Cache will be 4.5–5.0 years old, and on Meadowville 4.5–5.0 years old.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Elk on this unit generally summer on public land and winter on a mixture of public and private land at lower elevations in Cache Valley and Rich County. Most of the range is in suitable condition to expect growth in elk numbers into the future. Most losses of winter range to development are taking place in areas were elk do not traditionally winter. Though habitat is probably not limiting at this time, tolerance for wintering elk by landowners is limiting. The objective set forth in this plan takes all factors into consideration and sets the population objective of the unit at 2300 wintering elk.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2006 through 2012		**Proposed Projects – 2012 and beyond**	
Hardware Ranch Grazing Project	14,000	Hardware Ranch Grazing Project	14,000
Richmond WMA	1,000	Richmond WMA	1,000
		Middle Fork WMA	1,000
Project total acreage	**15,000**		**16,000**

Population (Current Status)

The population is stable at the objective of 2300 wintering animals (Modeled Population, Pop II Model).

In order to maintain the population at objective, approximately 250 antlerless animals will need to be harvested annually through the duration of this plan. These animals will be taken using limited entry antlerless permits and depredation permits. This harvest will be concentrated in areas were animals are causing damage to agricultural interests.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat At this point habitat does not to seem to be limiting on this unit.

Population Public meetings have garnered public support for the current objective.

Other Barriers Damage to private landowners will continue to be a problem on this unit. So far fencing, damage payments, and mitigation permits have had varying degrees of success. The strategy should be to prevent damage were possible, compensate for damage when necessary, and use hunting to discourage animals from coming into situations were they can cause damage. Culling is an option of last resort, and will probably not be necessary at the management objective of 2300 animals.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

Efforts are currently underway to alleviate pressure to landowners, and reduce needs for feeding in Cache Valley by addressing habitat concerns at the Richmond WMA (RWMA) and Middle Fork WMA (MFWMA). At RWMA the goal is to enhance winter range and hold elk in that area on public property as much as possible. At MFWMA over utilization has left little natural forage for elk, increasing the number of days feed needs to be provided.

Continue to pursue conservation easements in Cache Valley.

Population

Monitoring

Population Size – The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Bull Age Structure - Monitor age class structure of the bull population through the use of Limiter Entry hunter tooth submission for aging, checking stations, uniform harvest surveys, field bag checks, and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Maintain the target population size by use of antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

Fencing, depredation hunts, other actions to reduce/mitigate crop depredation.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 3
Ogden
May 2012

BOUNDARY DESCRIPTION Weber, Box Elder, Cache, and Morgan counties -
Boundary begins at Hyrum and SR-101; east on SR-101 to the Ant Flat Road (at Hardware Ranch); south on this road to SR-39; west on SR-39 to SR-167 (Trappers Loop Road); south on SR-167 to I-84; west on I-84 to I-15; north on I-15 to Exit 364 and US-91: northeast on US-91 to SR-101; east on SR-101 to Hyrum.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	15,727	15	18,237	11
Bureau of Land Management	0	0	0	0	0	0
Utah State Institutional Trust Lands	0	0	8,217	8	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	8	0	79,181	76	138,217	81
Water	0	0	156	<1	28	<1
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	1,263	1	15,110	9
TOTAL	8	100	104,543	100	171,591	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

Summer range is abundant and in good condition. Winter ranges are disappearing due to increased development in Ogden Valley. Elk depredation of agricultural crops continues to be a problem during winter months.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives.

Work with private and federal agencies to maintain and protect critical and existing winter range from future losses.

Population

Target winter herd size of 800 elk (computer modeled population).

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Elk wintering on this unit are found in southern Cache and Ogden valleys. Most winter and summer range is privately owned. Winter range is limiting in Ogden Valley where development from the Wasatch front is quickly encroaching into areas where elk currently winter. In Cache Valley winter range is less likely to be developed in the short term, but depredation to crops, haystacks, and equipment is a major concern. Those factors combined set the social carrying capacity of the unit at 800 wintering animals.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2002 through 2011		**Proposed Projects – 2012 and beyond**	
		Middle Fork WMA	1,000
Project total acreage	**0**		**1,000**

Population (current status)

Because of continued harvest of animals that are depredating agricultural interests, the population is currently below objective at around 600 wintering animals.

Three year plan to achieve population objective: In order to bring this population to objective it will be necessary to limit antlerless harvest to groups of animals that are actually depredating agricultural interests. Limited entry antlerless permits will be eliminated and permits for antlerless animals will only be issued to landowners experiencing damage. Non-lethal methods of depredation control like fencing and hazing will be especially important to achieve the objective.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat: As winter range continues to be lost to development, population objectives will have to be adjusted accordingly.

Population: Because to the amount of depredation on the Ogden Unit, it may be difficult to reach objective.

Other Barriers: Depredation to crops, haystacks, equipment and infrastructure.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

Continue to rehabilitate the Middle Fork Wildlife Management Area (MFWMA) for the primary purpose of wintering elk and deer. This rehabbing may help hold elk on the MFWMA and prevent or reduce crop depredation in the valley.

Continue to pursue conservation easements around MFWMA and work with land managers to improve habitat for wintering elk and mule deer where necessary.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.. The wintering population on this unit varies because of the influx of animals from the Morgan-South Rich and Cache units. Movement data obtained from telemetry and ear tagging studies indicate that a significant number of elk from those units wintered on the MFWMA.

Bull Age Structure - The Ogden unit is managed under a general season hunt format and as such bull age objectives are not required. General herd health will be assessed through the use of checking stations, uniform harvest surveys, field bag checks, and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest and season formats.

Management Actions to Remove Population Barriers

Use fencing, depredation hunts, and other actions to reduce/mitigate crop depredation.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 4
Morgan-South Rich
May 2012

BOUNDARY DESCRIPTION

Morgan, Rich and Summit counties - Boundary begins at the junction of I-80 and I-84 near Echo; east on I-80 to the Utah-Wyoming state line; north along this state line to SR-16; north on SR-16 to SR-39 near Woodruff; west along SR-39 to SR-167 (Trappers Loop road); south on SR-167 to SR-30 at Mountain Green; west on SR-30 to I-84; east on I-84 to I-80.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	21700	7.3	15943	6.4
Bureau of Land Management	0	0	5023	1.7	22523	9
Utah State Institutional Trust Lands	0	0	632	.2	3123	1.2
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	265436	89	192549	78
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
Water	0	0	324	0	198	<1
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	5194	1.7	12196	5
TOTAL	0	0	298309	100	246532	100

UNIT MANAGEMENT GOALS

Manage the elk population at levels consistent with available habitat but below carrying capacity. Much of the unit is privately owned and enrolled in the Cooperative Wildlife Management Unit program with limited bull harvest. Actively work and cooperate with private landowners in the rehabilitation and/or acquisition of critical winter range and other range improvement projects as opportunity permits. Try to secure conservation easements on private properties to slow the rapid development occurring on critical ranges within the unit. Encourage and educate private landowners and Cooperative Wildlife Management Unit operators to continue the harvest of antlerless elk in sufficient numbers to bring the winter elk population down to the herd unit management objective. Maintain the population at a level that is within the long-term capability of the available habitat.

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk

herd on other land uses and public interests including private property rights, agricultural crops, and local economies.

Continue to work on habitat projects on UDWR owned properties within the unit and set management objective numbers of elk for Wildlife Management Areas.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and improve current acreages of summer and winter range (298,309 acres summer range, 246,532 acres winter range) through conservation easements and habitat projects. Much of the winter range is privately owned and could be at risk of being sold and developed. Strive to improve 500 acres/year of winter habitat on public and/or private property for deer and elk winter range. Work with private landowners on proper grazing techniques to enhance wildlife habitat.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2002 through 2011		**Proposed Projects – 2012 and beyond**	
Deseret/ Disk & Reseed	3000 acres	Henefer-Echo WMA/ Aerial Seed-Graze	2000 acres
		200 acres of winter browse reseed in Harris Canyon, fencing and water projects to control grazing for habitat improvement.	200 acres
Project total acreage	**3000 acres**		**2200 acres**

Population

Target winter herd size for a winter population of 3500 elk (computer modeled population).

CURRENT STATUS OF ELK MANAGEMENT

Habitat (Current Status)

Habitat conditions for the Morgan-South Rich Unit are stable but may deteriorate with continued high elk populations. Some of the private landowners are making habitat improvements for livestock and wildlife, benefiting elk on summer and winter range.

Elk and deer use of winter ranges is a major factor driving the population objectives for this unit. The elk population objective of the range with current conditions is at 3500 elk. A large percentage of the elk in the unit winter on the Deseret Land and Livestock (DLL) Ranch in Rich County. The DLL Ranch is doing extensive range treatments to increase the winter capacity of the elk herds that in the past have been supplemented with hay in winter months. The yearly need for supplementation of hay and the duration of feeding of elk has been greatly reduced as a result of these successful projects.

Housing encroachment and development in the Morgan County portion of the unit is a factor that is reducing the available habitat for elk in that portion of the unit. With average to above average snow depths, human conflicts with depredation, livestock competition, and ornamental damage occur. There are planned housing developments on current elk winter ranges in the Morgan area.

Currently, private property owners within the unit place a high value on elk and many derive a portion of their income from wildlife inhabiting private rangelands. Many landowners are members of a private habitat improvement organization called Quality Resource Management that helps landowners design and acquire funding for habitat improvement projects. Members meet annually to plan projects and discuss wildlife herd management objectives and harvest strategies. Habitat projects for the Henefer-Echo WMA, are being planned to be implemented on a yearly basis. A conservation easement is being donated to the Nature Conservancy on a 28,000 acre ranch in the Weber County portion of the unit.

Population (Current Status)

The Morgan-South Rich elk unit was last counted in February 2009. The population was estimated at 4400 elk. The 2011-2012 modeled population shows the elk herd at 4900 animals.

Harvest

Year	Bull Harvest	Antlerless Harvest
2000	305	323
2001	269	294
2002	263	316
2003	282	153
2004	297	438
2005	302	426
2006	306	664
2007	340	649
2008	276	366
2009	369	563
2010	292	662
2011	299	451

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

The population objective of 3500 elk is based on current range conditions and supplemental feeding of elk by a private ranch in the Rich County portion of the unit. If supplemental feeding were to permanently stop in this portion of the elk herd, the population objective would have to be lowered to reflect the capacity of the natural winter range and prevent habitat damage. The feeding program was started to maintain numbers of elk and to keep elk from haystacks and feeding with livestock in the surrounding areas. Where much of the land in the unit is privately owned, habitat development and enhancement is out of the control of the UDWR.

Population

The main barrier to reaching the population objective is the inability to achieve an adequate harvest of antlerless elk on private lands within the unit. Bull:cow ratios

remain high for the unit due to the high percentage of private lands and Cooperative Wildlife Management Units. There is very limited bull harvest on the private properties. There is no harvest age objective for this unit as it is not a limited entry unit.

Other Barriers

No other major barriers exist on this unit.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range. Continue to monitor range conditions on the Henefer-Echo WMA and the impacts of current high elk numbers on crucial deer winter range.

Actions to Remove Habitat Barriers

Develop a plan to rehabilitate 500 acres of Henefer-Echo WMA property; targeting old fires that are dominated with annual grasses. Continue to work on acquiring conservation easements to protect remaining habitat and maintain the carrying capacity of the unit. Continue to work with private landowners and the Quality Resource Management group on habitat projects and range improvement methods.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit varies because of movement of animals from neighboring units.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

The foremost need for the Morgan-South Rich elk herd is to reduce the population to the target herd management objective. Because this unit is dominated by private lands, CWMU's will need to become active participants to help UDWR achieve the target population objective. Continue to educate landowners on the importance of antlerless harvest. Hold annual meetings to inform landowners of harvest results and discuss antlerless hunt strategies. Continue to adapt hunt seasons, areas, and numbers to changing elk movements and numbers. Continue to look for new strategies to incorporate public hunters on private lands for antlerless harvest (e.g. Walk-in access program).

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 5
East Canyon
May 2012

BOUNDARY DESCRIPTION

Morgan, Summit, Salt Lake and Davis counties - Boundary begins at the junction of I-80 and I-84 (Echo Junction); southwest on I-80 to I-15; north on I-15 to its junction with I-84 near Ogden; east on I-84 to Echo Junction and I-80.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	30715	26	0	8
Bureau of Land Management	85	1	0	0	32	<1
Utah State Institutional Trust Lands	0	0	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	11388	90	87887	74	24646	99
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	1122	9	77	<1	72	<1
TOTAL	12595	100	118679	100	24750	100

UNIT MANAGEMENT GOALS

To manage the elk population at levels consistent with available habitat, and to cooperate with landowners in the protection, improvement and/or acquisition of critical winter range as opportunity permits. Work to obtain conservation easements on private lands for protection of critical winter and summer areas.

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat. Maintain elk population at current population objective to avoid competition with mule deer populations. Encourage and educate private landowners and Cooperative Wildlife Management Unit operators to continue harvest of antlerless elk in sufficient numbers to maintain the winter elk population at the herd unit management objective.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain the 106,072 acres of summer, winter, and year-long range. There is increasing development in most areas of the range for housing and recreational properties, and conservation easements should actively be sought out to preserve the dwindling habitat. Work with private landowners on improving and properly grazing winter ranges, as nearly all of the winter range exists on private lands. The East Canyon Unit is adjacent to the Wasatch Front and has become a main area for summer homes and year-round recreation. The Salt Lake and Summit county portions of the unit needs to continually be monitored due to encroaching housing on crucial range and human-wildlife conflicts. Provide big game escape cover/security by implementing access management where warranted.

Population

Target winter herd size of a winter population of 1000 elk (computer modeled population).

Davis and Salt Lake counties part - 5A - This part of the unit contains most of the public lands within the unit. The winter ranges are adjacent to the heavily populated Wasatch Front and are becoming very limited due to the impact of urban development. Therefore, the post season winter population objective for this portion of the unit is approximately 250 elk.
Morgan & Summit counties part - 5B - A majority of the land within this portion of the unit is privately owned and depredation can be a significant factor in determining the tolerable winter population objective. However, based on the past several years, 750 wintering elk is the current objective on this portion of the East Canyon Unit. Private landowners and local interest groups must be involved in management recommendations. Without their support and cooperation, management objectives may not be realized and elk population control may not be possible

CURRENT STATUS OF ELK MANAGEMENT

Habitat (Current Status)

The habitat seems to be improving slightly for elk with the increasing herbaceous trend. The objective of the unit is 1000 elk with 250 elk in the Salt Lake-Davis portion of the unit, and 750 elk in the Summit-Morgan part. Limited winter ranges and competition with livestock for summer and fall feed seem to be the limiting factors for elk. Also dwindling summer and winter habitat from development and recreational use are factors reducing carrying capacity of elk range.

Approximately 1500 acres of the Red Rock WMA were burned and re-seeded in the mid 1990's. It was a very successful project improving winter range in that area. There are negotiations underway for conservation easements in the Summit County portion of the unit for several large tracts of land, south of the town of Henefer and near the Morgan-Summit County line.

Population (Current Status)
The last aerial trend count was in February 2011 when 2204 elk were counted on the unit. 607 elk were counted in the Salt Lake-Davis portion of the East Canyon Unit with a bull cow ratio was 37 bulls per 100 cows. The 2012 modeled population is approximately 3050 elk. Effective removal of antlerless animals will be critical to achieve the population objective.

Harvest

Year	Bull Harvest	Cow Harvest
1999	89	76
2000	121	100
2001	86	143
2002	127	127
2003	128	185
2004	151	152
2005	93	155
2006	175	201
2007	217	372
2008	188	291
2009	194	188
2010	245	236
2011	171	297

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

Winter range is probably the main factor limiting the carrying capacity for this herd unit. Nearly all of the winter range is in private ownership and mostly out of the control of the UDWR for improvements. Continued housing and summer recreational development eat away at traditional elk ranges in some of the fastest growing rural counties in the state.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2002 through 2011		**Proposed Projects – 2011 and beyond**	
None	acres	None	acres
Project total acreage	**acres**		**acres**

Population

The majority of the elk range in the unit is privately owned and is a barrier to achieve the necessary antlerless harvest to control elk numbers. Some landowners are reluctant to allow hunting and provide areas for elk populations to increase despite efforts to decrease numbers. Due to the amount of private lands in this unit, it will be necessary to explore other antlerless elk harvest strategies to maximize antlerless harvest on this unit.

Other Barriers

If the population is maintained at the current objective (1000 animals) crop depredation should be a minor factor to consider in specific areas.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

Continue to work with private landowners to enhance ranges with grazing programs and habitat projects. Work on conservation easements for habitat protection to maintain carrying capacity of the unit.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit may vary due to elk movements from neighboring units.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

Increase efforts to educate landowners to the need for antlerless elk harvest. Explore incentives like DWR assisted range improvement projects and/or Walk-in Access program to increase harvest of antlerless elk. Explore different permit allocation methods to maximize antlerless harvest on private lands where there are low harvest rates.

Actions to Remove Other Barriers

List specifics with expected outcome –Work on specific areas to reduce elk depredation by issuing mitigation permits to keep elk out of agricultural areas. Work to haze elk from these areas during periods when mitigation permits are not valid.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 6
CHALK CREEK
May 2012

BOUNDARY DESCRIPTION

Summit and Duchesne counties **-** Boundary begins at the junction of I-84 and I-80 near Echo; northeast on I-80 to the Utah-Wyoming state line; southeast along this state line to SR-150; south on SR-150 to Pass Lake and the Weber River Trail head; west on this trail to Holiday Park and the Weber River road; west on this road to SR-32; northwest on SR-32 to I-80 and Wanship; north on I-80 to I-84 near Echo

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	33,987	9	0	0
Bureau of Land Management	0	0	80	<1	224	<1
Utah State Institutional Trust Lands	0	0	245	<1	222	<1
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	300,278	90	45,471	95
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	124	<1
Utah Division of Wildlife Resources	0	0	89	<1	1,966	4
TOTAL	0	0	334,679	100	48,007	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities which include hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

This unit is comprised of mostly private property, and as a result, winter range is being lost at an alarming rate due to development. In the next 5 years steps need to be taken to improve forage production on existing winter range to manage this elk population at the plan objective. Habitat improvement and rehabilitation projects on private lands

throughout the unit should be initiated to increase forage for wildlife and livestock interests. Conservation easements should be initiated to protect winter habitat from further loss to urban development.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and improve forage production on all winter range within this unit for the planning period.

Continue working with private landowners and Utah Foundation for Quality Resource Management (QRM) to protect winter range from future losses.

Population

Target winter herd size of a winter population of 2400 elk (computer modeled population).

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Overall range trend is stable to slightly improving with the increased precipitation in this area. When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change the Division will adjust the population objective as needed.

In general, summer elk habitat is extensive within this unit; however, the elk population objective is determined by winter range and impacts of elk on private land agriculture and ranching.

Several factors reduce the capability of this unit to support larger elk populations including agricultural depredation, competition for forage with domestic livestock, over utilization of winter browse in areas of heavy concentration of deer and elk during hard winters, and landowner tolerance. Starting in 2012 juniper thinning and reseeding projects will be used to increase forage production on winter range.

PROPOSED HABITAT PROJECTS 2012 and Beyond

Crandall Canyon PJ Thinning	150-200 acres	2012
South Fork PJ Treatment	150-200 acres	2013

All winter range in this unit is on private land. Division land managers and biologists will be working with landowners to improve or rehabilitate as many acres as possible over the life of this plan.

Population (current status)

The population is approximately 4500 wintering animals (modeled population Pop II Model).This unit experiences significant movement of elk during the winter months from neighboring units.

To reach the population objective, removal of significant numbers of antlerless animals will need to occur annually through the duration of this plan. These animals will be taken using limited entry antlerless permits and depredation permits. This harvest will be concentrated in areas were animals are causing damage to agricultural interests. The majority of the elk range is privately owned and is a barrier to achieve the necessary harvest to control elk numbers. Some landowners are reluctant to allow hunting, which provides areas for elk populations to increase despite efforts to decrease numbers. Due to the amount of private lands in this unit, it will be necessary to explore other antlerless elk harvest strategies to maximize antlerless harvest on this unit.

TOTAL ELK COUNTED BY YEAR

Year	1990	1992	1996	1999	2001	2004	2007	2011
South of Chalk Creek Road	463	937	743	821	787	640	560	559
North of Chalk Creek Road	1097	1114	1552	1408	1064	966	1354	2613
Total	1560	2056	2295	2229	1851	1606	1914	3172

CLASSIFICATION

Year	Mature Bulls	Yearling Bulls	Cows	Calves	UNC Antlerless	Calves/ 100cows	Bulls/ 100Antlerless
2004	216	111	418	257	---	61	48
2007	228	175	125	61	---	49	28
2011	336	235	---	---	2601	59*	22

*** 2011 Pre-season elk classification data**

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

Loss of winter range due to development.
Poor range conditions during drought years.
Reduced quality of winter range due to juniper dominance.

Population

Antlerless elk harvest is often times difficult due to the amount of private land on the unit. Limited access becomes a problem for many sportsmen when large groups of elk seek refuge on private property. CWMU's will need to become active participants to help the UDWR achieve target population objective.

Other Barriers

There is low landowner tolerance of elk due to depredation and rangeland use throughout this unit and, as result, damage to private land will continue to be a problem. Fencing, damage payments, and mitigation permits have had varying

degrees of success in alleviating depredation issues. The Division will be working on strategies to prevent damage where possible, compensate for damage when necessary, and discourage animals with hunting pressure from coming into situations where they can cause damage.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

Initiate habitat improvement and rehabilitation projects on private lands in order to increase forage on the winter range. Continue to support conservation easements to protect winter habitat from loss to urban development.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit varies because of movement of animals from neighboring units. Movement data obtained from telemetry and ear tagging studies indicate that elk from the North Slope unit winter on this unit, as well.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons. CWMU's will need to become active participants to help the UDWR achieve target population objective.

Management Actions to Remove Population Barriers

Continue focused antlerless elk hunts to place pressure on that portion of the elk herd that causes crop and rangeland depredation on private land. Continue Landowner Depredation (mitigation) hunts.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 7
KAMAS
May 2012

BOUNDARY DESCRIPTION

Summit and Wasatch counties - Boundary begins at the junction of I-80 and SR-32 (Wanship); south on SR-32 to the Weber Canyon Road at Oakley; east on this road to Holiday Park and the Weber River Trail; east on the Weber River Trail to SR-150 near Pass Lake; south on SR-150 to the Soapstone Basin Road (USFS 037); south on this road to SR-35; west on SR-35 to Francis and SR-32; north on SR-32 to Kamas and SR-248;west on SR248 to US-40; north on US-40 to I-80; north on I-80 to SR-32 and Wanship.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	116,937	93	9,945	33
Bureau of Land Management	0	0	0	0	42	<1
Utah State Institutional Trust Lands	0	0	81	<1	199	0
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	7,531	6	18,563	62
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	1,183	4
TOTAL	0	0	124,549	100	29,932	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat.

This unit is comprised of mostly private property, and winter range within the unit is being lost to development with increasing frequency. Steps need to be taken to improve existing winter range to manage this elk population at the population objective. Habitat improvement and rehabilitation projects on private lands throughout the unit should be initiated to increase forage production for wildlife and livestock interests. Opportunities for additional conservation easements should be investigated as a means to protect winter range from loss to urban development.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and improve forage production on all winter range within this unit for the planning period.

Continue working with private landowners and the United States Forest Service to protect winter range from future losses.

Population

Target Winter Herd Size – maintain elk numbers at a winter population of 850 elk (computer modeled population).

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Overall range trend is stable to slightly improving due to the increased precipitation in this area during the growing season.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change the Division will adjust the population objective as needed.

In general, summer elk habitat is extensive within this unit; however, elk winter habitat is limited and impacts of elk on private land agriculture and ranching.

Several factors reduce the ability of this unit to support larger elk populations including agricultural depredation, competition for forage with domestic livestock, over utilization of winter browse in areas of heavy concentration of deer and elk during hard winters, and landowner tolerance. Most of the winter range in this unit is on private land. Division biologists and land managers will be working with landowners to improve as many acres as possible over the life of this plan.

Population (current status)

The population is stable at approximately 1100 wintering animals (modeled Population Pop II Model).This unit experiences significant movement of animals during the winter months from neighboring units.

To reach the population objective, removal of significant numbers of antlerless animals will need to occur annually through the duration of this plan. These animals will be taken using limited entry antlerless permits and depredation permits. Harvest will be concentrated in areas were animals are causing damage to agricultural interests. The majority of the elk winter range is privately owned and is a barrier to achieve the necessary harvest to control elk numbers. Some landowners are reluctant to allow hunting, which provides areas for elk populations to increase despite efforts to decrease numbers. Due to the amount of private lands in this unit, it will be necessary to explore other antlerless elk harvest strategies to maximize antlerless harvest on this unit.

TOTAL ELK COUNTED

	YEAR				
	1997	2001	2004	2007	2011
East Kamas				276	664
West Hills Kamas				210	206
Total	597	268	399	486	870

2011 ELK CLASSIFICATION

Mature Bulls	Yearling Bulls	Antlerless
34	52	784

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat
Winter range is being lost due to development.
Poor range conditions during drought years.

Population
Antlerless elk harvest is often times difficult due to the amount of winter range that is privately owned. Limited access becomes a problem for many sportsmen when large groups of elk seek refuge on private property.

Other Barriers
There is low landowner tolerance of elk due to depredation and rangeland use throughout this unit. Damage to private landowners will continue to be a problem on this unit. Fencing, damage payments, and mitigation permits have been used to reduce conflicts with private property owners. These strategies have had varying degrees of success. The strategy should be to prevent damage where possible, compensate for damage when necessary, and discourage animals with hunting pressure from coming into situations where damage may become an issue.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Actions to Remove Habitat Barriers

Continue to support conservation easements to protect winter habitat from loss to urban development

Continue to rehabilitate the Kamas WMA for the primary purpose of wintering wildlife. Habitat improvement and rehabilitation projects may help hold elk on the WMA and prevent or reduce crop depredation in the valley.

Investigate opportunities for habitat improvement projects on private property to increase forage production for wildlife and livestock interests.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

Continue focused antlerless elk hunts to place pressure on that portion of the elk herd that causes crop and rangeland depredation on private land.

Continue Landowner Depredation (mitigation) hunts.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 8
(North Slope)
May 2012

BOUNDARY DESCRIPTION

Summit and Daggett counties - Boundary begins at the junction of SR-150 and the Summit-Duchesne county line (summit of the Uinta Mountains); north along SR-150 to the Utah-Wyoming state line; east along this state line to the Utah-Wyoming-Colorado state line (Three Corners); south along the Utah-Colorado state line to the Green River; west along the Green River to Flaming Gorge Reservoir; west along the south shoreline of this reservoir to Cart Creek; south along Cart Creek to US-191; south along US-191 to the Uintah-Daggett County line (summit of the Uinta Mountains); west along the summit of the Uinta mountains to SR-150.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	8926	78	456,996	86	93,008	49
Bureau of Land Management	1534	13	21,326	4	31,564	16
Utah State Institutional Trust Lands	610	6	5938	1	22,383	12
Native American Trust Lands	0	0	0	0	0	0
Private	304	2	40,105	8	41,254	22
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	47	1	2134	1	482	1
TOTAL	**11,421**	**100**	**526,500**	**100**	**188,691**	**100**

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Balance elk herd impacts on human needs, such as private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long term capability of the available habitat. This unit will be managed within three subunits (Summit, West Daggett and Three Corners).

Continue habitat projects to improve forage for all wildlife populations. Numerous habitat projects have occurred within this unit over the past decades. Past and proposed projects include prescribed fires in pinyon-juniper areas, followed by aerial reseeding with forbs, grasses and browse species; mechanical treatment of pinyon-juniper and conifer encroachment in critical browse / grassland areas; and working with land agencies and livestock grazers to improve overall forage conditions for both wildlife and livestock.

UNIT MANAGEMENT OBJECTIVES

Habitat

Enhance forage production on a minimum of 10,000 acres of elk habitat, through direct range improvements to maintain population management objectives.

Continue working with private landowners and federal, state, and local agencies to maintain and protect crucial and existing winter range from future losses.

Continue providing improved habitat security and escapement opportunities for elk by working with federal agencies on motorized vehicle travel plans.

Population

Target Winter Herd Size – Manage elk numbers to achieve a target population size of 2100 wintering elk (computer modeled number).

Radio telemetry data confirm, under certain conditions, some animals move back and forth across the subunit boundaries and state lines. Therefore, the entire unit will be surveyed at one time (snow conditions permitting), and the distribution of elk during the trend count will be taken into account when determining if the subpopulations are actually above or below objective.

Subunit population objectives are listed below:

Summit (8a) – 300 elk
West Daggett (8b) – 1300 elk
Three Corners (8c) – 500 elk

Bull Harvest Objective for Limited Entry Subunit - For the Three Corners subunit, maintain a minimum average bull age of a 5.5-6 year-old bull in the harvest.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Current Status

(Unit 8a, North Slope Summit subunit)

DWR Range Trend sites are found on steep slopes that have high erosion potential. However, the understory, especially the bunch grasses, is dense and vigorous and provides adequate soil stabilization. Browse trends on the unit for the key browse species (birch leaf mountain mahogany) are stable. The sites in this area all show a stable to slightly increasing trend. Browse communities at lower elevations, especially sagebrush, suffered die-offs from the sustained drought in the early 2000s. However, where these browse die-offs have occurred, perennial native grasses have increased.

(Unit 8bc, North Slope Daggett and Three Corners subunits)

Overall range trend within these subunits has been greatly impacted by a sustained drought, which has impacted forage production and plant survival. Browse communities at lower elevations, especially sagebrush, suffered die-offs from the sustained drought. However, where these browse die-offs have occurred, perennial native grasses have increased.

The greatest positive impact to this unit occurred in 2002 from the Mustang / Dutch John wildfire. The fire area was reseeded and has significantly increased the amount of perennial forbs and grasses, although annual grasses have also increased.

The DWR Range Trend crew read 9 range trend study sites during 2010. Three sites had improving browse trend, one was stable, and five had declining trends though some were minimal. The key browse species are principally Wyoming big sagebrush, mountain big sagebrush and mountain browse species such as true mountain mahogany. Areas where sagebrush is the key species have shown continuing increases in decadence and loss of plants. The perennial forb understories associated with mountain big sagebrush and Wyoming big sagebrush have similar downward trends, but upward trends for perennial grasses.

When looking at elk population objectives, the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change the Division will adjust the population objective as needed.

In general, summer elk habitat is extensive within this unit; however, elk winter habitat is limited and impacts of elk on private land agriculture and ranching. On the West Daggett and Summit subunits, the elk population is limited by winter range. During winters with deep snow, elk move to lower elevations. Elk conflict with agricultural and ranching practices on private land. Significant depredation occurs in these areas. The Three Corners subunit consists of a higher percentage of year-round habitat and also experiences substantial depredation on private land year round.

The wildfire that occurred in 2002 in the Dutch John and Goslin Mountain area burned approximately 20,000 acres. Much of the area burned was mature pinyon-juniper with very little understory of grasses and forbs. This burn area was successfully reseeded and is producing significantly more forage than before the fire. Elk have been drawn into this area and use it year round.

Factors Limiting Elk Populations

Several factors limit elk populations on this unit including agricultural depredation, competition for forage with domestic livestock, over utilization of winter browse in areas of heavy concentration of deer and elk during hard winters.

Some of the winter range in this unit is located in Wyoming where that state also has elk depredation and concerns with elk numbers. Control of the elk once they enter Wyoming is out of DWR's hands.
Elk within this unit are sometimes in conflict with both agriculture and ranching. This is especially relevant on winter range and yearlong elk range. Concerns

over elk use on summer range conflicting with livestock grazing on USFS and BLM lands also exist.

Completed Habitat Improvement Projects

Over the past decades many habitat improvement projects have occurred that benefit elk and livestock. These projects include prescribed and wild fire, pinyon-juniper chainings, timber sales, conifer thinning, etc.

Projects completed over the past 10 years on the West Daggett and Three Corners subunits include:

Completed Project	Subunit	Land Agency	Acres	Cooperators	Year
Bare Top Conifer Lop & Scatter	8c	USFS	1100	DWR, USFS	2003
Goslin Mtn PJ Lop & Scatter	8c	BLM	1700	DWR,BLM	2006
Clay Basin PJ Lop & Scatter	8c	BLM	1000	DWR,BLM	2006
Mustang Wildfire Reseed	8c	BLM, USFS, SITLA, DWR	20,000	BLM, USFS, SITLA, DWR	2002-04
Red Ck Flat PJ Lop & Scatter	8c	BLM	900	DWR,BLM	2006
King's Point PJ Lop & Scatter	8c	BLM	3,000	DWR,BLM	2006
Red Creek Flat State Lop and Scatter	8c	SITLA	480	DWR, SITLA	2006
Clay Basin State-Lop and Scatter	8c	SITLA	410	DWR, SITLA	2006
Teepee Mtn Bullhog	8c	BLM	535	DWR, BLM	2007
Goslin Mtn Phase II L&S	8c	BLM	1185	DWR, BLM	2008
Red Creek Flat Bullhog	8c	BLM	200	DWR, BLM	2008
Red Creek Flat Bullhog Phase ii	8c	BLM	150	DWR, BLM	2008
Goslin Mtn bullhog	8c	BLM	300	DWR, BLM	2009
Goslin/Martin Draw bullhog	8c	BLM	245	BLM	2010
Goslin mtn bullhog phase III	8c	BLM	413	BLM	2011
Home Mtn L&S	8c	BLM	1000	BLM	2011
Dowd Mtn. PJ Lop & Scatter	8b	USFS	1700	DWR,BLM	2004-05
Red Canyon Understory Burn	8b	USFS	100	USFS	2005
Fire Fighters PJ Lop & Scatter	8b	USFS	50	USFS	2004
Hickerson Park Wildfire	8b	USFS	1700	USFS	2005
Cedar Springs fuel reduction	8b	USFS	184	DWR, USFS	2009
Road Decommissioning and reseed on the Mountain View and Evanston Ranger Districts	8a	USFS	3200	USFS	2003-06
TOTAL			**39,552**		

Proposed Habitat Projects

Following is a partial list of proposed habitat enhancement project. Others may be added as opportunities arise.

Proposed Project	Subunit	Land Agency	Acres	Cooperators	Approx. Year
Home Mtn Prescribed burn	8c	BLM	3000	DWR, BLM	2017
O-Wi-Yu-Kuts prescribed burn	8c	BLM	1600	DWR, BLM	2017
Misc Burns & Mechanical / Conifer PJ	all		2000		
Dutch John Gap L&S	8c	USFS	80	DWR, USFS	2012
Antelope Flat/Boars tusk PJ removal	8c	USFS	1500	DWR, USFS	2014
Lower Red Creek bullhog	8c	BLM	500	DWR, BLM	2013
Flaming Gorge PJ burn/L&S	8c/8b	USFS	2000	DWR, USFS	2015
TOTAL			**10,680**		

Population – Current Status

Summit (8a) subunit:

Year	Trend Count	Pop Est	Bull Ratio	Calf Ratio	Bull Hunters	Bull Harvest	Cow Permits	Cow Harvest	LO Cow Permits	LO Cow Harvest
07-08		280			2505	278	59	46	20	2
08-09		300			2654	220	29	36	6	0
09-10		300			2489	266	28	28	11	4
10-11	268	335	16	34	2912	363	58	54	35	17
11-12		335			2478	264	45	50*	20	

West Daggett (8b) subunit:

Year	Trend Count	Pop Est	Bulls / 100 Cows	Calves / 100 Cows	Bull Hunters	Bull Harvest	Cow Permits	Cow Harvest	LO Cow Permits	LO Cow Harvest
07-08		1000			1313	189	121	50	23	8
08-09		1100			1276	177	117	34	14	4
09-10		1200			1349	121	165	91	62	33
10-11		1200			1487	197	149	79	44	20
11-12		1100			1492	219	125	71	42	16

Three Corners (8c) subunit:

Year	Trend Count	Pop Est	Bulls / 100 Cows	Calves / 100 Cows	Bull Permit	Bull Harvest	Bull Ave Age	Cow Permits	Cow Harvest	LO Cow Permits	LO Cow Harvest
07-08		830			56	46	5	323	206	24	4
08-09		800			53	43	5.1	344	159	30	17
09-10		650			51	35	5.7	332	160	29	8
10-11		550			48	33	5.5	154	55	30	5
11-12		550			46	30	5.7	95	22	30	6

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat Barriers

- Loss of winter range due to sagebrush die off and resulting cheatgrass expansion.
- Poor range conditions during drought years.
- Reduced quality summer/transitional range due to conifer dominance.
- Conifer and PJ invasion of grasslands and browse areas critical for wildlife
- USFS lack of manpower and funding to conduct NEPA clearances.

Population Barriers

- Conflicts with antlerless hunt season structure and other hunts.
- Difficulty harvesting antlerless elk to maintain populations due to herds staying in difficult areas to hunt.
- Resistance by federal land agencies and landowners to increasing the population objective.

Other Barriers

- Crop Depredation throughout the unit.
- Elk use on private rangelands throughout the unit and in Wyoming.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat Strategies

Monitoring

Continue to monitor permanent range trend studies located throughout the herd unit.

Conduct cooperative seasonal range rides and surveys to evaluate forage condition and utilization.

Actions to Remove Habitat Barriers

Work cooperatively with the USFS and BLM to utilize prescribed burning, mechanical conifer and PJ removal, and grazing to enhance elk forage quantity and quality.

Utilize antlerless elk harvest to improve or protect forage conditions if and when vegetative declines are attributed to elk overutilization.

Cooperate with and provide input to land management planning efforts dealing with management affecting habitat security, quality and quantity.

Population Strategies

Monitoring

- Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

- Bull Age Structure - Monitor age class structure of the bull population through the use of checking stations, uniform harvest surveys, field bag checks, preseason classification and aerial classification. Average age of harvest on the Three Corners limited entry subunit will be determined by tooth age data from bull harvest.

- Harvest – The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the Limited Entry hunts on the Three Corners subunit. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

- Continue focused antlerless elk hunts east of Red Creek and in Manila area to place pressure on that portion of the elk herd that cause crop and rangeland depredation on private land.

- Continue working with federal agencies and private landowners to monitor elk numbers and elk use. Implement collaring study to determine movement of elk across state lines.

- Continue Landowner Depredation hunts.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #9
South Slope
May 2012

BOUNDARY DESCRIPTION

Wasatch, Summit, Daggett, Uintah, Duchesne counties - Boundary begins at the junction of US-40 and SR-87 in Duchesne; north on SR-87 to SR-35; northwest on SR-35 to the Provo River; north along the Provo River to the North Fork Provo River; north along the North Fork Provo River to SR-150; north along SR-150 to the Summit/Duchesne county line (summit of the Uinta Mountains); east along the summit of the Uinta Mountains to US-191; north along US-191 to Cart Creek; north along Cart Creek to Flaming Gorge Reservoir; east along Flaming Gorge Reservoir to the Green River; east along the Green River to the Utah-Colorado state line; south along the Utah-Colorado state line to the White River; west along the Whiter River to the Green River; north along the Green River to the Duchesne River; west along the Duchesne River to US-40 at Myton; west along US-40 to SR-87 in Duchesne. Includes subunits 9a (Yellowstone), 9b (Vernal), 9c (Diamond Mountain) and 9d (Bonanza). **(EXCLUDING ALL INDIAN TRUST LANDS).**

This unit will continue to be managed with four subunits. A change in the boundary between the Yellowstone and Vernal subunits was made to make it consistent with the new deer unit boundary. See Appendix A for subunit boundary descriptions.

LAND OWNERSHIP

	Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	857,114	79%	55,705	8%
Bureau of Land Management	77,627	7%	173,728	26%
Utah State Institutional Trust Lands	8,861	1%	25,800	4%
Native American Trust Lands	30,119	3%	228,531	34%
Private	88,798	8%	180,042	27%
Department of Defense	0	0	0	0
USFWS Refuge	0	0	125	1%
National Parks	7,240	1%	9,486	1%
Utah State Parks	0	0	2,862	1%
Utah Division of Wildlife Resources	11,398	1%	1237	1%
TOTAL	1,081,157	100	677,516	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other wildlife and land uses including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capacity of the available habitat.

Existing habitat needs to be protected and crucial habitat needs to be improved. A number of habitat projects have occurred within this unit over the past 20 years. Past and proposed projects include commercial lumber harvest, prescribed fire, wildfire, mechanical treatment of brush, etc… Conifer domination on summer and transition range needs to be addressed and natural fire intervals in the conifer zone re-established. Old and decadent stands of mountain sagebrush need to thinned and regenerated on the winter range to minimize winter depredation on lower elevation agricultural areas. Critical private property parcels need to be protected from development through conservation easements, etc…

Remove or significantly reduce year round resident elk from all low elevation agricultural areas to increase tolerance of elk on private property. Depredation due to year round resident elk in agricultural areas has become unmanageable and will continue to increase and spread if not addressed. These animals are not readily available to the public for recreation and are very difficult to manage due to property ownership issues.

UNIT MANAGEMENT OBJECTIVES

Population

Target Winter Herd Size Objective– maintain a total of 8,000 wintering elk. The herd will distributed between two wintering subpopulations:

9a	Yellowstone wintering subpopulation	- approximately 5,000
9b,c&d	Vernal/Diamond Mountain/Bonanza wintering subpopulations	- approximately 3,000

(These subunit objectives have been adjusted by 500 elk from the Yellowstone wintering population to the Vernal/Diamond/Bonanza wintering population to address the boundary change between the Yellowstone and Vernal subunits).

Radio telemetry data on the South Slope confirm that while the subunit populations are fairly distinct populations, elk sometimes move back and forth across the subunit boundaries during the winter when aerial counts are conducted depending on conditions. Therefore, the entire unit will be surveyed at one time and the distribution of elk during the trend count will be taken into consideration when determining if the subpopulations are above or below objective.

Limited Entry Age Objective - Manage for a mean age of harvested bulls between 6.5-7.0 years of age on subunit 9c (Diamond Mountain). The remainder of the unit will be managed for general season Any Bull hunting. Limited Entry Youth Any Bull Elk permits will also be issued for the Any Bull portion of the unit.

Habitat

Enhance forage production on elk habitat through direct range improvements to maintain population management objectives.

Winter Range - Maintain the existing crucial winter range. Increase the quality of at least 5,000 acres of winter range within the next 5 years.

Summer range -Increase the quality of at least 5,000 acres of summer and transitional range over the next 5 years.

CURRENT STATUS OF ELK MANAGEMENT

Population

The current population estimate indicates that in 2010 the unit was over objective by around 9% or 700 elk. The unit will be managed towards the objective

utilizing increased antlerless harvest to reduce the herd towards the objective.

Winter Trend Counts by subunit			
	Year	Trend Count	Population Estimate
Yellowstone	2004	3305	5000
Vernal	2004	783	1045
Diamond/Bonanza	2004	1067	1425
Total	**2004**	**5155**	**7470**
Yellowstone	2007	4745	5580
Vernal	2007	941	1100
Diamond/Bonanza	2007	1633	1920
Total	**2007**	**7319**	**8600**
Yellowstone	2010	4721	5900
Vernal	2010	899	1050
Diamond/Bonanza	2010	1447	1750
Total*	**2010**	**7067**	**8700**

*Conditions resulted in different sight ability rates in 2010 than in 2007.

Habitat

Twenty vegetative trend studies were monitored by the Utah Division of Wildlife Range Crew in 2010. In 2010, the browse and herbaceous understory components, on the majority of studies in his unit, showed some improvement since the 2003 drought related sagebrush die off. Most of the improvements occurred in the higher elevation mtn. brush and mountain big sagebrush communities. However, the most crucial winter range areas in the lower elevation Wyoming sagebrush communities continue to struggle and are only in Fair condition. There are several critical winter range sites that are in Poor or Very Poor range condition on the Vernal subunit. Those areas should be managed to protect the remaining desirable vegetation. Overutilization by elk of those areas should be avoided.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change, the Division will adjust the population objective as needed.

Several factors impact the ability of this unit to support larger elk populations including agricultural depredation, competition for forage with domestic livestock, over utilization of winter browse in areas of heavy concentration of deer and elk during hard winters.

Completed habitat improvement projects

Over the past decade extensive habitat improvement projects have been completed that benefit elk on this unit. These include, both prescribed and wild fire, pinyon-juniper chainings, conifer thinning, lop & scatter, Dixie harrow projects, etc...

This table lists specific habitat improvements that have occurred in the last 10 years.

Completed Project	Land Agency	Acres	Cooperators
Petty Mtn Prescribed burn	USFS	2,000	USFS
Petty Mtn Face understory burn	USFS	500	USFS
Pigeon Water prescribed burn	USFS	2,000	USFS
Burnt Mill understory burn	USFS	1,500	USFS
Reseed wildfire north of Neola	BIA	4,000	DWR, BIA

Wildfire Towanta Flat	Ute Tribe	150	Ute Tribe
Lodgepole pine thinning	USFS	400	USFS
Miner's Gulch prescribed burn	USFS	450	USFS
Yellowstone brush treatment	USFS	350	USFS
Deadman Bench Aerator	BLM	500	BLM, DWR
Snake John Greenstrip	BLM	300	BLM, DWR
Snake John Lop & Scatter	BLM	1500	BLM, DWR
Blue Mtn Dixie Harrow	BLM, SITLA	450	BLM
Red Fleet Lop & Scatter	BLM	1650	BLM, DWR
Red Fleet Interseeding	BLM	450	BLM, DWR
Dry Fork Bench Fire	BLM	370	BLM
Dry Fork Lop & Scatter	BLM	700	BLM, DWR
Steinacker Draw Lop & Scatter	BLM	250	BLM, DWR
Shindy Draw Lop & Scatter	BLM	700	BLM, DWR
Dry Fork Face Fire	BLM	520	BLM
Steinacker Draw Bullhog	BLM	290	BLM
Bowery Springs Bullhog	BLM	330	BLM, DWR
Mustang Fire Reseed	BLM, SITLA	400	BLM, DWR
Marshall Draw RX Fire	BLM,DWR	3,600	BLM, DWR
Mail Draw Wildfire Reseed	BLM, SITLA	1900	BLM, DWR
Taylor Flat Lop & Scatter	BLM, SITLA, DWR	1000	BLM, SITLA, DWR
Ruple Cabin Aerator	BLM, SITLA, Private	1850	BLM, SITLA, DWR
Ruple Wildfire	BLM, Private	1200	BLM, DWR, Private
Neola North Wildfire	Ute Tribe, FS	40,000	Ute Tribe, BIA, F.S., DWR
Yellowstone pondarosa thining	USFS	1,000	USFS, DWR
Yellowstone Sagebrush burn	USFS	1,000	USFS, DWR
North Neola Plateau treatment	Ute Tribe, BIA	1,700	Ute Tribe, BIA
Reseed Neola North Fire	,USFS	3,626	USFS, DWR
Diamond Rim Lop and Scatter	BLM	972	DWR, BLM
West Stuntz/Blue Mountain Sage Grouse Habitat Improvement	BLM, SITLA	200	DWR, BLM
Chew/Blue Mountain Sage Grouse Habitat Improvement	BLM	235	DWR, BLM, NRCS, Private
Brush Creek Bench Harrow Project	BLM	300	DWR, BLM
Neola North Seed Supplement	BIA, USFS	5,465	DWR, GIP, MDF, BIA, USFS
Marshall Draw Prescribed Fire	BLM, UDWR	2,736	DWR, BLM
Range Reseeding. Neola North Fire #1	Private	12	GIP, Private
Range Reseeding Neola North Fire #2	Private	84	FFSL, Private
Deadman Bench Range Imp.	BLM	523	DWR, BLM
Tolivers Creek Bullhog	BLM	195	DWR, BLM
North Dry Gulch Ponderosa Pine Thinning	USFS	608	DWR, USFS
Brotherson Lop and Scatter	Private	1,104	DWR, Private,GIP
Brotherson Chaining	Private	346	DWR, Private,GIP, NRCS
Browns Park Fields	DWR	200	DWR
Diamond Mountain Bullhog	BLM	207	BLM, DWR
Brotherson Discretionary Seeding	Private	200	DWR, Private
Spring Creek Rangeland Drill	Private	85	DWR, Private, NRCS
Marshall Draw Bullhog	DWR	400	DWR
Cedarview Dixie Harrow	Private	20	DWR, Private, NRCS
Garden Creek Fire Rehabilitation	Private	102	DWR, Private, FFSL
Brush Creek Bench Seeding	BLM	550	DWR, BLM
Little Hole Cheatgrass Project	DWR, BLM	180	DWR, BLM
Deadman Bench Sagebrush Project	BLM	561	DWR, BLM
Mail Draw Lop and Scatter	BLM, DWR	1,350	DWR, BLM
Rye Grass Lop and Scatter	BLM	350	DWR, BLM
Sears Canyon Lop and Scatter	DWR, BLM	425	DWR, BLM
Raven Ridge Harrow Project	BLM	500	DWR, BLM
Salt Creek Ponderosa Pine Thinning Project	USFS	657	DWR, USFS

Alma Taylor Vegetation Mgmt.	USFS	1,084	DWR, USFS
Simplot Phosphates Browse Seeding	Private	40	DWR, Simplot Phosphates
Alma Taylor Wildlife Project	USFS	3500	USFS, DWR
Little Hole Bullhog	BLM	200	DWR, BLM
Little Hole Lop & Scatter	BLM	300	DWR, BLM
Brush Ck Bench Dixie Harrow	BLM	300	DWR, BLM
Marshall Draw RX Fire	DWR, BLM. SITLA	4000	DWR, BLM, SITLA
Bowery Spring PJ cut & burn	BLM	200	DWR, BLM
Diamond Rim Lop & Scatter	BLM	1000	DWR, BLM
Cherry Spring Lop & Scatter	BLM	1000	DWR, BLM
Cherry Spring Dixie Harrow	BLM	900	DWR, BLM
South King's Point Lop & Scatter	BLM	1000	DWR, BLM
TOTAL		**109,227**	

Proposed Habitat Projects

Following is a partial list of proposed habitat enhancement projects on unit 9. Others will be added as opportunities arise.

Proposed Project	Land Agency	Acres	Cooperators
Calder Reservoir Lop & Scatter of PJ	UDWR	200	DWR
Big Brush Creek PJ Chanining	Private (Simplot)	515	DWR, Simplot Phosphate
Taylor Mtn Lop & Scatter	USFS	750	DWR, USFS
Burnt Mill Spring Ponderosa thinning	USFS	590	DWR, USFS
Red Fleet Lop & Scatter phase 2	BLM	300	DWR, BLM
Davis Draw Chain harrow	BLM	425	DWR, BLM
Little Mountain Lop & Scatter	BLM, SITLA	550	DWR, BLM, SITLA
Coalmine Basin Bullhog, Lop & Scatter	BLM	1000	BLM
Red Wash PJ Lop & Scatter	BLM	600	BLM
Little brush Creek PJ Chaining	Private	750	DWR, Simplot Phosphate
Little Mountain PJ Bullhog	BLM	1000	DWR, BLM
Little Mountain Lop & Scatter	BLM	1500	DWR, BLM
Marshall Draw Prescribed fire	BLM & DWR	2000	DWR, BLM
Pot Holes Prescribed Fire	USFS	2000	USFS
Rock Creek Prescribed burn	USFS	500	USFS, DWR
Pole Creek Lop & Scatter	USFS	200	USFS, DWR
Dry Gulch, Mud Springs – Ponderosa	USFS	200	USFS, DWR
Clay basin mechanical treatment	Ute Tribe	600	DWR, Ute Tribe
Towanta Flat Sagebrush thinning	Ute Tribe, BIA	200	Ute Tribe, BIA
TOTAL		**13,880**	

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat Barriers

- Loss of winter range due to sagebrush die off and resulting cheat grass expansion.
- Poor range conditions during drought years.
- Poor quality summer/transitional range due to conifer dominance.
- Loss of winter range due to expanding oil & gas development.
- Conifer and PJ invasion of grasslands and browse areas critical for wildlife

Population Barriers

- Difficulty harvesting enough antlerless elk to maintain populations due to the presence of refuge areas like: Tribal lands, Dinosaur National Monument, and private property.

Other Barriers

- Agricultural crop depredation.
- Establishment of year round resident herds in lower elevation agricultural areas: Arcadia, Jensen, Ouray, lower Duchesne River, lower Uinta River, etc.
- Private property owners that inhibit the removal of depredating animals from agricultural areas.
- Elk use of private rangelands on the Diamond Mountain Subunit.
- Two management systems (UDWR and Ute Tribe) for the same animals.
- USFS lack of manpower and funding to conduct NEPA clearances for habitat improvements.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat Barriers

Monitoring

- Continue to monitor permanent range trend studies located throughout the winter range.
- Annual on the ground habitat assessment surveys.

Actions to Remove Habitat Barriers

- Cooperate with USFS & BLM to reinstitute natural fire interval in conifer zone to improve elk habitat.
- Cooperate with BLM & Ute tribe to increase vegetative under story and reduce pinyon/juniper invasion of the sagebrush zone.
- Cooperate with Simplot to maximize elk habitat on phosphate mine to reduce winter depredation on adjacent agricultural areas.
- Cooperate with Ute Tribe & BIA to improve and revegetate winter range areas like Clay Basin & Neola North to reduce cheat grass dominance and increase desirable forage for elk, which would reduce winter depredation on adjacent agricultural areas.
- Utilize targeted antlerless elk harvest to reduce the impacts of elk use on critical deer winter range areas on the Vernal Subunit.
- Target resident elk herds in agricultural areas to reduce depredation impacts on private property to increase tolerance of elk.

Population Barriers

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Bull Age Structure - Average age of harvest on the Diamond Mountain L.E. Subunit will be determined by tooth age data collected from L.E. harvest. Monitor age class structure of the bull population on the remainder of the unit through the use of the uniform harvest survey, field bag checks, preseason classification and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the L.E. hunts on the Diamond Mountain Subunit. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons.

Other Barriers

Management Actions to Remove Other Barriers

- Where feasible depredation hunts will be targeted to address year round elk herds in agricultural areas to reduce depredation.
- Cooperate with Ute Tribe to ensure that hunting pressure occurs on Tribal lands when depredation hunts are held on adjacent private property to reduce or remove problem animals.
- Increase landowner harvest on low elevation resident elk herds by increasing the number of mitigation permits and vouchers in those areas.
- If depredation hunts, tribal hunts, and landowner harvest are insufficient for removal of resident elk herds in low elevation agricultural areas DWR removal will be implemented following approved action plans.
- Cooperate with Ute Tribe to ensure hunting pressure continues on Tribal lands to prevent elk from becoming year round residents on the winter range.
- Improve harvest survey of landowner mitigation permits to improve population estimates.
- Cooperate with Ute Tribe to increase consistency of Tribal harvest data to improve population estimates.
- Cooperate with UDOT to pursue funding to fence Hwy 40 east of Duchesne to reduce vehicle mortality.

APPENDIX A

Unit 9a South Slope, Yellowstone Subunit

Wasatch, Summit, Duchesne, Uintah counties -- Boundary begins at SR-87 and US-40 in Duchesne; north on SR-87 to SR-35; northwest on SR-35 to the Provo River; north along this river to North Fork Provo River; north along this river to SR-150; east and north on SR-150 to the Summit-Duchesne county line (summit of the Uinta Mountains) at Hayden Pass; east along the summit of the Uinta Mountains to the Dry Fork-Whiterocks drainage divide; south atop this divide to USFS Trail #025; southwest on this trail to Whiterocks Lake and the East Fork of the Whiterocks River; south along this river to the Whiterocks River; south along this river to the Uinta River; south along this river to the Duchesne River; west along this river to US-40 at Myton; west on US-40 to SR-87 in Duchesne.

Unit 9b South Slope, Vernal Subunit

Uintah, Daggett counties -- Boundary begins at the Dry Fork-White Rocks drainage divide and the Daggett-Uintah county line (summit of the Uinta mountains); east along the summit of the Uinta mountains to US-191; north along US-191 to Cart Creek; north along Cart Creek to Flaming Gorge Reservoir; east along Flaming Gorge Reservoir to the Green River; east along the Green River to Gorge Creek; south along Gorge Creek to the summit and the head of Davenport Draw; south along the Forest Service-Private Land boundary on the west side of Davenport Draw and continuing south along this Forest Service boundary to the BLM boundary on the Diamond Mountain rim; east and south along the Diamond Mountain rim to the Diamond Mountain road; south and west along this road to the Brush Creek road; south along this road to the Island Park/Rainbow Park road; east along this road to the Dinosaur National Monument boundary; north and east along this boundary to the Utah-Colorado state line; south along this state line to the Green River; south along this river to the Duchesne River; west along this river to the Uinta River; north along this river to Whiterocks river; north along this river to the East Fork of the Whiterocks River; north along this river to Whiterocks Lake and USFS Trail #025; northeast on this trail to the Dry Fork-Whiterocks drainage divide; north atop this divide to the Daggett-Uintah county line (summit of the Uinta Mountains).

Unit 9c South Slope, Diamond Mountain Subunit

Uintah, Daggett counties -- Boundary begins at the Green River and the Utah-Colorado state line; then west along this river to Gorge Creek; then south along Gorge Creek to the summit and the head of Davenport Draw; south along the Forest Service-Private Land boundary on the west side of Davenport Draw and continuing south along this Forest Service boundary to the BLM Boundary on the Diamond Mountain Rim; east and south along the Diamond Mountain rim to the Diamond Mountain road; south and west along this road to the Brush Creek road; south along this road to the Island Park / Rainbow Park road; east along this road to the Dinosaur National Monument Boundary; north and east along this boundary to the Utah -Colorado state line; north along this state line to the Green River.

Unit 9d South Slope, Bonanza Subunit

Uintah County -- Boundary begins at the Colorado-Utah state line and the White River; west along this river to the Green River; north along this river to the Colorado-Utah state line; south along this state line to the White River.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 10
Book Cliffs
May 2012

BOUNDARY DESCRIPTION

Uintah and Grand counties -Boundary begins at I-70 and the Green River (in Green River); northeast along the Green River to the White River; east along the White River to the Utah-Colorado state line; south along the Utah-Colorado state line to I-70; southwest along I-70 to the Green River. Includes subunits 10a (Bitter Creek), 10b (Book Cliffs South) and 10c (Little Creek). See appendix A for subunit boundary descriptions. **EXCLUDING ALL INDIAN TRUST LANDS.**

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	0	0	0	0
Bureau of Land Management	266,492	86.6	112,927	33.7	543,873	49.9
Utah State Institutional Trust Lands	35,353	11.5	114,778	34.2	85,524	7.9
Native American Trust Lands	1,525	0.5	96,678	28.8	386,145	35.4
Private	4,126	1.3	3,912	1.2	58,783	5.4
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	86	0.1	7,157	2.1	15,286	1.4
TOTAL	307,582	100	335,452	100	1,089,611	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Balance elk herd impacts on human needs, such as private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long term support capability of the available habitat.

Manage to maintain and enhance forage and cover habitat through vegetative manipulation, domestic grazing and other management techniques. Attempt to mitigate against habitat fragmentation, degradation and loss stemming from mineral extraction, road construction, increased recreation and other impacts.

UNIT MANAGEMENT OBJECTIVES

Habitat

- Promote sustainable livestock grazing practices that minimize negative impacts to plant health and diversity, especially on summer ranges and on SITLA and DWR lands where DWR holds the grazing permit or controls livestock grazing.
- Develop new and protect/improve existing water sources for wildlife and livestock to improve distribution and minimize overutilization in proximity to water sources.
- Remove coniferous and juniper tree encroachment into winter range, sagebrush park lands, and summer range aspen forest and mountain browse communities. Approximately 1,500 acres per year will be targeted.
- Open the closed canopy pinion–juniper forest lands at mid elevation zones throughout the Book Cliffs to enhance perennial understory vegetative maintenance. Approximately 1,500 acres per year will be targeted utilizing mechanical and prescribed fire technology.
- Enhance riparian system and canyon bottom vegetative communities through continued agricultural practices, prescriptive grazing and mechanical or chemical treatments. Emphasis on greasewood community improvement will continue.
- Manage to minimize wild horse herds and their impacts.
- Explore ways to improve Wyoming sagebrush community condition and perennial vegetative health.

Population

Target Winter Herd Size: Manage toward a herd unit computer model elk winter population size of 7,500.

Herd Composition: Utilize limited entry bull permit harvest management for all three subunits.

Harvested Bull Age Objectives: Manage for a harvested bull elk 3 year average age of 6.5 – 7.0 years old for the Bitter Creek and South subunits and 7.5 – 8.0 years on the Little Creek Subunit.

Antlerless Harvest: Despite being below population objective, some antlerless elk harvest is desirable to address specific range and depredation issues in the Book Cliffs. To address range overutilization issues the Division may continue to issue limited cow elk permits in the San Arroyo and Little Creek areas. To reduce competition with mule deer for crucial winter range, cow hunts may continue in the McCook Ridge area. To reduce damage to private agricultural fields by a low elevation resident elk herd in the lower Willow Creek area the Division may continue to issue cow elk mitigation permits and public draw antlerless permits for that area. Other antlerless elk permits may be recommended if there is justification and need based on range conditions, competition with mule deer, and/or conflicts with agriculture.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat Conditions: Summer range is limited. Drought impacts that include sagebrush mortality, reduced browse vigor and forage production are evident throughout lower elevation ranges. Perennial grasses persist, but annual grass and weed growth have responded to moisture timing and availability. There are 33 permanent range trend study sites on the Book Cliffs (9 sites on the South Book Cliffs subunit and 24 on the Bitter Creek and Little Creek subunits). While these study sites monitor mule deer range conditions and principally target wintering areas, they reflect the impact of drought conditions on the vegetative communities.

Few elk winter in areas sampled by the South Book Cliffs range trend studies. In 2010, study sites indicated that soil and browse trends appeared stable. However, species composition of the

herbaceous understory is declining in quality, as composition is primarily annual grasses. Species such as cheatgrass (*Bromus tectorum*) are increasing in frequency and cover.

The North Book Cliffs subunit study sites showed stable and improving soils. Herbaceous plant understories are generally in poor to very poor condition with unsatisfactory species composition. This is due primarily to cheatgrass and annual forb dominance. Browse plant condition and frequency trends are generally improving with problems of declining 4-wing saltbush evident.

Distribution of all ungulate herbivory (including elk) on the limited summer range is becoming a more pressing issue. Competition for forage, and especially water between elk, cattle, deer, bison, and an ever growing wild horse herd is increasing and cause for concern among the DWR, BLM, SITLA, and livestock permitees. Recent concerns about overutilization of aspen communities prompted the initiation of an Aspen Study to be conducted by Utah State University. BLM rangeland and forestry specialists specifically expressed concern about the level of elk utilization in aspen stands.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change the Division will adjust the population objective as needed.

Several factors impact the ability of this unit to support larger elk populations. Drought vegetative impacts of the past decade have interfered with elk numbers. Antlerless elk harvest was initiated to stop, and then slow, elk herd growth and provide relief to vegetative communities. Mineral extraction and associated activities fragment elk habitat and elk security. Pinion and juniper invasion is reducing more beneficial forage production and threatening open and mosaic habitat values. Canopy cover is closing in mid elevation mature pinion and juniper communities. This limits and slowly removes valuable perennial understory species. Limited livestock forage competition has occurred during the drought. Agricultural depredations are generally minimal but do occur.

Habitat improvement projects: Numerous habitat improvement projects have been completed during the past ten years. These include taking advantage of naturally caused wild land fires through reseeding and other more labor-intensive accomplishments. In total, 139,765 acres have been completed including wild fire reseedings. Currently proposed projects total 4,927 acres. Specific project areas and acreage totals are given below.

BOOK CLIFFS HABITAT PROJECTS COMPLETED AND PROPOSED
Completed Projects – 2002 through 2011

Project Name	Acres	Project Name	Acres
McCook/Monument fire	6,000	Augusi Ridge Bullhog	300
Diamond Fire reseeding	88,000	Atchee Ridge Lop and Scatter	1,000
McCook Ridge bobcat saw	230	Three Pines Lop and Scatter	1,942
McCook Ridge lop/scatter	100	Indian Ridge Lop and Scatter	1,000
Roadless riparian plantings		Park Ridge Bullhog	500
Monument Ridge lop/scatter	1,000	Agency Draw L&S	2,347
Horse Pt. lop/scatter	900	Cherry Mesa Bullhog	575
Big Park lop/scatter	1,000	McCook Ridge Cheatgrass	384
Wolf Pt. lop/scatter	1,000	Seep Ridge Bullhog	203

McCook Chaining bull hog	600	Johnson Draw Chaining	81
V Canyon lop/scatter	1,000	Cedar Camp L&S	2,042
Seep Ridge lop/scatter	800	Big Park Plateau	140
Bitter Crk greasewood treat	450	Pine Springs Bullhog	555
N Wolf Pt lop/scatter	2,000	Blind Canyon Fire Rehabilitation	2,132
N Big Park lop/scatter	1,000	Monument Ridge Bullhog	504
Big Park phase 2 lop/scatter	1,000	McCook Ridge Bullhog FY11	498
McCook Ridge 2 lop/scatter	620	Park Ridge Bullhog Phase II	498
Indian Springs bullhog	320	Rock Springs Bullhog	553
Winter Ridge/L Asphalt L/S	1,000	Big Park Sagebrush	65
Wolf Pt phase 2 lop/scatter	1,350	Archy Bench Sagebrush Project	1,122
Long Canyon Bench Chaining	490	Rock Springs/Cherry Mesa L&S	717
Nash Wash controlled burn	100	McCoy Reservoir L&S	1,060
Horse Pasture lop/scatter	650	Upper McCook L&S	604
Blue Knoll Lop and Scatter	1,091	Augusi Canyon Fire Rehabilitation	955
McCook Ridge Phase II Bullhog	285	Seep Ridge Bullhog Phase II	476
Big Park Phase III L&S	1,000	Seep Ridge Chaining	770
Indian Springs Ridge Phase II Bullhog	351	Indian Ridge Sagebrush Restoration	208
Blue Knoll Phase II Lop and Scatter	2,000	Rathole Fire	3,115
Winter Ridge Bullhog	475	Archy Bench Chaining	607
Total Acres Treated			**139,765**

Proposed Projects – 2012 and beyond

Project Name	Acres	Project Name	Acres
Cedar Camp Lop and Scatter Phase II	900	Atchee Ridge L&S Phase II	607
Moonshine Ridge Bullhog	361	Seep Ridge Maintenance	730
Boulevard Ridge Bullhog	392	Bottom Canyon Bullhog Phase I	300
Buck Camp Canyon P/J Project	213	Bottom Canyon Bullhog Phase II	416
Pine Springs Bullhog Phase II	585	San Arroyo Cyn RX fire	2,000
Moon Ridge Chaining	1,166	East Cyn RX fire	1,000
Little Jim Bullhog	665	Stateline Burn Rehab	1,000
Moonshine Ridge Bullhog Phase II	645		
Total Proposed Treatment Acres			**4,927**

Population

The following table provides a summary of Book Cliffs elk population information. Sightablity has varied greatly due to snow conditions on trend count flights resulting in some divergence in the model and trend counts.

Winter Trend Counts and Modeled Population Estimates		
Year	**Trend Count**	**Population Model**
02 - 03		3,560
03 - 04	1,680	3,698
04 - 05		3,869
05 - 06		4,027
06 - 07	3,334	4200
07 - 08		4385
08 - 09		4442
09 - 10	2,162	4104
10 - 11		4193

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

- Drought impacts to rangeland forage condition and abundance.
- Limited summer range on the herd unit.
- Habitat fragmentation, loss and disturbance from mineral developments, road extensions and human impacts.
- Pinion and juniper invasion into sagebrush, mountain browse and aspen communities.
- The maturation of evergreen forests resulting in closed canopies. This reduces perennial understory vegetation and limits forage availability and diversity.
- Canyon bottom vegetation communities dominated by greasewood and tamarisk with the associated loss of water table and native cottonwood, willow and related riparian species.
- Wild horse and wild cattle impacts on forage potential.

Population

- Distributing antlerless harvest across the unit to treat localized issues and problems.
- Equitable elk distribution across the herd unit.

There have been concerns about the current number of elk on the unit and impacts to aspen communities and limited summer range. The BLM, USU, and the DWR have cooperated in the design of a new study to look at impacts of herbivory to aspen stands in the Book Cliffs. There is increasing concern regarding the potential impacts of an elk herd at 7,500 animals and how that might affect aspen, limited summer range, riparian areas and water sources and potential competition with mule deer. In 5 years when this elk plan comes up for renewal, the DWR will take into consideration the results of the aspen study, the latest trend count flight data, updated range trend assessments and status of the mule deer population and will consider forming a unit elk committee to assess the situation and possible reevaluate the objective of 7,500 elk.

Other barriers

- Crop depredations on privately owned agricultural lands is limited by the amount available but can be significant depending upon crops, timing and elk distribution.
- Interagency cooperation is essential to elk herd management on this unit.

- Calf-to-cow ratios have been lower than normal in recent years. With calving grounds concentrated in such a narrow band of summer habitat, it is possible that predators such as coyotes and especially black bears have become more effective at killing elk calves and could be impacting recruitment.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

- Continue to monitor long term rangeland conditions and health through the permanent range trend sites.
- Annually inspect rangeland vegetative community impacts and health through habitat assessment surveys that include ocular field assessments and range rides.

Actions to Remove Habitat Barriers

- Cooperate with land management agencies to establish natural fire policies that will allow wild fires to burn in beneficial and non threatening areas.
- Continue to cooperate with land management agencies to effectively reseed and/or rehabilitate wildfires to benefit elk and other wildlife.
- Continue with the aggressive juniper, pinion and other conifer treatment projects that target areas of invasion into sagebrush, mountain browse and aspen communities.
- Develop projects to improve vegetative diversity and perennial understory health in closed canopy pinion and juniper forests.
- Continue to treat greasewood and tamarisk communities and reestablish native woody vegetative species in riparian habitat types. Concurrent with these efforts, explore ways to bring water tables closer to the ground surface.
- Work with mineral development interests to attempt to mitigate for habitat fragmentation and losses.
- Seek to expand summer range values by extending and improving canyon-type habitats down drainage systems.
- Work with landowners and associated agencies to limit the impacts and control populations of wild cows and wild horses within the Book Cliffs.

Population

Monitoring

Population Size: Aerial helicopter surveys are conducted every three years. These flights are cooperatively timed with the Ute Indian Tribe and data shared to better understand elk population distribution and numbers. These flights and a computer population model program are utilized to track and evaluate the elk herd distribution and annual winter population estimates. Inclusive to these efforts, annual herd classification will be conducted as warranted and possible to estimate herd productivity.

Bull Age Structure: Harvested bull ages will be monitored annually through cementum annuli lab analysis of hunter-submitted central incisor teeth. Herd composition classification every three years, annual ground classification and computer modeling will be used to monitor bull:cow ratios.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey. Population size will be achieved through utilizing a variety of harvest methods and seasons. Elk distribution inequities across the herd unit may also be treated through selective public antlerless harvest and hunt areas.

Management Actions to Remove Population Barriers

Depredation: Antlerless hunts will continue to be the principle means of limiting cropland depredation. Mitigation permits and vouchers are also used. An active landowner's association receives limited entry bull permits.

Interagency Cooperation: The increasing demands for all natural resource use within the Book Cliffs mandate close association and cooperation between all resource management agencies. While good cooperation and communication is established, this effort will be a priority and will include Private Landowners, BLM, SITLA, Ute Indian Tribe, the public and developers.

Elk Population and Distribution: The Book Cliffs harbor a relatively young elk herd and the actual optimum population objective will be determined by factors including but not limited to biological carrying capacity. Efforts to encourage elk to more uniformly utilize herd unit resources will include antlerless hunts and habitat improvements to rangeland vegetative communities. Mineral extraction, road development and OHV use will be monitored and mitigation recommendations made when impacts are evident.

APPENDIX A SUBUNIT BOUNDARY DESCRIPTIONS

Unit 10a Book Cliffs, Bitter Creek Subunit

Grand and Uintah counties—Boundary begins at the Utah-Colorado state line and the White River; south along this state line to the Book Cliffs summit (north-south drainage divide); west along this summit and drainage divide to Ten Mile Knoll and the Steer Ridge road; north and west along the Steer Ridge road (atop the drainage divide) to the Uintah and Ouray Indian Reservation Boundary (NW 1/4 Sec 7, T17 S R 21 E); north along this boundary to the Uintah-Grand county line; west along this county line to the Green River; north along this river to the White River; east along this river to the Utah-Colorado state line.

Unit 10b Book Cliffs, South Subunit

Grand County—Boundary begins at the Utah-Colorado state line and the summit and drainage divide of the Book Cliffs; west along this summit and drainage divide to Diamond Ridge; southwest along Diamond Ridge and the Book Cliffs summit (north-south drainage divide) to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sego Canyon); west along this boundary to the Green River; south along the Green River to I-70; east along I-70 to the Utah-Colorado state line; north along this state line to the summit and drainage divide of the Book Cliffs.

Unit 10c Book Cliffs, Little Creek (Roadless) Subunit

Grand County--Boundary begins at the Steer Ridge road at Ten Mile Knoll and the Book Cliffs summit (north-south drainage divide); southwest along the Book Cliffs summit on Diamond Ridge to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sego Canyon); north on this boundary (west side of West Willow Creek) to the DWR Wildlife Management Area/Ute Tribe Fence at the confluence of East and West Willow Creek; northeast from this confluence cross-country to the Steer Ridge road (NW 1/4 Sec 7, T17 S R 21 E); south and east on the Steer Ridge road (atop the drainage divide) to Ten Mile Knoll and the Book Cliffs summit.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 11
Nine Mile
May, 2012

BOUNDARY DESCRIPTION

Uintah, Duchesne, Carbon, and Emery counties - Boundary begins at Duchesne and US-191; southwest on US-191 to US-6; south on US-6 to I-70; east on I-70 to the Green River; north on the Green River to the Duchesne River; west along this river to US-40; west on US-40 to Duchesne and US-191.

LAND OWNERSHIP

The following tables show land ownership in relation to seasonal use by elk and by subunit. Approximately 75,448 of the private acres in elk habitat in the Range Creek subunit are managed as Cooperative Wildlife Management Units (CWMU's). They comprise portions of summer, winter, and yearlong ranges.

Table 2. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 11A (ANTHRO)

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	12,401	8	57,184	95	30,116	19
Bureau of Land Management	120,019	76	1050	2	21,346	13
Utah State Institutional Trust Lands	19,681	12	225	<1	2442	1
Native American Trust Lands	748	<1	0	0	56,296	36
Private	4988	3	1446	2	40,644	26
Utah Division of Wildlife Resources	0	0	0	0	7562	5
TOTAL	157,838	100	59,905	100	158,406	100

Table 2b. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 11B (RANGE CREEK)

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Bureau of Land Management	126,778	51	43,097	27	253,027	83
Utah State Institutional Trust Lands	26,876	11	8866	5	26,537	9
Private	92,765	37	103,344	64	24,459	8
Utah Division of Wildlife Resources	1564	1	5316	3	0	0
TOTAL	247,983	100	160,623	100	304,038	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain an elk population consistent with the available range resources and which is in balance with other range users such as domestic livestock, other big game and the need for watershed protection.

Maintain and enhance existing elk habitat through vegetative manipulation, sound domestic grazing practices, and other management techniques that will meet habitat objectives. Minimize and mitigate any habitat losses, degradation, or fragmentation coming from oil and gas development, road construction, urban expansion, increased recreation and other impacts. Improve hunter access to private and public lands on the unit.

UNIT MANAGEMENT OBJECTIVES

Habitat

- Improve forage and cover values on elk summer ranges. Practices will include prescribed fire, selective logging, and mechanical treatments that promote a diverse age structure in aspen communities. Over 300 acres per year will be targeted.
- Remove pinyon-juniper encroachment into winter range sagebrush parks and summer range mountain brush communities. Over 500 acres per year will be targeted using primarily mechanical treatments.
- Improve limited water resources on the unit by developing and maintaining existing springs and guzzlers and installing wildlife guzzlers where needed.
- Minimize conflicts between elk and wild horses through habitat improvement and encouraging wild horse gathers when horse numbers exceed population objectives.
- Improve existing canyon bottom riparian communities by treating greasewood and overmature sagebrush through chemical, mechanical, and other methods, and minimize impacts on croplands in these habitats.
- Protect crucial habitats from development and assure best possible location of wells to minimize habitat losses using best information available.

Population

Target Winter Herd Size – Manage toward a winter elk population size of 2,300 elk (computer modeled population) distributed in the subunit populations listed below.

Anthro Subunit	- 700 elk
Range Creek Subunit NW of Nine Mile Canyon	- 250 elk
Range Creek Subunit south of Nine Mile Canyon	- 1,350 elk
Total	**2,300 elk**

Herd Composition –Maintain a three-year average age of 5.5-6 years of harvested bulls on the Anthro Subunit

Use limited entry and any bull hunt strategies where applicable on the unit. Currently, limited entry bull harvest is employed on most of the Anthro Subunit. General season any bull hunting opportunities exist on

the Range Creek Subunit and a small portion of the Anthro Unit near the town of Duchesne to address depredation/public safety concerns (See Appendix A for boundary descriptions).

Utilize aggressive antlerless harvest to reduce elk populations as necessary. Promote public hunting access on private lands where applicable.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat Conditions: Summer range is limiting on this unit. Summer elk habitat is restricted to a fairly narrow band of high elevation aspen/Douglas fir communities and elk are found at relatively high densities. Summer ranges and high elevation winter ranges (Mountain big sagebrush communities) appear to be in stable condition according to permanent range trend studies conducted by DWR in 2010. There are a total of 17 permanent range trend study locations that were read in 2010 on the unit. Of these, 8 to 10 sites are within elk winter range. Browse and herbaceous trends appear to be stable over the past 15 years and mid-potential winter ranges where elk typically winter have DCI scores indicating "Fair to Good" winter range.

Cooperative BLM/UDWR spring range transects have shown relatively stable utilization by elk. Pellet group counts and browse utilization has not increased dramatically despite increasing elk populations. BLM range assessments in the area have not noted any deteriorating range conditions or overutilization by elk.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6) overall range health. As these factors change the Division will adjust the population objective as needed.

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Several factors impact the ability of this unit to support larger elk populations. Drought is the primary factor that impacts elk populations. Forage production and vigor as well as water distribution is severely limited during drought years. Oil and gas development is becoming a major factor affecting both winter and summer ranges, especially on the Anthro Subunit. Oil and gas development will continue to fragment existing elk habitat and displace elk to less productive areas. Oil and gas activities are also expanding onto summer ranges that are already limiting. Crop depredation by elk on this unit is relatively minor and typically occurs during the spring months. Competition with domestic livestock is a potential conflict on portions of the unit. Many livestock operators are not stocking ranges at full permitted numbers. If operators elect to graze at full numbers, competition would likely be evident due to increased elk numbers that have filled the void of reduced cattle use.

Habitat projects completed and proposed: Federal agencies, private landowners and the UDWR have cooperated on habitat improvement projects targeted at wildlife species that have also benefited elk. Below is a list of completed and future projects.

Table 1. HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2007 through 2011		**Proposed Projects – 2012 and beyond**	
East Carbon Bullhog, 2007	3400	Cold Springs Prescribed Fire Phase 2 and 3	700
Range Creek Fire Rehab, 2008	93	Cottonwood Ridge PJ Removal	1000
West Coal Creek Bullhog, 2008	1912	Tavaputs Ranch Prescribed Fire	700
Mt. Bartles Harrow and Lop/Scatter, 2009	364	Nutter Ranch Wet Meadow Project	200
Cold Springs Prescribed Fire, 2010	1054		
East Coal Creek Drill Seed, 2010	725		
Dugout PJ Removal, 2011	754		
Harmon Canyon PJ Removal, 2011	1200		
Nutter Ranch Wet Meadow, 2006-2011	300		
Nutter's Ridge Lop and Scatter	1000		
Anthro Mountain Prescribed Fire	700		
Gilsonite Ride Lop and Scatter	1000		
Project total acreage	**12,502 acres**		**2600 acres**

Population

Elk populations on both Anthro and Range Creek subunits have increased over the past decade and are above current population objectives. The Anthro Subunit was last surveyed in February of 2009. Aerial surveys and the population model suggest a winter elk population of 1450 elk. The Range Creek Subunit was last surveyed in 2012 when 1320 elk were counted. The estimated 2012 wintering population is 1650 elk. Summer classification counts show an average of 42 calves per 100 cows on both Anthro and Range Creek subunits over the past 5 years.

Table 3 shows the trend in bull and antlerless elk harvest on the Nine Mile Unit. Large amounts of antlerless permits are issued on this unit in order to control an expanding elk population. The Anthro and Range Creek South subunits have been managed as Limited Entry Bull units, while the Range Creek North subunit and a portion of the Anthro subunit near Duchesne have been managed as a General Season Any Bull hunt. Furthermore, a significant portion of the harvest on the Range Creek Subunit occurs on CWMU's. General Season Any Bull Hunting will be utilized on all of the Range Creek Subunit beginning in 2012

On the Anthro Subunit, the Ute Tribe has changed their elk hunting strategy to allow general season elk hunting by tribal members. The tribe owns 36% of the winter range on the Anthro Subunit. Although the Anthro Subunit is currently meeting age objectives on harvested bulls, if tribal harvest increases it may be difficult to maintain limited entry age objectives and hunt quality for permit holders in the future. If harvested

bull ages decline below age objective, and we experience a significant decline in harvest success rates and/or hunter satisfaction, we may consider changing the elk hunt strategy on the Anthro Subunit to match the corresponding Tribal hunting strategy.

Table 3. Summary of Harvest. Nine Mile, Anthro Subunit. 2007-2011

YEAR	LE BULL HARVEST (PUBLIC)	CWMU BULL HARVEST	GEN.SEASON ANY BULL HARVEST	AVG. AGE OF HARVESTED BULLS	ANTLERLESS HARVEST/PERMITS (% success)
2007	16	0	0	7.1	51/94 (54%)
2008	22	0	0	5.6	83/231 (36%)
2009	15	0	0	6.3	156/437 (36%)
2010	21	0	0	5.6	286/517 (55%)
2011	12	0	0	7.4	115/422 (27%)

Summary of Harvest. Nine Mile, Range Creek Subunit. 2007-2011

YEAR	LE BULL HARVEST (PUBLIC)	CWMU BULL HARVEST	GEN.SEASON ANY BULL HARVEST	AVG. AGE OF HARVESTED BULLS	ANTLERLESS HARVEST/PERMITS (% success)
2007	5	61	63	8.5	228/762 (30%)
2008	4	57	61	6.8	186/774 (24%_
2009	10	57	114	5.3	257/550 (46%)
2010	8	65	82	6.5	451/803 (56%)
2011	12	56	102	5.9	100/570 (17%)

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

- Drought impacts to forage condition, vigor and abundance.
- Limited summer range on the unit.
- Habitat fragmentation, loss and disturbance as a result of oil and gas development.
- Pinion-Juniper invasion in limited sagebrush park areas.
- Conifer encroachment in overmature aspen communities
- Wild horse utilization on elk ranges.
- Low elevation canyon bottoms are dominated by greasewood and overmature basin big sagebrush with little forage/cover value for elk.
- Competition with domestic livestock if operators stock at full permitted numbers.

Population

- Much of the unit is not accessible to public hunters. Limited public access to both private and public lands makes it difficult to achieve adequate harvest of antlerless elk and quality opportunities for bull hunting.
- Equitable elk distribution across the herd unit.

Other Barriers

- Crop depredation.
- Work with private landowners and Law Enforcement to minimize trespass on private property.

- Other mortality factors – extreme weather conditions such as drought or extreme winter, disease, poaching, and road mortality.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

- Continue to monitor permanent range trend studies throughout the winter range.
- Annually inspect rangeland vegetative community impacts and health through cooperative DWR/BLM habitat assessment surveys that include ocular field assessments, utilization transects, and range rides.
- Continue to develop and implement Habitat Management Plans for UDWR owned properties on the unit.

Actions to Remove Habitat Barriers

- Cooperate with private landowners, federal and state agencies to allow wildfires to burn in beneficial and nonthreatening areas and to rehabilitate fires in a way that will benefit wildlife.
- Cooperate with private landowners, federal and state agencies to increase vegetative understory and reduce pinion-juniper encroachment in important sagebrush and mountain shrub communities.
- Work with oil and gas interests to protect key areas and minimize, or mitigate for losses due to development.
- Pursue Conservation Easements on critical parcels of private property to protect elk habitat.
- Cooperate with private landowners, oil and gas development companies, federal and state agencies to prepare access management plans to enhance elk habitat value. This may include seasonal road closures or vehicle restrictions.
- Continue to foster good relationships with private landowners and promote habitat enhancement projects that will benefit wildlife on private lands as well as promote public access for hunting opportunities.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Bull Age Structure - Monitor age class structure of the bull population through the use of annual preseason classification, checking stations, uniform harvest surveys, field bag checks, and aerial classification. Average age of harvested bulls from Limited Entry portions of the unit will be determined by tooth age data submitted by each hunter.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be

achieved through antlerless harvest using a variety of harvest methods and seasons. Aggressive and localized antlerless harvest will be used to control elk populations and respond to localized range concerns

Management Actions to Remove Population Barriers

Access. Public access is a major limiting factor on this unit. A larger portion of the total antlerless harvest must come from private lands. Cooperate with private landowners and Tribal lands to assure adequate antlerless harvest will occur on these lands.

Depredation. Utilize antlerless hunts, landowner mitigation permits, hazing, stackyard fencing and all other means necessary according to DWR guidelines to minimize crop depredation by elk.

Interagency Cooperation. Continue to work closely with federal and state agencies, as well as private landowners and the Ute Tribe. Assure them that proposed population objectives are reasonable and attainable. Respond to any range deterioration concerns.

APPENDIX A. Boundary Description of Subunits used for General Season Bull Hunting Boundaries.

Nine Mile, Range Creek . Carbon, Duchesne, and Emery counties. Boundary begins at the junction of the Green River and I-70; north along this river to Nine Mile Creek; west along this creek to the Nine Mile Canyon road near Bulls Canyon; west on this road to the Argyle Canyon Road; northwest on this Road to US-191; southwest on US-191 to US-6; southeast on US-6 to I-70; east on I-70 to the Green River.

Portion of Anthro subunit that is open to General Season Any Bull Hunting. Duchesne and Uintah counties. Boundary begins at the Green River and the BLM/ Ute Tribal boundary near Pariette Draw; west along the BLM boundary to the junction with the Pleasant Valley/Antelope Canyon Road (CR-31); west along this road to the Antelope Canyon Road (CR-27); south along this road to the Antelope Canyon/Sowers Canyon Road junction; west along the Sowers Canyon Road (CR-24) to the Indian Canyon/Sowers Canyon Cutoff Road (CR-25); west along this road to US-191; north along US-191 to Duchesne and US-40; east on US-40 to the Duchesne River; east on the Duchesne River to the Green River; south on the Green River to the BLM boundary near Pariette Draw.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit 12
San Rafael North
May 2012

BOUNDARY DESCRIPTION

Carbon, Emery, Wayne, and Garfield counties - (Very difficult low success hunt) Boundary begins at SR-10 and US-6 at Price; east and south on US-6 to I-70; west on I-70 to SR-10; north on SR-10 to US-6. Excludes all CWMUs. USGS 1:100,000 Maps: Huntington, Manti, Price, Salina, San Rafael Desert.

LAND OWNERSHIP

	Yearlong Range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	0	0	0	0
Bureau of Land Management	0	0	0	0	86,315	62
Utah State Institutional Trust Lands	0	0	0	0	12,595	9
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	0	0	39,967	29
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	130	<1
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	0	0	139,008	100

UNIT MANAGEMENT GOALS

Due to limited habitat and the need to control elk impacts on agriculture in this area, this population of elk will be managed to keep summer herd numbers near zero.

Elk numbers will be managed to keep resident elk from depredating on private agricultural lands.

UNIT MANAGEMENT OBJECTIVES

Habitat

There is no elk summer range in this unit. While there is ample winter range, a small population of resident elk, numbering about 60, caused significant agricultural damage and had to be removed. Any projects to improve habitat will be designed to benefit other species.

Population

Target Summer Herd Size – Near zero in order to minimize depredation problems. However, some wintering elk move from the Central Mountains Manti and Fish Lake units onto this unit each year. This is usually less than 200 animals.

Herd Composition – Age and sex ratios will not be monitored on this unit.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Elk habitat in the San Rafael Unit is comprised largely of pinyon-juniper woodlands. A small mountain shrub community exists on Cedar Mountain. Although elk can be found in these habitats year-round, those habitat types are typically winter habitat. Elk in this unit move away from these habitats to irrigated croplands, and they have caused significant losses to farmers and damage to fences.

The unit can support 60 summer resident elk, but not without causing agricultural damage. For this reason, the unit is managed to eliminate elk depredation problems. When elk cause damage to irrigated crops or fences, depredation hunts will be held, or mitigation permits will be issued to remove the offending animals. As a result, no projects designed to increase or improve elk habitat have been completed, nor are any planned. Habitat improvement projects in this unit will be designed to benefit other species.

Population

Elk on this unit are not usually surveyed. However, small groups are observed throughout the year that give some indication of population size. About 60 elk reside on Cedar Mountain. These elk move onto agricultural areas near Buffalo Bench in Emery County. In the past there have been a small number of bulls associated with this group. On Molen Reef there have been as many as 30 resident elk, consisting mostly of bulls that lived in pinyon-juniper woodlands east of Moore and Emery. Since the construction of the wildlife exclusionary fencing in 2008 few if any resident elk remain on the reef. The fence was installed to reduce or eliminate big game and vehicle collisions

About 600 elk from the Fish Lake Unit winter on the east side of that unit with a small portion of those elk occasionally using the San Rafael desert east of Last Chance. These elk do not cause agricultural problems and are considered part of the Fish Lake herd.

Bull:cow and cow:calf ratios are not determined for the San Rafael Unit. It is managed with antlerless and open bull hunting. Mitigation permits are also issued to address depredation problems. The population has been kept at a level that minimizes damage to agricultural fields, but harvesting all the elk to reach the objective of zero has been challenging because of the difficulty hunters have of locating the small number of elk over such a large area.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat - Lack of summer range and agricultural damage problems caused by resident elk. Wintering elk south of I-70 are not causing problems.

Population - Intolerance for elk due to agricultural damage.

Other Barriers - Crop depredation and highway mortality south of Emery and between Huntington and Poison Springs Bench

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Monitor agricultural damage and remove offending animals through antlerless elk hunts, any bull hunts, antlerless control hunts, and mitigation permits north of I-70.

Population

Monitoring

Population Size – Population size will be monitored mostly by doing depredation counts on agricultural fields. Depredation will be monitored, and if elk are causing damage, actions will be taken to remove offending animals. These actions will include any bull hunts, antlerless hunts, antlerless control permits and issuing mitigation permits and vouchers to landowners.

Bull Age Structure – Ages of bulls will not be monitored. There is no age objective for this unit.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Antlerless harvest will be used to keep the population at a level to minimize damage to agricultural crops. Any bull hunting will be utilized north of I-70, and spike-only hunting will be used south of I-70 as part of the Fish Lake Unit hunt strategy. These elk do not cause agricultural problems and are part of the Fish Lake elk herd.

Management Actions to Remove Population Barriers

Damage to Agricultural Crops –UDOT constructed a big game exclusionary fence along SR 10 from Ferron south to Emery. Another fence was constructed from Poison Springs Bench to the Hiawatha Jct. and SR 10. This will eliminate depredation by bulls near Elmo, and also reduce highway mortality.

Utilize any bull hunts, antlerless hunts, antlerless control permits and issueing mitigation permits and vouchers to landowners to eliminate offending animals. These actions are currently being used.

Utilize bull depredation hunts to address damage caused by mature bulls elk that cross SR 10 near Elmo. Hunters will be selected from the Central Mountains, Manti alternate list. This is an action that has been used in the past but, due to the exclusion fence, may have limited use in the future.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit 13
La Sal
May 2012

BOUNDARY DESCRIPTION

Grand and San Juan counties - Boundary begins at the junction of I-70 and the Green River; south on the Green River to the Colorado River; north on the Colorado River to Kane Springs Creek; southeast along this creek to Hatch Wash; southeast along this wash to US-191; south on US-191 to the Big Indian Road; east on this road to the Lisbon Valley Road; east on this road to the Island Mesa Road; east on this road to the Colorado State Line; north on this line to I-70; west on I-70 to the Green River.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 13A (LA SAL MOUNTAINS)

	Yearlong Range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	8,279	58	51,539	45	65,098	40
Bureau of Land Management	3,588	25	115	>1	74,579	45
Utah State Institutional Trust Lands	245	2	28,500	25	7,798	5
Native American Trust Lands						
Private	2,176	15	33,231	29	16,715	10
Utah Division of Wildlife Resources						
TOTAL	14,288	100	113,384	100	164,190	100

RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 13B (DOLORES TRIANGLE)

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Bureau of Land Management					61,435	88
Utah State Institutional Trust Lands					6,645	9
Private					1,915	3
Utah Division of Wildlife Resources						
TOTAL					69,995	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Maintain the population at a level that is within the long-term capability of the available habitat to support. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies.

Maintain and protect existing crucial elk ranges needed to support the population objectives. Seek cooperative projects to improve the quality and quantity of elk habitat and to minimize conflicts with livestock and other wildlife. Promote enhancement of habitat security and escapement areas for elk.

UNIT MANAGEMENT OBJECTIVES

Population

Target Winter Herd Size - Maintain a winter population of 2,500 elk distributed on the subunits as follows:

La Sal Mountains	1,800 elk
Dolores Triangle	700 elk

The population objective for the Dolores Triangle subunit was decreased in 2008 by 150 elk (approx. 20%) to be consistent with Dolores Triangle deer management plan revision due to poor winter range conditions. Range conditions have not improved and the population objective will be maintained at the reduced level.

Bull Harvest Age Objective - Maintain an average bull harvest age of 5.5–6.0 years old on limited entry hunts.

Habitat

Summer Range - Maintain and improve summer forage availability on the La Sal Mountains through aspen regeneration and oakbrush thinning projects. Over 15,000 acres will be targeted for treatment over the next 5 years if funding is available.

Winter Range - Maintain and improve winter foraging areas through browse regeneration and pinyon-juniper removal projects. Approximately 14,000 acres on the La Sal Mountains will be targeted over the next 5 years if funding is available. Monitor range conditions and elk use in the Dolores Triangle to maintain habitat quality necessary to achieve population objectives. Address excessive habitat utilization through harvest strategies coordinated with Colorado Division of Parks and Wildlife (CDPW).

CURRENT STATUS OF ELK MANAGEMENT

Population

La Sal Mountains

The elk population on the La Sal Mountains is currently at the management objective after several years of increased antlerless harvest to reduce the population. The last helicopter survey was conducted in January 2011. A total of 1483 elk were counted and the population is currently estimated at 1800 elk. Antlerless harvest has been maintained at levels sufficient to stabilize elk numbers at the management objective.

Data from the 2011 aerial survey indicated that the bull-cow ratio was 39:100 and has increased from previous surveys. Mature bull numbers observed during aerial surveys have steadily increased over the past three surveys. Data from both aerial surveys and summer classification indicate that calf production is good and fairly stable on this unit.

Bull harvest on limited entry hunts has steadily been increasing with increased numbers of permits. Average age of bulls harvested has declined slightly overall but is above the

harvest age management objective. Spike bull harvest has been somewhat stable over the years. Harvest results from the past 10 years are listed below.

Year	LE Bull Permits	LE Bull Harvest	LE Bull Avg. Age	Spike Bull Harvest	Antlerless Harvest
2003	38	30	6.3	62	311
2004	57	45	5.7	62	219
2005	71	46	5.7	60	128
2006	75	55	5.9	53	108
2007	71	49	7.4	15	115
2008	84	61	6.9	60	198
2009	90	57	7.1	30	176
2010	97	70	6.3	64	159
2011	111	90	6.7	61	178

The number of bulls harvested on the Colorado portion (unit 60) of the La Sal Mountains has increased steadily as the bull population has increased. The Colorado portion is managed under a 4-point or better bull harvest strategy. Annual harvest in Colorado has averaged 50 bulls during the past 5 years.

Dolores Triangle

This unit is winter range for elk that summer in the Glade Park and Pinon Mesa areas (unit 40) of western Colorado. CDPW biologists estimate the population of unit 40 at 2500-3500 elk. The number of elk that winter in the Dolores Triangle unit is dependent upon winter severity. Winter population numbers have typically varied between 300 and 700 elk. However, during the 2011 aerial survey, 1165 elk were observed in the Dolores Triangle. A small number of limited entry bull permits have been issued each year for this area. Antlerless harvest was initiated in 2007 and, increased significantly in 2011after the high aerial survey count.

Habitat

La Sal Mountains

Summer ranges and upper elevation winter ranges on the La Sals generally appear to be in stable condition according to permanent range trend studies conducted by UDWR in 2009. There are 14 permanent range trend study locations on the unit of which 9 are found within elk use areas. Lower elevation winter ranges are showing slightly downward trends in range condition. There is increased decadence in sagebrush communities and slight downward trends in herbaceous communities. Interagency spring range transects have shown relatively stable utilization by elk. Pellet-group transect data indicated lower range use by elk from 1998 to 2003. Range use appeared to increase slightly after 2003, but has been relatively stable during the last 10 years. USFS and BLM assessments of current vegetative trends on the unit have not indicated overutilization of herbaceous forage by elk.

Annual precipitation and weather patterns are the primary influence on range conditions and, ultimately, elk population carrying capacity on this mountain range. Competition with domestic livestock is another important factor. Recent forest fires and logging operations have provided new forage areas but, because of their large acreages, have reduced escapement and security areas. Current and future oil and gas development could potentially fragment existing elk habitat and displace elk to less productive areas. Crop depredation by elk on this unit has been minor during the past 5 years and typically occurs during the spring months. The one exception, a chronic summer alfalfa

depredation problem, was resolved by permanently fencing the property. Given the current conditions, associated land use factors, and concern for potential competition with a struggling deer population, the elk population objective cannot be raised at this time

Several habitat improvement projects that will benefit elk have been completed or are planned by federal agencies, UDWR, and private landowners. These projects should allow elk numbers to be maintained at the population objective without creating conflicts with other land uses.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2007 through 2012		**Proposed Projects – 2013 to 2018**	
Pack Creek burn USFS (2008)	600 acres	Lackey Basin Aspen Restoration USFS	1600 acres
Willow Basin mountain brush treatment USFS (2010-2012)	1725 acres	Coyote Wash (South Mountain) oakbrush fuels reduction USFS	9300 acres
Porcupine Ranch fire rehab USFS (2008)	1000 acres	La Sal Peaks Aspen Restoration USFS	4500 acres
Sallys Hollow PIPO managed fire USFS (2011)	400 acres	Beaver Mesa chaining maint USFS	5000 acres
		South Mesa/Brumley chaining maint-West Slope fuels reduction USFS	8200 acres
		Dorry Canyon chaining maint. USFS	600 acres

Dolores Triangle

The Dolores Triangle is entirely winter range for the Colorado unit 40 elk herd. Elk use is highly variable dependent on snowfall amounts at upper elevation ranges. A series of woodland fires in this area have created substantial new forage areas for elk. Lower elevation winter ranges have been impacted by prolonged drought and concentrated ungulate use adjacent to agricultural fields. There is increased decadence in sagebrush communities and downward trends in soil and herbaceous communities. Cheatgrass invasion is evident in these sites. Elk use of these sites has increased, but is typically low during mild winters. Potential competition with deer herds during severe winters is a concern. Habitat improvement projects completed for other species have benefited wintering elk on this subunit.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Population

Big Game / Livestock Competition - Resistance of livestock operators to increasing elk herds and public concerns of impacts from large elk population to struggling deer population.

Elk Distribution - Elk herd congregation on private land CWMUs during the hunting seasons where hunting pressure is significantly lighter than on public lands (La Sal Mountains). Elk use of low elevation winter ranges in poor condition during severe winters (Dolores Triangle).

Harvest Age Objective - Public resistance to increasing numbers of bull hunting permits to reduce average age of harvest.

Habitat

Drought - Impact of prolonged drought to range condition and forage availability.

Limited Summer Range - Amount of quality summer habitat for foraging and reproductive activities is limited and shared with livestock and other big game.

Habitat Loss – Plant succession changes in important summer areas (conifer encroachment in aspen stands) and winter areas (pinyon-juniper invasion in mountain brush-sagebrush communities) reduces biological carrying capacity. Lack of browse regeneration and invasion of annual grasses on lower elevation winter ranges also impact habitat quality.

Other Barriers

Land Resource Activities - Impacts from habitat fragmentation and disturbance as a result of logging and energy development activities.
Elk Distribution on Winter Range - Congregation of large elk herds on some winter areas may result in excessive utilization and could impact range conditions of important deer winter ranges.

Crop Depredation - Chronic crop depredation problems could result in reducing elk numbers in specific areas.

Predation - The La Sal Mountains has a healthy black bear population. Black bears are known to take elk calves, but bear predation does not appear to have a significant impact on elk calf survival rates.

Disease - Chronic wasting disease has been documented in deer and elk on this mountain range.

Illegal Harvest - Extent of illegal harvest on this unit is unknown, but because both subunits cross state boundaries and trophy-quality bulls are present, the potential for illegal activities is elevated. Illegal harvest of mature bulls has the potential to affect the availability of limited entry permits.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Population Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit varies because of the movement of elk from and into Colorado depending on winter snowfall amounts.

Bull Age Structure - Monitor age class structure of the bull population through the use of checking stations, uniform harvest surveys, field bag checks, preseason classification and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

Big Game/Livestock Competition - Continue to work with land management agencies and public grazing operators, as well as private landowners to assure that proposed population objectives are reasonable and attainable. Antlerless harvest will be the primary strategy utilized to achieve and maintain population objectives and to address specific habitat concerns and depredation problems. Keep public informed of deer and elk population trends and incorporate elk management strategies that have minimal impacts to the deer population.

Elk Distribution - Coordinate with CWMU operators to develop hunting strategies to reduce elk congregations on private land during public land hunting seasons. Continue coordination with Colorado Division of Wildlife to ensure bull harvest management on Colorado hunt unit 60 complements harvest strategies implemented on the La Sal Mountains. Development of elk harvest strategies for the Dolores Triangle must consider weather conditions that dictate elk movements into Utah.

Harvest Age Objective - Continue public relations to provide information on effect of changing permit numbers in relation to average age of harvested bulls.

Habitat Monitoring

Habitat Condition and Trend – Continue analysis of trends in habitat condition through permanent range trend studies, pellet transects, and field inspections. Land management agencies will similarly conduct range monitoring to determine vegetative trends, utilization and possible forage conflicts. Range trend studies will continue to be conducted by DWR to evaluate elk habitat health, trend, and carrying capacity.

Management Actions to Remove Habitat Barriers

Limited Summer Range - Work with public land management agencies to develop specific vegetative objectives to maintain the quality of important elk use areas. Respond to any range deterioration concerns and address documented excessive forage utilization.

Habitat Loss - Cooperate with federal land management agencies and private landowners in carrying out habitat rehabilitation projects such as reseedings, controlled burns, water developments etc. on public and private lands to maintain or increase biological carrying capacity

Management Actions to Remove Other Barriers

Land Resource Activities - Continue to coordinate with land management agencies and energy development companies in planning and evaluating resource uses and developments that could impact habitat quality. Work to develop and administer access management plans for the purposes of habitat protection and escape or “security” areas.

Elk Distribution on Winter Range - Utilize antlerless harvest in specific areas when necessary to target elk concentrations impacting winter range conditions and/or important deer wintering areas.

Crop Depredation - Work with private landowners to make sure depredation is maintained within tolerable levels, and will not become a limiting factor. Utilize depredation hunts, fencing and other actions where appropriate to reduce/mitigate crop depredation.

Predation - Maintain bear hunting seasons to control bear population. Maintain high

quality summer habitats to protect important calving areas (see “Management Actions To Remove Habitat Barriers”).

Disease - Continue testing of harvested animals to detect presence of CWD in the elk population.

Illegal Harvest – In areas where illegal bull harvest has been documented, law enforcement efforts will be focused through action plans.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit 14
San Juan
May 2012

BOUNDARY DESCRIPTION

Grand and San Juan counties - Boundary begins at the confluence of the San Juan and Colorado rivers; north along the Colorado river to Kane Springs Creek; southeast along this creek to Hatch Wash; southeast along this wash to US-191; south on this road to the Big Indian road; east on this road to the Lisbon Valley road; southeast on this road to the Island Mesa road; east on this road to the Colorado state line; south on this line to the Navajo Indian Reservation boundary; southwest along this boundary to the San Juan River; west on this river to the Colorado River.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	47,826	23	128,528	99	176,229	36
Bureau of Land Management	51,235	25	57	>1	253,997	51
Utah State Institutional Trust Lands	7,098	3	5	>1	25,770	5
Native American Trust Lands						
Private	103,455	49	514	>1	28,855	6
National Park Service					10,604	2
TOTAL	209,614	100	129,104	100	495,455	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Maintain the population at a level that is within the long-term capability of the available habitat to support. Consider increases in population objective when forage production from habitat projects increase carrying capacity. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies.

Maintain and protect existing crucial elk ranges sufficient to support the population objectives. Seek cooperative projects to improve the quality and quantity of elk habitat and to minimize conflicts with livestock and other wildlife. Promote enhancement of habitat security and escapement areas for elk.

UNIT MANAGEMENT OBJECTIVES

Population

Target Winter Herd Size - Maintain a winter population of 1,300 elk with no more than 1,000 elk wintering west of highway US-191.

Bull Harvest Age Objective - Maintain an average bull harvest age of 7.5–8.0 years old on limited entry hunts.

Habitat

Summer Range - Maintain and improve summer forage availability on the Abajo Mountains and Elk Ridge through aspen regeneration and oakbrush thinning projects. Approximately 8,600 acres will be targeted for treatment over the next 5 years.

Winter Range - Maintain and improve winter foraging areas through browse regeneration and pinyon-juniper removal projects. Approximately 18,700 acres will be targeted over the next 5 years.

CURRENT STATUS OF ELK MANAGEMENT

Population

The elk population on the San Juan unit is currently over the management objective of 1300 elk. The last helicopter survey was conducted in January 2011, and a total of 1274 elk were counted yielding a population estimate of 1500 elk. Antlerless harvest has been increased since 2005 to bring elk numbers down toward the management objective.

Data from the 2011 aerial survey indicated that the bull-cow ratio was 70:100 and had increased from the bull-cow ratio obtained from the previous survey. Mature bull numbers observed in 2011 also increased from the 2008 survey. Data from both aerial surveys and summer classification indicate that calf production is good and fairly stable on this unit.

Bull harvest on this unit has steadily increased with increased numbers of permits. Average age of bulls harvested has declined slightly the past 3 years. Harvest results from the past 10 years are listed below (includes CWMU harvest).

Year	LE Bull Permits	LE Bull Harvest	LE Bull Avg. Age	Spike Bull Harvest	Antlerless Harvest
2003	51	39	8.0		136
2004	69	66	7.7		100
2005	82	70	7.5		140
2006	95	70	7.6		207
2007	106	90	8.0		151
2008	126	90	8.1		212
2009	129	117	7.8	8	182
2010	143	115	7.6	16	123
2011	129	97	7.4	24	165

Habitat

This herd unit is summer range limited, and, as such, the number of elk on this unit is primarily determined by trends in annual precipitation on the mountain range. There are 27 permanent range trend study locations on the unit of which 19 are found within elk use areas. Summer ranges and upper elevation winter ranges generally have a stable or slightly upward trend during the past 5 years according to permanent range trend studies conducted by UDWR in 2009. The upward trend in summer range conditions is primarily due to increases in perennial grasses and forbs. Lower elevation winter ranges showed similar upward trends in range condition due to decreased browse decadence and

increased herbaceous cover. Elk use on these low elevation ranges has been relatively light, particularly in mild winters that have allowed elk to winter at higher elevations. Interagency spring range transects have shown slight increases in utilization by elk. USFS and BLM range assessments of current vegetative trends on the unit have not indicated over utilization by elk.

Competition with domestic livestock is also important factor that determines the number of elk on this unit. This unit could most likely support a larger elk population, however, given the current livestock grazing rates, social and political climate, and lower deer population status, the current population management objective is at the acceptable level. Completion of habitat projects to improve forage availability for both elk and cattle would allow potential increases in the elk population. Several habitat improvement projects have been completed or are planned by federal agencies, UDWR, and private landowners.

HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2007 through 2012		**Proposed Projects – 2013 to 2018**	
Blue Creek P-J burn USFS (2008-2009)	500 acres	Drill Hole P-J/brush burn USFS	315 acres
Deadman-Duck Lake PIPO managed fire USFS (2009)	700 acres	Shingle Mill P-J treatment USFS	2000 acres
Chimney Park Rx burn USFS (2011)	450 acres	Johnson Creek P-J/PP thin, burn USFS	3600 acres
Brushy Basin chaining maint USFS (2011-2012)	1600 acres	North Elk Ridge Rx burn USFS	1300 acres
Little Baullies chaining maint. BLM (2010)	900 acres	Maverick Point PP, Oak, P-J treatments USFS	2500 acres
Shay Mesa P-J thin/burn BLM (2011)	1300 acres	North Elk Ridge aspen restoration USFS	1500 acres
		Shingle Mill P-J treatment USFS	4100 acres
		Peters Point Ridge chaining maint USFS	1000 acres
		Devil-Bulldog PP thin USFS	1500 acres
		South Long Point Rx burn USFS	1500 acres
		Peters Point P-J thin BLM	8000 acres

Recent forest fires and timber management operations have provided some new forage areas for elk. Recent emphasis on energy development could impact elk habitat on this unit. An increase in exploration and extraction activities could potentially fragment existing elk habitat and displace elk to less productive areas.

Crop depredation by elk on this unit has increased primarily during the summer on croplands east of highway US-191. Monetary damages have been significant on crops such as sunflower, corn and beans. These damage problem areas are often adjacent to

CWMU units with large elk numbers. Some landowners are reluctant to enroll these properties in CWMUs because they feel that participation in the CWMU program does not adequately compensate them for losses sustained from elk depredation. The CWMUs have recently participated in compensating landowners for crop damages adjacent to their units. The southeast portion of this unit is being managed under general open bull and liberal antlerless harvest strategies to alleviate depredation problems in this area. Antlerless removal on the CWMUs has been increased over the past 5 years to address these depredation situations.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Population

Big Game / Livestock Competition - Resistance of livestock operators to increasing elk herds and concerns of impacts from large elk population to struggling deer population. Lack of public understanding of habitat relationships between elk and livestock.

Crop Depredation - Chronic crop depredation problems could result in reducing elk numbers in specific areas.

Harvest Age Objective - Maintaining high bull numbers to achieve harvest age objective and reduction of antlerless population to achieve population objective. Public resistance to increasing numbers of bull hunting permits to reduce average age of harvest.

Landowner Participation in Cooperative Wildlife Management Unit Programs – Resistance of landowners to join CWMU units because of a lack of knowledge of the program or because of inadequate compensation from CWMU operators for crop depredation losses.

Habitat

Drought - Impact of prolonged drought to range condition and forage availability.

Limited Summer Range - Amount of quality summer habitat for foraging and reproductive activities is limited and shared with livestock and other big game.

Habitat Loss – Plant succession changes in important summer areas (conifer encroachment in aspen stands) and winter areas (pinyon-juniper invasion in mountain brush-sagebrush communities) reduces forage for elk. Lack of browse regeneration and invasion of annual grasses on lower elevation winter ranges also impact habitat quality.

Other Barriers

Elk Distribution - Congregation of large elk herds on some areas may result in excessive utilization and could displace deer herds to less productive ranges.

Land Resource Activities - Impacts from habitat fragmentation and disturbance as a result of energy development and timber management activities.

Predation - The San Juan Unit has healthy black bear and cougar populations. Black bears are known to take elk calves and cougars will prey on all ages of elk. With that said, predation does not appear to have a significant impact on elk survival rates on this unit.

Illegal Harvest - Extent of illegal harvest on this unit is unknown, but because of the unit's reputation for trophy-quality animals, the potential for illegal activities is elevated. Illegal harvest of mature bulls has the potential to affect the availability of limited entry permits.

Disease - Chronic wasting disease has been documented in deer and elk on the adjacent La Sal Mountain range and in deer on the Abajo Mountains.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Population Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. Investigate and incorporate research findings on differential sightability of cow-calf groups, spike bulls, and mature bulls during aerial surveys.

Bull Age Structure - Monitor age class structure of the bull population through the use of checking stations, uniform harvest surveys, field bag checks, preseason classification and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

Big Game/Livestock Competition - Continue to work with land management agencies and public grazing operators, as well as private landowners to assure that proposed population objectives are reasonable and attainable. Antlerless harvest will be the primary strategy utilized to achieve and maintain population objectives and to address specific habitat concerns and depredation problems. Keep public informed of deer and elk population trends and incorporate elk management strategies that have minimal impacts to the deer population. Educate the public about habitat and dietary overlap between elk and livestock.

Crop Depredation - Work with private landowners to make sure depredation is maintained within tolerable levels and will not become a limiting factor. Utilize depredation hunts, fencing and other actions where appropriate to reduce/mitigate crop depredation. Consider other options for attaining antlerless harvest east of highway US-191 such as reciprocal agreements on CWMUs

Harvest Age Objective - Continue public relations to provide information on effect of changing permit numbers in relation to average age of harvested bulls. Continue spike-only bull hunts to increase hunting opportunities.

Habitat Monitoring

Habitat Condition and Trend – Continue analysis of trends in habitat condition through permanent range trend studies, pellet transects, and field inspections. Land management agencies will similarly conduct range monitoring to determine vegetative trends, utilization and possible forage conflicts. Range trend studies will continue to be conducted by DWR to evaluate elk habitat health and trend. Conduct range utilization studies in areas of perceived conflicts to evaluate competition between elk and livestock.

Management Actions to Remove Habitat Barriers

Limited Summer Range - Work with public land management agencies to develop specific vegetative objectives to maintain the quality of important elk use areas. Respond to any range deterioration concerns and address documented excessive forage utilization. Continue to investigate and develop habitat projects on summer range to improve forage availability for both elk and cattle.

Habitat Loss - Cooperate with federal land management agencies and private landowners in carrying out habitat rehabilitation projects such as reseedings, controlled burns, water developments etc. on public and private lands to maintain or increase forage quantity and quality.

Management Actions to Remove Other Barriers

Elk Distribution - Utilize antlerless harvest in specific areas when necessary to target elk concentrations impacting range conditions and/or important deer areas.

Land Resource Activities - Continue to coordinate with land management agencies and energy development companies in planning and evaluating resource uses and developments that could impact habitat quality. Work to develop and administer access management plans for the purposes of habitat protection and escape or “security” areas.

Predation - Maintain hunting seasons to control bear and cougar populations. Maintain high quality summer habitats to protect important calving areas (see “Management Actions To Remove Habitat Barriers”).

Illegal Harvest – Implement action plans to focus law enforcement efforts in areas where illegal bull harvest has been documented.

Disease - Continue testing of harvested animals to detect presence of CWD in the elk population.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit 15
Henry Mountains
May 2012

BOUNDARY DESCRIPTION

Wayne and Garfield counties - Garfield, Kane and Wayne counties—Boundary begins on SR-95 at a point two miles south of Hanksville; south on SR-95 to the west shoreline of Lake Powell; south along this shoreline to SR-276 at Bullfrog; north on SR-276 to the Burr Trail-Notom road; north on this road to the Capitol Reef National Park boundary; north on this boundary to the Burr Trail-Notom road at The Narrows and Divide Canyon; north along this road to a point two miles south of SR-24; east along a line that is two miles south of SR-24 to SR-95. EXCLUDING CAPITOL REEF NATIONAL PARK. USGS 1:100,000 Maps: Escalante, Hanksville, Hite Crossing, Loa.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	0	0	0	0
Bureau of Land Management	131,839	87	0	0	0	0
Utah State Institutional Trust Lands	18,372	12	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	1,379	<1	0	0	0	0
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	47	<1	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	151,637	100	0	0	0	0

UNIT MANAGEMENT GOALS

Manage the current elk population with the intent of reaching the objective of eliminating elk from the Henry Mountains Herd Unit.

UNIT MANAGEMENT OBJECTIVES

Habitat

A small resident elk population, numbering about 20 animals utilizes available summer and winter habitat on the Henry Mountains. There will be no future habitat improvements to benefit elk. However, habitat improvements for bison and deer will have the unintended effect of also benefiting elk.

Population

Target Summer Herd Size – Manage for no resident elk. Transient elk can be expected to move through this unit.

Herd Composition – Age and sex ratios will not be monitored on this unit.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Elk on the mountain are found at elevations from 5,500 to 11,000 feet. The major vegetative communities found at these elevations are pinion-juniper, mountain shrub, and aspen-conifer. There have been no habitat projects to improve elk habitat and future habitat improvement projects on this unit will be designed to benefit other species.

Population

Elk on this unit are not surveyed nor classified to determine bull:cow or cow:calf ratios. However, small groups observed on rare occasion give some indication of population size. There are probably fewer than 20 elk that reside on the mountain.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat / Population - Productive habitat on the mountain will increase the elk population.

Other Barriers - Maintaining enough permits with acceptable hunter satisfaction, while the elk herd is decreasing in number and more difficult to locate and harvest.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Population

Monitoring

Population Size – These elk are rarely seen. DWR sightings, ground observations from hunters, and visitors on the mountain may be used to verify elk numbers when possible. During the bison survey, elk are noted when seen from the helicopter, but this is a rare occurrence.

Bull Age Structure – Ages of bulls will not be monitored. There is no age objective for this unit.

Harvest - The primary means of monitoring harvest will be through the statewide harvest survey.

Management Actions to Remove Population Barriers

Any bull hunts, limited entry cow elk hunts, and antlerless control permits will be used on this unit.

Encourage hunters familiar with the herd to harvest elk on the unit.

Also encourage new hunters with elk permits to enjoy the Henry Mountains wildlife and scenery, while harvesting an elk if the opportunity presents itself.

ELK UNIT MANAGEMENT PLAN
Elk Herd Unit #16
CENTRAL MOUNTAINS
May, 2012

BOUNDARY DESCRIPTION

Utah, Carbon, Emery, Sevier, and Sanpete counties – Boundary begins at the junction of US-6 and I-15 in Spanish Fork; southeast on US-6 to Price and SR-10; south on SR-10 to I-70; west on I-70 to US-50 in Salina; northwest on US-50 to I-15 in Scipio; north on I-15 to US-6 in Spanish Fork.

LAND OWNERSHIP

Approximately 101,226 of the private acres on this unit are managed as Cooperative Wildlife Management Units (CWMU) comprising portions of summer, winter, and yearlong ranges.

Table 1a. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 16A (NEBO)

	Spring/Fall Range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	147970	84			36390	19
Bureau of Land Management	866	<1			23144	12
Utah State Institutional Trust Lands	92	<1			6021	3
Private	15438	9			101165	54
Utah Division of Wildlife Resources	11716	7			22372	12
TOTAL	176082	100	0	100	189092	100

Table 1b. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 16B AND C (MANTI)

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Bureau of Land Management	8447	4	1054	<1	111,282	16
Private	64292	30	100,262	19	165180	23
Utah State Institutional Trust Lands	1572	1	3539	1	85913	12
Forest Service	134218	62	429328	80	295502	42
Utah State Parks	78	<1	17	<1	386	<1
Utah Division of Wildlife Resources	6269	3	2608	<1	45733	6
TOTAL	214878	100	536808	100	703996	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain an elk population consistent with the available range resources and which is in balance with other range users such as domestic livestock, other big game and the need for watershed protection.

Maintain and enhance existing elk habitat through vegetative manipulation, sound domestic grazing practices, and other management techniques that will meet habitat objectives. Minimize and mitigate any habitat losses, degradation, or fragmentation coming from oil and gas development, road construction, urban expansion, increased recreation and other impacts.

Continue to provide spike-only general season, extended archery any bull seasons (Sanpete Valley) as well as limited entry bull elk hunting opportunities.

UNIT MANAGEMENT OBJECTIVES

Habitat

Protect and maintain existing habitats that are functioning properly. Enhance elk habitat on a minimum of 20,000 acres during the next 5 years through direct range improvements. This will include the following specific objectives.

- Remove pinion-juniper encroachment into winter range sagebrush parks and summer and transitional range mountain brush communities. Approximately 2,000 acres per year will be targeted using primarily mechanical treatments.
- Cooperate with federal agencies to improve summer range forage production and forest health by actively managing vast acreages of beetle-killed conifer stands. This may include salvage logging, prescribed fire, and other techniques. At least 1,000 acres per year will be targeted.
- Coordinate with federal agencies to protect and enhance aspen communities on summer habitats. Management techniques that assure a diverse age structure of aspen communities will be utilized.
- Pursue protection of crucial habitats to development through conservation easements.
- Minimize and mitigate for habitat loss and displacement of elk as a result of coal, oil and gas development and urban expansion.
- Cooperate with livestock operators and federal agencies to improve range management practices in such a way to optimize both livestock and elk forage production and thus minimize conflicts.

Population

Target Winter Herd Size – Maintain a wintering elk population of 13,450 elk (computer modeled estimate). This is the same objective as the previous plan. Elk will be distributed among the following sub-populations:

Manti – 12,000 elk
Nebo – 1,450 elk

The elk population objective will be evaluated each time the unit management plan is up for renewal. If conditions change due to a sustainable improved winter habitat then the population objective may potentially increase. In this management unit however, desired elk population levels are also guided by public and political tolerance of elk. This influences population objective recommendations as well as habitat conditions.

Herd Composition –Maintain an average age of harvested bulls between 5.5-6.0 years old on the Manti Subunit and 6.5-7.0 on the Nebo Subunit.

Utilize general season spike-only hunting and limited entry any bull hunting to accomplish herd composition objectives. Utilize extended archery any bull hunting to address depredation/public safety issues in Sanpete Valley.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat Conditions: There are 64 permanent range trend study locations on the Central Mountains Manti Subunit and an additional 19 transects read on the Nebo Subunit. The Nebo and the western portions of Manti subunits were last read in 2007. The eastern portion of the Manti Subunit was read in 2009. Most range trend locations target winter ranges for deer but in many cases show trends in elk winter range productivity. Most range trend sites across the unit show declining trends in browse density and cover, particularly on the west side of the Manti. This was due in part to a large die-off of shrubs in this area between 2002 and 2004. Additionally, there are localized areas that get high utilization by deer and elk that contribute to declines in browse production. Grass and forb trends have been stable to slightly declining across the unit over the past 15 years. The average of all of the DCI scores on elk winter ranges suggest the winter elk habitat is in Fair condition.

Cooperative DWR/BLM/USFS spring range rides have shown relatively stable elk utilization patterns on winter ranges with some localized areas being over utilized. Most winter ranges should benefit from a mild winter in 2011-12 with very few deer and elk on typical wintering areas.

Elk summer habitat appears to be in stable condition. Domestic sheep graze much of the summer range on the unit. Although there may be localized competition between sheep and elk, stocking rates are well below historical averages. Summer ranges are also impacted by fairly high recreation use during the summer months. This tends to displace elk from portions of important summer range.

When looking at elk population objectives, the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change, the Division will adjust the population objective as needed.

Factors limiting elk populations: Drought is the primary factor that impacts elk populations. Forage production and vigor is severely limited during drought years. Current and future oil and gas development as well as urban expansion will continue to fragment existing elk habitat and displace elk to less productive areas. Conflicts between elk and domestic livestock operators are also a primary limiting factor. This can be a volatile sociopolitical issue. This occurs in the form of crop depredation in farmlands as well as perceived competition for forage on rangelands. Elk numbers may be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.

Habitat projects completed and proposed: Federal agencies, private landowners and the UDWR have cooperated on habitat improvement projects targeted at various wildlife species that have also benefited elk. Below is a list of current and future projects.

Table 2. Proposed and completed habitat projects on the Central Mountains Unit

Completed projects and acreage– 2007 through 2011		**Proposed projects and acreage– 2007 and beyond**	
Black Dragon Bullhog, 2007	2887	Gentry Prescribed Fire	3200
Gordon Creek Rollerchop, 2007	200	Nelson Mountain Prescribed Fire	3000
North Spring Harrow, 2007	679	South Horn	2000
Wildcat Rollerchop, 2008	150	Rio Dancer Prescribed Fire	6000
Danish Bench Lop and Scatter	592	Rolfson Fuels Reduction Project	650
Horse Bench Lop and Scatter, 2009	431	Shalom Prescribed Fire	1800
Joe's Valley Bullhog, 2009	1296	Swazey Phase 2	17,000
Mohrland PJ Rollerchop, 2009	746	Manti Fuels Project	2500
Scofield Harrow, 2009	152	Levan Prescribed Fire	1000
Wildcat Knolls Sagebrush Project	810	Old Pinery PJ	1262
Wildcat Knolls Phase 2	600	Willow/Ephraim Prescribed Fire	1000
Swasey Phase 1 Bullhog	1600	Pines Phase 2	6000
Price Wet Meadow Harrow Project, 2011	275	Trail Mountain Winter Range	500
Hiawatha Bullhog Project, 2011	290	Potters Prescribed Fire	250
Upper Fish Creek Prescribed Fire, 2010	2,000	Chris Creek Pinyon/Juniper Removal	500
Jungle Prescribed Fire, 2010	2,000	Manti Face Lop and Scatter	850
Dairy Fork Habitat Improvement	1648	Maple Canyon WMA Habitat Improvement	870
Big Hollow Bullhog	363	Dairy Fork Habitat Improvement	240
Santaquin WMA Habitat Impr.	75	Chriss Creek P J removal	965
Willow Creek Habitat Impr.	50	Canal Canyon Project	400
Twelve Mile Habitat Impr.	2320	Dry Canyon Habitat Improvement	500
6-Mile Habitat Impr.	785	Black Hills WMA Habitat Impr.	20
Salt Creek Wildfire Rehab.	7700		
Mill Fork Wildfire Rehab	485		
Black Hills Lop and Scatter	875		
Big Hollow Juniper Thinning	510		
Lasson Draw sagebrush enhancemnt	200		
Fountain Green WMA Hab. Impr.	275		
Levan Habitat Improvement	770		
White Hills Revegetation	30		
Chriss Creek P J removal	500		
Total Acreage	**28,407**	**Total Acreage Planned**	**53,207**

Population

In recent years the Central Mountains, Manti subunit has been allowed to slowly increase toward the population objective of 12,000 elk. The Central Mountains elk herd was last surveyed in January 2010. Aerial helicopter surveys resulted in a total of 1144 elk being counted on the Nebo Subunit. Recent model estimates the population at 1100, which is below the current population objective for this subunit. A total of 8604 elk were counted on the Manti Subunit resulting in a population estimate of 10,800 elk. The current estimated elk population on this subunit is 12,600 elk, which is above objective. There were 21 bulls per 100 cows observed in aerial surveys. Average calf production based on summer preseason classification counts has been 51 calves per 100 cows over the past 5 years.

Limited Entry bull harvest on the unit has steadily increased over the past 5 years, while general season spike harvest has been relatively stable. The average age of harvested

limited entry bull has slowly declined but is still above the objective of 5.5-6.0 year old bulls. Antlerless harvest trends show conservative harvest to allow the overall population to reach the population objective of 12,000 elk. Antlerless harvest beginning in 2012 will be much more aggressive.

Table 3a. Trends in Harvest Central Mountains, Nebo Subunit

YEAR	LE BULL HARVEST (public and CWMU)	GEN.SEASON SPIKE HARVEST.	AVE. AGE OF HARVESTED BULLS	ANTLERLESS HARVEST
2007	76	95	6.9	201
2008	86	79	6.1	155
2009	88	112	5.8	227
2010	72	132	5.7	132
2011	100	67	6.1	78

Table 3b. Trends in Harvest Central Mountains, Manti Subunit

YEAR	LE BULL HARVEST (public and CWMU)	GEN.SEASON SPIKE HARVEST.	AVE. AGE OF HARVESTED BULLS	ANTLERLESS HARVEST
2007	242	618	7.2	663
2008	276	479	6.3	705
2009	290	566	6.9	700
2010	312	584	6.4	809
2011	330	380	6.1	615

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

- Loss of winter range due to coal, oil and gas development and urban expansion.
- Drought impacts to rangeland forage condition and abundance.
- Loss of winter ranges and summer shrub habitats to pinion-juniper encroachment and shrub decadence.
- Large expanses of beetle killed conifer stands are providing little elk habitat value and are susceptible to large-scale fires.
- Competition for forage with domestic livestock on both summer and winter ranges.

Population

- Public resistance to increasing numbers of bull hunting permits to reduce mean age of harvest.

Other Barriers

- Agricultural depredation by elk on privately owned crops and rangelands. Elk numbers may be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.
- Weather Extremes - Periodic climatic extremes, especially severe winters or long term drought conditions, can cause great fluctuations in overall population size, sex ratios, and age structure.
- Other Mortality Causes – disease outbreaks, highway mortalities, poaching, etc.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

- Continue to monitor permanent range trend studies throughout the winter range.
- Annually inspect rangeland vegetative community impacts and health through cooperative DWR/BLM habitat assessment surveys that include ocular field assessments, utilization transects, and range rides.
- Continue to develop and implement Habitat Management Plans for UDWR owned properties on the unit.

Actions to Remove Habitat Barriers

- Cooperate with federal agencies to establish natural fire policies that will allow wild fires to burn in beneficial and non-threatening areas to recover lost elk habitat.
- Continue to improve forage production on winter and other shrublands by aggressive pinion-juniper removal.
- Cooperate with federal agencies to assure a diverse age structure of aspen communities on summer habitats.
- Pursue Conservation Easements on critical parcels of private property to protect important elk habitat from development.
- Work with oil and gas interests to attempt to protect key areas and minimize or mitigate for losses due to development.
- Cooperate with federal agencies to develop access management plans to enhance elk habitat value. This may include seasonal road closures or vehicle restrictions.
- Involve livestock operators in spring range rides and assessments in an effort to keep good relationships and address any potential concerns about competition between livestock and elk.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Bull Age Structure - Monitor age class structure of the bull population through the use of annual preseason ground classification and winter aerial classification. Average age of harvest will be determined by tooth age data from L.E. harvest.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the L.E. hunts. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

- Target depredation hunts to address elk herds that habitually move into agricultural areas.
- Cooperate with private landowners to fence all haystacks and provide compensation when necessary in high winter depredation areas.
- Utilize antlerless hunts to address range concerns in specific areas.
- Utilize depredation bull hunts and extended archery season options to address depredation and public safety issues by bulls according to DWR depredation policy.
- Cooperate with UDOT to pursue funding to reduce vehicle mortalities.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 17
Wasatch Mountains
May, 2012

BOUNDARY DESCRIPTION

Carbon, Salt Lake, Summit, Wasatch, Duchesne, Utah counties - Boundary begins at the junction of I-15 and I-80 in Salt Lake City; east on I-80 to US-40; south on US-40 to SR-32; east on SR-32 to SR-35; southeast on SR-35 to SR-87; south on SR-87 to Duchesne and US-191; south on US-191 to US-6; northeast on US-6 to I-15; north on I-15 to I-80 in Salt Lake City.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP SUB-UNIT 17A

Sub-Unit 17a	Spring-Fall		Summer Range		Winter Range		Yearlong range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	406,817	77	75,006	83	58,373	38	2,221	18
Bureau of Land Management	472	>1	0	0	2,354	2	0	0
Utah State Institutional Trust Lands	669	>1	0	0	2,744	2	0	0
Native American Trust Lands	1,952	>1	768	>1	0	0	0	0
Private	105,054	20	13,737	15	71,081	46	9,523	75
Department of Defense	0	0	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0	0	0
National Parks	235	>1	0	0	0	0	0	0
Utah State Parks	11,917	2	0	0	7,524	5	0	0
Utah Division of Wildlife Resources	431	>1	521	>1	12,015	8	929	7
Water	87	>1	71	>1	0	0	0	0
TOTAL	**527,634**	**100**	**90,102**	**100**	**154,090**	**100**	**12673**	**100**

RANGE AREA AND APPROXIMATE OWNERSHIP SUB-UNIT 17B&C

Sub-Unit 17b&c	Spring-Fall		Summer Range		Winter Range		Yearlong range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	79,259	62	65,968	52	24,470	7	20,360	21
Bureau of Land Management	0	0	6,751	5	2,294	>1	8,729	9
Utah State Institutional Trust Lands	21,949	17	3,715	3	6,064	2	2,466	3
Native American Trust Lands	0	0	42	>1	62,970	18	9,107	9
Private	19,372	15	32,019	25	186,467	53	41,745	43
Department of Defense	0	0	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0	0	0
National Parks	0	0	0	0	0	0	0	0
Utah State Parks	0	0	0	0	1,150	>1	0	0
Utah Division of Wildlife Resources	6,135	5	19,273	15	70,780	20	15,244	16
Water	290	>1	0	0	0	0	0	0
TOTAL	**127,005**	**100**	**127,768**	**100**	**354,195**	**100**	**97,650**	**100**

UNIT MANAGEMENT GOALS

- To manage and sustain a healthy population of elk.
- To provide a variety of high quality recreational opportunities for viewing and harvesting elk.
- To maintain an elk population consistent with the available range resources.
- To strive for protection of key habitats with continued habitat improvements to mitigate losses by development.
- To continue to provide spike only general season and limited entry elk hunting opportunities. Limited entry hunts will be divided as archery, any weapon, muzzleloader and premium hunts.

UNIT MANAGEMENT OBJECTIVES

Habitat

Within the next five years, enhance forage production on a minimum of 20,000 acres of elk habitat, through direct range improvements to maintain population management objectives. Pursue protection of an additional 20,000 acres of elk habitat through Conservation Easements, CWMUs, Conservation agreements, etc.

Population

Target Winter Herd Size –5400 wintering elk distributed in the following subpopulations:

Wasatch Mountains West	2600
Currant Creek	1200
Avintaquin	1600

Avintaquin Subpopulation- During the fall of 2011 a committee was organized in accordance with the Statewide Elk Management Plan. The purpose of the committee was to discuss a possible increase to the Avintaquin subunit population objective. The committee met in early December 2011 and voted to raise the objective from 1250 to 1600 wintering animals. However, if U.S. Forest Service cattle grazing permittees have their grazing AUM's reduced in the future do to over grazing by elk the committee will reconvene to reevaluate the population increase.

Herd Composition - Maintain a three year average age of 5.5-6.0 years of harvested bulls. Winter aerial counts are scheduled every three years and are dependant upon operating budgets and weather conditions.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Overall, range conditions for elk are good on this unit. Some wintering areas suffered a sagebrush die off due to the seven year drought that ended in late 2004. Since 2005 there has been several wet years, which resulted in good grass production that benefited elk. The majority of the Range Trend monitoring sites on this unit are in fair to good condition.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change, the Division will adjust the population objective as needed.

Several factors impact the ability of this unit to support larger elk populations, including: agricultural depredation, urban encroachment, competition for forage with domestic livestock, over utilization of winter browse in areas of heavy concentration of deer and elk during hard winters.

Completed habitat improvement projects

Over the past decades many habitat improvement projects have occurred that benefit elk. These include; both prescribed fire and wildfire, pinyon-juniper chainings, conifer thinning, etc. This table lists specific habitat improvements & protections that have occurred in the last ten years on Unit 17.

Completed Project	Agency	Acres	Cooperators
Coyote Draw PJ lop & scatter	DWR	1,220	DWR
Cut Off Road PJ lop & scatter	DWR	415	DWR
East Side Hwy 208 anchor chaining	DWR	450	DWR
Golden Stairs anchor chaining	DWR	185	DWR
Grey Wolf Mtn anchor chaining	DWR	600	DWR
Horse Ridge PJ treatment	DWR	700	DWR
Lake Canyon aerator treatment & seeding	DWR	600	DWR

Lake Canyon PX conifer burn	USFS	500	USFS, DWR
Lower Red Creek – sagebrush seeding	DWR	600	DWR
Lower Red Creek Dixie Harrow	DWR	325	DWR
Rabbit Gulch anchor chaining	DWR	190	DWR
Rabbit Gulch PJ lop & scatter	DWR	1,400	DWR
Rabbit Gulch PJ lot & scatter	DWR	1,100	DWR
Rabbit Gulch sec 9 PJ anchor chaining	DWR	180	DWR
Sandwash/Sink Draw Cons. Easement	DWR	4,000	DWR, RMEF, SFWH, LIP
Sandwash/Sink Draw Cons. Easement	NRCS	5,000	NRCS, DWR
Santaquin Draw anchor chaining	DWR	1,800	DWR
Skitzy Canyon anchor chaining	DWR	730	DWR
Stink Draw seeding	DWR	500	DWR
Strawberry River prescribed burn	DWR	4,000	DWR, BOR
Strawberry River property acquisition	BOR	1,700	BOR, CUPMC, DWR
Trout Creek sagebrush treatment	USFS	200	USFS, DWR
Two Bar Ranch PJ thinning & lop & scatter	DWR	1,300	DWR
Wallsburg Fire break seeding	DWR	100	DWR
Wallsburg shrub planting	DWR	500	DWR, SFWH
Wildcat Canyon property acquisition	BOR	1,700	BOR, CUPMC, DWR
Horse Ridge lop & scatter	DWR	500	DWR
Tabby Mt. Santaquin Draw chaining	DWR	238	DWR
Tabby Mountain lop & scatter	DWR	600	DWR
TOTAL		**31,333**	

Proposed Habitat Projects

Following is a partial list of proposed habitat enhancement projects on unit 17. Others will be added as opportunities arise.

Proposed Project	Agency	Acres	Cooperators
SITLA Tabby Mtn Block Acquisition/Easement	DNR	28,000	DNR, DWR, SFWH, RMEF, MDF, etc..
Sandwash sagebrush restoration	DWR	92	DWR
Buck Knoll anchor chaining	DWR	400	DWR, B.B.C., Berry P.
Bartholomew Canyon vegetation treatment	USFS	1,000	USFS, DWR
Blacktail Mountain west PJ treatment	DWR	440	DWR
Reservation Ridge burn	BLM	85	BLM, DWR
knapweed Wallsburg control	DWR	830	DWR
Springdell South vegetation treatment	USFS	2,500	USFS, DWR
Skitzy lop & scatter	DWR	390	DWR
South Strawberry sagebrush treatment	USFS	310	USFS, DWR
Price Canyon burn	BLM	4,000	DWR, BOR
Blacktail Mountain east PJ treatment	Ute Tribe	1,400	Ute Tribe, DWR
Weeint Hollow anchor chaining	Ute Tribe	2,000	Ute Tribe, DWR, B.B.C.
Wallsburg shrub plantings	DWR	500	DWR, SFWH
$1200 ridge Prescribed burn	USFS	1,200	USFS, DWR
Reservation Ridge thinning	USFS	1,000	USFS, DWR
Indian Canyon Prescribed burn	USFS	500	USFS, DWR
Reservation Ridge – Tub Ridge burns	USFS	4,000	USFS, DWR
TOTAL		**48,647**	

Population

The last aerial census was taken January 2011 where 6,478 elk were observed on the unit. The estimated population would include a 20% increase of non-observed elk equaling 7,774. Any elk over the management plan objective of 5400 are removed from the population, thereby, keeping the herd stable. Average calf:cow ratios for the unit are 54:100. The five year average for the spike bull harvest is 436 and 340 limited entry bulls were taken in 2010.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

- Loss of winter range due to development.
- Loss of winter range due to sagebrush die off and resulting cheatgrass expansion.
- Poor range conditions during drought years.
- Conifer and PJ invasion of grasslands and browse areas critical for wildlife.
- Loss of winter range due to expanding oil & gas development.

Population

- Resistance to increasing L.E. bull harvest to reduce the mean age of harvest.
- Difficulty in harvesting antlerless animals for population control on subunit 17c (Avintaquin) due to elk moving onto Ute Tribal lands.

Other Barriers

- Agricultural depredation by elk on privately owned crops and rangelands. Elk numbers may have to be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.
- Weather Extremes - Periodic climatic extremes, especially severe winters or long term drought conditions, can cause great fluctuations in overall population size, sex ratios, and age structure.
- Other Mortality Causes - Occasionally, other sources of elk mortality such as unlawful harvest, highway mortality, winter loss, disease

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

- Continue to monitor permanent range trend studies located throughout the winter range.
- Annual habitat assessment surveys.
- Continue to develop and implement Habitat Management Plans for each of the DWR Wildlife Management Areas on the unit.

Actions to Remove Habitat Barriers

- Cooperate with USFS & BLM to re-institute natural fire interval in conifer zone to recover lost elk habitat.
- Cooperate with USFS, BLM, & Ute Tribe to increase vegetative under story and reduce Pinyon/Juniper invasion of the sagebrush step zone to increase winter forage to reduce depredation on private property.
- Pursue Conservation Easements on critical parcels of private property to protect important elk habitat.
- Implement habitat enhancement & watershed initiative projects whenever opportunities arise, including those listed in this plan.
- Participate with landowners by providing seed, labor or machinery to implement improvements on private rangelands that will benefit wildlife.
- Cooperate with USFS, BLM, and local governments to prepare access management plans to enhance wildlife habitats, range conditions and escape

opportunities for elk. Such plans may emphasize a mix of permanent and seasonal road closures and vehicle type restrictions.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Bull Age Structure - Monitor age class structure of the bull population through the use of annual preseason ground classification and winter aerial classification. Average age of harvest will be determined by tooth age data from L.E. harvest.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the L.E. hunts. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons. Permits for the 3 weapon types are based on the following percentages: 30% for archery, 50% for rifle and 20% for muzzleloader. Maintain an archery only area in Salt Lake County along with an extended archery area in the Summit County portion of this unit where any bull may be harvested during the general spike hunt and the extended hunt period.

Management Actions to Remove Population Barriers

- Target depredation hunts to address elk herds that habitually move into agricultural or urban areas.
- Cooperate with private landowners to fence all haystacks in winter depredation areas.
- Cooperate with UDOT to pursue funding to reduce vehicle mortalities.
- Cooperate with Ute Tribe to ensure hunting pressure occurs on Tribal lands on subunit 17c to increase antlerless harvest for population control on that subunit.

ELK HERD MANAGEMENT PLAN
Elk Herd Unit #18
Oquirrh/Stansbury
May 2012

BOUNDARY DESCRIPTION

Salt Lake, Utah and Tooele counties - Boundary begins at the junction of I-15 and I-80; south on I-15 to SR-73; west on SR-73 to SR-36; south on SR-36 to the Pony Express road located just south of Faust; west on this road to the Skull Valley-Dugway-Timpie road; north on this road to I-80 at Rowley Junction; east on I-80 to I-15.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	41,763	28	807	5	25,193	19
Bureau of Land Management	37,664	25	2470	14	45,338	35
Utah State Institutional Trust Lands	7358	5	776	4	5856	4
Native American Trust Lands	0	0	0	0	3537	3
Private	63,452	42	13,462	77	50,466	39
Department of Defense	1388	1	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	151,625	100	17,515	100	130,390	100

UNIT MANAGEMENT GOALS

Provide and sustain a healthy elk population. Provide varied and high quality recreational opportunities for viewing and limited entry harvesting of elk. Balance impacts between elk and mans economic and social activities, private property rights and local economies. Maintain an elk population consistent with the available range resources and which is in balance with other range users such as domestic livestock, other big game and the need for watershed protection. Strive for consistency and simplicity in elk management programs.

UNIT MANAGEMENT OBJECTIVES

Habitat

Protect and maintain existing habitats that are functioning properly. Enhance elk habitat on a minimum of 2000 acres during the next 5 years through direct range improvements. This will include the following specific projects

Remove Juniper encroachment into winter range sagebrush parks and summer transitional range mountain brush communities.

Coordinate with federal agencies to protect and enhance aspen communities on summer habitats. Management techniques that assure a diverse age structure of aspen communities will be utilized.

Cooperate with livestock operators and federal agencies to improve range management practices in such a way to optimize both livestock and elk forage production and thus minimize conflicts.

Population Management Objectives

Target Winter Herd Size - Achieve wintering populations as listed below:

Wintering Area (counting unit)	Target Population
North Oquirrh Mountains	350
South Oquirrh Mountains	300
Stansbury	250
TOTAL	900

Herd Composition - Maintain an average age of 5.5 to 6.0 year old bulls in the harvest.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat Conditions:
In 2007, 16 range trend studies were reread on unit 18. All of the trend studies read in 2007 sample big game winter range except for one summer range site at Black Rock East. This study samples a high elevation elk summer range near the top of Black Rock Mountain. Overall trends on unit 18 are stable to improving. Improving browse trends were found at South Palmer Point, Salt Mountain, south of Broons Canyon, Hatch Ranch, and East Hickman Canyon. All other sites were considered stable.

When looking at elk population objectives , the Division has taken into account barriers which include, 1) depredation issues 2) winter range that is beyond division control 3) social and political factors 4) current range improvements 5) future range improvements and 6)overall range health. As these factors change, the Division will adjust the population objective as needed.

Factors limiting elk populations:
Drought is the primary factor that impacts elk populations. Forage production and vigor is severely limited during drought years. Current and future oil and gas development as well as urban expansion will continue to fragment existing elk habitat and displace elk to less productive areas. Conflicts between elk and domestic livestock operators are also a primary limiting factor. This can be a volatile sociopolitical issue. This occurs in the form of crop depredation in farmlands as well as competition for forage on rangelands. Elk numbers may be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.

Habitat projects completed and proposed: Federal agencies, private landowners and the UDWR have cooperated on habitat improvement projects targeted at various wildlife species that have also benefited elk. Below is a list of current and future projects.

HABITAT PROJECTS COMPLETED AND PROPOSED – Oquirrh Stansbury Mts. Unit

Completed Projects and acreage– 2002 through 2006		**Proposed Projects and acreage– 2007 and beyond**	
Lee Canyon/ BLM	700	Clover Creek PJ thinning/ private	250
Round Canyon PJ thinning/ BLM	650	Herbicide treatment/ Kennecott	225
Clover Creek PJ thinning/BLM	500	Bio control w/goats/ Kennecott	150
Iosepa PJ thinning/BLM	400	Weed mapping/Kennecott	300
St John wildfire rehab/ SITLA/private	1200	Toadflax Beetle distribution/ Kennecott	5
East Onaqui sagebrush enhancement/ BLM	200	Habitat fencing/ Kennecott	50
Dix Monroe sagebrush enhancement SITLA/private	800	Seeding/ Kennecott	50
Cunningham chaining/ private	120	Wildfire prevention plan/ Kennecott	
Big Hollow PJ thinning/BLM	500	Wildfire treatments/ Kennecott	100
East Onaqui PJ thinning/ BLM	600	Reclamation	800
Clover Creek sagebrush harrow/ private	170		
Toadflax Beetle distrb./ Kennecott	3		
Seeding/ Kennecott	300		
Reclamation	4900		
TOTAL	11043	TOTAL	1930

POPULATION MANAGEMENT STRATEGIES

Population

This population has been relatively stable over the past 10 years. There are three target herd objectives for this unit, North Oquirrh (primarily Kennecott lands), South Oquirrh, and Stansbury. Last surveyed in 2009 adjusted population estimates were 426 for all three wintering areas. Antlerless permits are the primary way to target areas over objective.

Monitoring

Population Size - Results from the annual harvest survey of public and CWMU hunters, age and sex classification surveys, aerial census or trend counts and estimates of mortality from causes other than lawful hunting will all be utilized to periodically monitor population status and trends. A dynamic computer model, which utilizes some or all of the previously mentioned data, will be used as an aid to assessing population status. It's primary use, however, will be to assist in determining ongoing harvest requirements necessary to manipulate herd size and composition.

Bull Age Structure - The primary means to monitor this parameter will be winter aerial classifications conducted every 3 years, tooth aging data from harvested bulls and antler configuration of harvested bulls.

Harvest - Whenever possible, harvest recommendations will be crafted so as to simultaneously manage overall population size, age class and also address concerns in specific areas such as depredation problems or localized range overuse by elk. The primary means to achieve this will be through antlerless harvest. A variety of harvest strategies, seasons and type of permits are available for this purpose. Bull harvest will likely be rather conservative and aimed toward older age class animals. Harvest age objective is 5.5-6.0 year old bulls. Monitoring of harvest will occur through the use of the uniform statewide harvest.

BARRIERS TO ACHIEVING MANAGEMENT OBJECTIVES

Land Ownership and Access - Because of the large amount of private land on this unit, its location and the number of owners, public access for harvesting elk will continue to be a problem. Formation of the Heaston East CWMU has helped in this regard on the North Oquirrh Mountains. Members of the South Oquirrh Mountains Landowner Association members are considering a similar CWMU. Control and manipulation of elk populations will largely be dependent upon antlerless elk harvest from private lands.

Crop Depredation - Prevention and/or minimization of damage caused by elk to privately owned crops and rangelands is a very high priority. The Utah State Wildlife Resources Code and the rules developed by the Wildlife Board constitute the basic guidance for implementing big game depredation prevention and compensation procedures.

Weather Extremes - Periodic climatic extremes, especially severe winters, can cause great fluctuations in overall population size, sex ratios, and age structure. In the broadest sense, these impacts are generally not preventable, although their impacts can sometimes be moderated with management programs. The best option is to try and provide an abundant habitat base of the highest quality. Artificial winterfeeding of elk will be considered only under the most extreme emergency conditions as prescribed by the Division of Wildlife Resources big game feeding policy.

Other Mortality Causes - Occasionally, other sources of elk mortality such as unlawful harvest, highway mortality, winter loss, disease or losses to predators may prevent or at least slow down the achievement of objectives. Normally these situations are best dealt with on a case specific basis tailored to the specific situation. Unlawful harvest is probably best addressed through an "Action Plan" approach that assigns greater and more timely law enforcement assets or which specifies some necessary public education measures. Cooperative efforts with Kennecott Utah Copper Corporation and the state Dept. of Transportation may help to reduce highway mortality. Predator management plans and their implementation may reduce the impact of predators.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Work cooperatively with land management agencies and private landowners to plan and implement improvement projects for the purpose of enhancing wildlife habitat and range resources in general. Efforts will be made to provide better wintering conditions on the Tooele County side of the unit to give some rest to the Northeast area. DWR will continue to implement the habitat management plan for the Carr Fork Reclamation Area with this objective in mind.

Utilize the authority to conclude Conservation Easements with private landowners to protect critical winter ranges from future development. Participate with landowners by providing seed, labor or machinery to implement specific improvements on private rangelands. Work especially closely with Kennecott Utah Copper and the Heaston-East CWMU to plan and implement habitat improvements.

In concert with the Forest Service, BLM and local governments prepare access management plans to enhance wildlife habitats, range conditions and escape opportunities for elk. Such plans may emphasize a mix of permanent and seasonal road closures and vehicle type restrictions.

Continue to monitor permanent range trend studies throughout the winter range. Annually inspect rangeland vegetative community impacts and health through cooperative DWR/BLM habitat assessment surveys that include ocular field assessments, utilization transects, and range rides.

Continue to develop and implement Habitat Management Plans for UDWR owned properties on the unit.

Cooperate with federal agencies to establish natural fire policies that will allow wild fires to burn in beneficial and non-threatening areas to recover lost elk habitat.

Continue to improve forage production on winter and other shrub lands by aggressive pinion-juniper removal.

Cooperate with federal agencies to assure a diverse age structure of aspen communities on summer habitats.

Pursue Conservation Easements on critical parcels of private property to protect important elk habitat from development.

Population

Population size will be monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates.

Monitor age class structure of the bull population through the use of annual preseason ground classification and winter aerial classification. Average age of harvest will be determined by tooth age data from L.E. harvest.

The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the L.E. hunts. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons.

Target depredation hunts to address elk herds that habitually move into agricultural areas.

Cooperate with private landowners to fence all haystacks and provide compensation when necessary in high winter depredation areas.

Utilize antlerless hunts to address range concerns in specific areas.

Develop hunt strategies which allow public hunters to harvest depredating bulls.

ELK HERD MANAGEMENT PLAN
Elk Herd Unit #19
West Desert
May **2012**

BOUNDARY DESCRIPTION

Entire Unit
Tooele, Utah, Juab and Millard counties - Boundary begins at the Utah-Nevada state line and I-80 in Wendover; east on I-80 to the Dugway road at Rowley Junction; south on this road to the Pony Express Road: east on this road to SR-36; north on SR-36 to SR-73; east on SR-73 to I-15; south on I-15 to SR-132 at Nephi; west on SR-132 to US-6; southwest on US-6 to its junction with US-50 near Delta; west on US-50 & 6 to the Utah-Nevada state line; north along this state line to I-80 at Wendover.

Deep Creek Mountains

Tooele and Juab counties - Boundary begins at the Pleasant Valley road and the Utah Nevada State line; north along this state line to the Salt Springs (Blue Lake) road; south on this road to the Pleasant Valley road; northwest on this road to the Utah-Nevada State line.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP DEEP CREEK SUB-UNIT

Unit 19a	Spring-Fall		Summer-Fall Range		Winter Spring		Winter Range		Yearlong range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service										
Bureau of Land Management	37,822	74	16,738	83			19,833	54		
Utah State Institutional Trust Lands							1475	4		
Native American Trust Lands	12,507	24	2694	13			12,359	34		
Private	1039	2	843	4			3127	8		
Department of Defense										
USFWS Refuge										
DOD										
Utah State Parks										
Utah Division of Wildlife Resources										
Water										
TOTAL	**51,367**	**100**	**20,275**	**100**			**36,795**	**100**		

UNIT MANAGEMENT GOALS

To provide and sustain a healthy elk population. Provide varied and high quality recreational opportunities for viewing and limited entry elk harvest. Balance impacts between elk and man's economic and social activities, private property rights and local economies. Maintain an elk population consistent with the available range resources and which is in balance with other range users such as domestic livestock, other big game and the need for watershed protection. Strive for consistency and simplicity in elk management programs.

Provide elk viewing opportunities to Wilderness visitors and other segments of the public on a year round basis. Maintain a population of mature bull elk sufficient to provide opportunities to see and hear mature bull elk behavior during the breeding season.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain a stable or improving range trend on the important areas of elk habitat.
Continue to monitor permanent range trend studies located throughout the winter range.

Population

Target Winter Herd Size - Achieve a wintering population of 200 elk on that portion of the Deep Creek Mountains exclusive of the Goshute Indian Reservation. A secondary objective is to achieve a wintering population of 150 elk in the Dog Valley-Sage Valley area in the eastern part of the West Desert Wildlife Management Unit. This is the number of elk that BLM has provided for in their planning process.

Harvest - Because of tribal lands, the state of Utah has only minimal authority or ability to regulate harvest, and thus population size, on this unit. The bulk of harvest, at least for the foreseeable future will likely be confined to the Goshute Reservation. Utah's interim objective is to harvest 10 to 15 large branch antlered bulls annually under a limited entry bull harvest strategy. Achieve and maintain an age in the harvest objective of 5.5-6.0 years old. Antlerless harvest will be governed by depredation concerns and the eventual possibility of range condition problems attributable to elk.

Harvest in the Dog Valley - Sage Valley area will occur under limited entry bull hunting as part of the Unit 21 (Fillmore) Wildlife Management Unit. We expect to harvest 5 to 10 large branch antlered bulls annually from this area. Antlerless harvest will occur as needed to control depredation and to meet the population management objective. These recommendations will occur within the framework of the West Desert Management Unit.

Current Status of Elk Management

Habitat

There are 8 range trend study sites on the Deep Creek Mountain Range. Seven are on BLM administered land while one is on Goshute Indian Reservation Land. Four study sites are present on winter ranges in Trail Gulch, Ochre Mountain, Sevy Canyon and Durse Canyon. Three summer range studies exist on Chokecherry, Granite, and the Basin.

There were no upward trends for soil, herbaceous, or browse components in 2007. Soil, herbaceous, and browse trends were reported stable on two sites while downward on two others.

Downward trends can be attributed to periods of drought. Resulting in increased bare soil, increased decadence, reduced vigor, decline in reproduction and a decline in overall forbs

Habitat projects include joint UDWR, BLM and NRCS treatments on the west slope and Ibapah Valley. These multi-year projects will help improve winter range conditions for elk.

Several factors impact the ability of this unit to support larger elk populations, including agricultural depredation, and competition for forage with domestic livestock.

Completed habitat improvement projects
Over the past decades many several habitat improvement projects have occurred that benefit elk.

Completed Projects	Agency	Acres	Cooperators
Sage valley	USFS	500	DWR,USFS
Goshute chaining	BLM	800	DWR,BLM, NRCS
Burraston Pond		1	DWR

Proposed Habitat Projects
The Following is a partial list of proposed habitat enhancement projects on unit 18.

Proposed Project	Agency	Acres	Cooperators
Sage valley lop and scatter	USFS	1300	DWR, USFS
Ibapah sage brush impr.	BLM	250	DWR, NRCS
Deep Creek east pasture	BLM	150	DWR, NRCS
Spanish Fork weed treatment	USFS	650	DWR

Population

An aerial flight was conducted January 2009 where 66 bulls were counted. Antlerless animals had moved off of the unit and were not located. The adjusted modeled population count for 2012 is below objectives at 60 animals. With the large expansion of the Indian Reservation, our management options have been even more severely limited than previously. Average calf production is 40 to 50 calves/100 cows.

BARRIERS TO ACHIEVING MANAGEMENT OBJECTIVES

Crop Depredation - Prevention and/or minimization of damage caused by elk to privately owned crops and rangelands is a very high priority. The Utah State Wildlife Resources Code and the rules developed by the Wildlife Board constitute the basic guidance for implementing big game depredation prevention and compensation procedures.

Habitat - Specific areas of elk habitat have become degraded from juniper encroachment. It may be necessary to reduce elk numbers to preserve the long-term health and productivity of the land. This is often a difficult and sometimes contentious balancing act between livestock grazing interests, the federal land management agencies and those interests who desire maximum numbers of elk.

Weather Extremes - Periodic climatic extremes, especially severe drought and winters, can cause great fluctuations in overall population size, sex ratios, and age structure. In the broadest sense, these impacts are generally not preventable, although their impacts can sometimes be moderated with management programs. The best option is to try and provide an abundant habitat base of the highest quality. Artificial winter-feeding of elk will be considered only under the most extreme emergency conditions as prescribed by the Division of Wildlife Resources written policy for the winter feeding of big game.

Other Mortality Causes - Occasionally, other sources of elk mortality such as unlawful harvest, highway mortality, winter loss, disease or losses to predators may prevent or at least slow down

the achievement of objectives. Normally these situations are best dealt with on a case specific basis tailored to the specific situation. Unlawful harvest is probably best addressed through an Aaction plan@ approach that assigns greater and more timely law enforcement assets or which specifies some necessary public education measures. Cooperative efforts with the state Dept. of Transportation may help to reduce highway mortality. Predator management plans and their implementation may reduce the impact of predators.

The Expansion of Wilderness Study Area – The recent expansion of the Wilderness Study Area has significantly reduced access and the abilities to do projects that could enhance wildlife habitat.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Achieve an improving range trend on the important winter range areas on the Deep Creek Mountains

Work with the BLM on habitat improvement projects on winter ranges. Limit winter range conversion from wildfires to cheat grass, juniper encroachment, control ATV use.

Work cooperatively with land management agencies and private landowners to plan and implement improvement projects for the purpose of enhancing wildlife habitat and range resources in general. Participate with landowners by providing seed, labor or machinery to implement specific improvements.

UDWR has fenced 220 acres of alfalfa field to reduce depredation. Fence a remaining 160 acres to nearly eliminated elk depredation in the Ibapah Valley.

Population

Monitoring

Population Size - Results from the annual harvest survey, age and sex classification surveys, aerial census or trend counts and estimates of mortality from causes other than lawful hunting will all be utilized to periodically monitor population status and trends. A dynamic computer model, which utilizes some or all of the previously mentioned data, will be used as an aid to assessing population status. Its primary use, however, will be to assist in determining ongoing harvest requirements necessary to manipulate herd size and composition.

Bull Age Structure - The primary means to monitor this parameter will be preseason ground classification surveys, winter aerial classifications conducted every third year and tooth aging data.

Harvest - Whenever possible, harvest recommendations will be crafted so as to simultaneously manage overall population size and also address concerns in specific areas such as depredation problems or localized range overuse by elk. The primary means to achieve this will be through antlerless harvest. Bull harvest will be managed under a Limited Entry hunt system and general season spike hunting. For antlerless harvest, a variety of strategies, seasons and type of permits are available. Monitoring of harvest will occur through the use of the uniform statewide harvest survey.

Coordinate with the Goshute Tribe to whatever extent possible, harvest recommendations for the entire herd, keeping in mind the sovereign status of the Goshute Tribe.

Work cooperatively with the Bureau of Land Management and state land management agencies and private landowners to plan and implement improvement projects for the purpose of enhancing wildlife habitat and range resources in general. Propose habitat projects to reduce juniper encroachment.

Consult with the Goshute Indian Tribe to coordinate habitat management efforts so that elk populations and range resources both on and off the reservation may benefit.

BLM, NRCS and Utah Division of Wildlife Resources are participating in projects to improve sage grouse habitat, which in turn will improve winter range for elk.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #20
Southwest Desert
May 2012

BOUNDARY DESCRIPTION

Beaver, Iron, and Millard counties - Boundary begins at US-50&6 and the Utah-Nevada state line; east on US-50&6 to SR-257; south on SR-257 to SR-21; south on SR-21 to SR-130; south on SR-130 to I-15; south on I-15 to SR-56; west on SR-56 to the Lund Highway; northwest on the Lund Highway to the Union Pacific railroad tracks at Lund; southwest on the Union Pacific railroad tracks to the Utah-Nevada state line; north on this state line to US-50&6.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	0	0	0	0
Bureau of Land Management	631,774	84	0	0	0	0
Utah State Institutional Trust Lands	67,646	9	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	42,265	6	0	0	0	0
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	10,260	1	0	0	0	0
TOTAL	751,945	0	0	0	0	0

UNIT MANAGEMENT GOALS

Work with BLM, state, and private landowners to achieve a wide variety of healthy vegetative communities within the herd unit. Manage to provide diversity in age and sex structure within the elk population, while maintaining overall numbers in balance with available habitat. Manage to provide a quality hunting experience as well as non-consumptive recreational opportunities.

Continue to work with BLM, state agencies, and private landowners to complete a variety of habitat improvement projects throughout the unit to improve and increase elk and other wildlife species habitat and ranges.

UNIT MANAGEMENT OBJECTIVES

Habitat

The Division of Wildlife Resources is a leading partner in an effort to complete large-scale habitat improvement projects throughout the state. All seasonal ranges will benefit from these projects.

When these projects are completed, the DWR will work with BLM, state agencies, Private landowners and sportsmen to increase elk herd numbers to an acceptable number that will not be detrimental to the habitat or any of the partners.

- Maintain and/or enhance forage production through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.
- Identify with BLM areas suitable for seasonal access management to encourage elk use in areas of low potential conflict.
- The Southwest Desert Elk Committee would like the DWR, BLM, and private landowners to have a goal of 5000 acres minimum of habitat work be done annually on the unit to improve elk and other wildlife habitat.
- The Southwest Desert Elk Committee would also like to acknowledge the negative impact by wild horses on elk habitat on this unit and ask that BLM continue to work on reducing herd numbers and mitigating the damages.

Population

Target Winter Herd Size - Achieve a population size of 975 wintering elk (computer modeled).

The DWR would like to recognize that there maybe ample habitat to increase herd numbers at this time but in agreement with a DWR assembled public committee, the DWR has decided that it is best to wait and implement increases gradually as the habitat is rehabilitated and increased. Reasons that the committee has decided to not increase the elk management objective at this time are as follows.

Habitat projects that were completed since the fall of 2006 have not had time to recover.
Range conditions monitored by the BLM indicate that allotments in the unit are not meeting the Standards and Guidelines for Healthy Rangelands.
Livestock permit holders have been asked to reduce their stocking numbers in past years due to drought and range condition. When livestock numbers can be increased then elk numbers could possibly be increased too.

DWR will look for opportunity to increase population objective in the future when the following objectives have been reached.

As planned habitat work is completed and recovered resulting in increased forage for wildlife and livestock.
When range trends demonstrate rangelands are meeting the Standards for Rangeland Health.
When monitoring data demonstrate the availability of additional forage has been balanced with other resource needs.
When livestock permits stocking rates are increased back to levels they were prior to 2002.

Bull Harvest Objective - Maintain an average age of Limited Entry bull harvest of 6.5 – 7.0.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

The current BLM assessment is that habitat is stable on this unit although it maybe declining on a few allotments. Actual forage use by elk on BLM lands is estimated to be less than 10 percent that of livestock. It is recognized that the carrying capacity for elk on this unit may be more than the current objective; however, the partners have agreed that increases will not be made until planned projects have been completed and had a chance to recover.
The land ownership of the elk habitat on this unit is largely public land with some of the key areas still being on private lands. There is currently a Landowners Association working with the DWR to address the benefits that elk receive from being allowed on private lands. Tolerance of elk on

these and other private rangelands on this unit are one of the factors affecting the elk population on this unit.
Since 2006 several different treatments have taken place to benefit elk and other wildlife habitat. These projects where done on private, state and BLM lands. The projects included chaining, Dixie harrow, water distribution, and Spike treatments.

Population

Population Size – Aerial trend counts completed in January of 2010 show that the population is stable. The survey resulted in the 915 counted elk (710 antlerless and 205 bulls), giving a population estimate of 1150 elk. Preseason classification in 2011 showed 50 calves per hundred cows. Through increased antlerless harvest in the past 3 years, the current elk population estimate is at objective of 975 elk.

Bull Age Structure – Aerial counts showed 36 yearlings, 50 branch antlered and 120 mature bulls in the population. This is a significant increase in the number of mature bulls being sighted from the previous survey done in 2007 which only counted 72 mature bulls.

Harvest – In 2009-2011, 177, 139, and 119 antlerless elk where harvested, respectively. Bull harvest has increased significantly since 2008 (78 mature bulls). Bull harvest in 2009 was 71 mature bulls and 60 spikes. Bull harvest in 2010 was 108 mature bulls and 108 spikes. In 2011 bull harvest was 102 mature bulls and 88 spikes. The 2011 harvest information shows that the Limited Entry average age of harvest was at 7.5. The three-year average age for bulls harvested is 7.6 years old, 0.85 years above objective.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Population - There has been some public resistance to increasing the number of bull permits on this unit to reduce the mean age of the bull population and the bull to cow ratio in the population.

Migration - It is suspected that some migration from Nevada into Utah that has artificially increased the wintering populations.

Crop Depredation - Crop depredation on this unit has been minimal and has not been a limiting factor. In recent years crop depredation in the Burbank and Garrison area of the unit has increased. Public hunts and mitigation permits have been initiated to address the situation.

Habitat - Available habitat is abundant on both summer and winter ranges.

Illegal Harvest - Should illegal kill become an identified and significant source of mortality DWR will develop specific preventive measures within the context of an “Action Plan” developed in cooperation with the Law Enforcement Section.

Predation - Predation is not a limiting factor on this elk unit.

Highway Mortality – Highway mortality is minimal and is currently not a factor on this unit.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the unit. Establish new monitoring sights as improvement projects are completed. Excessive habitat utilization will be addressed.

Actions to Remove Habitat Barriers

Continue working with BLM, landowners and livestock permit holders to develop a variety of range restoration and water distribution projects that will increase forage production and improve range conditions for livestock and wildlife. .

Completed Projects since 2006:
Bowler Chaining - 854 acres
Salt Cabin Chaining - 733 acres
Blawn Wash Harrow - 1067 acres
Mtn. Home/Loper's Seeding Harrow – 746 acres
Halls Spike Treatment - 400 acres
Paradise Burn seeding - 5800 acres
Atchison Creek lop and scatter – total acres unknown at this time
Mustang Spring bull hog treatment and seeding - 1000 acres
Greens Lop and Scatter - 424 acres
Butcher MW green stripping – 37 acres
Chokecherry green stripping – 33 acres
Paradise TS green stripping – 3 acres
Indian Peaks WMA Summer Range Lop and Scatter – 298 acres
Hamlin Valley/Flinspach Dixie Harrow – 561 acres
Broken Ridge Fire Rehab – 3958 acres
Keel Spring SITLA chaining – 918 acres
Indian Peaks WMA Lop and Scatter – 930 acres
South Hamlin Chaining – 521 acres
Chokecherry Chaining – 731 acres
Halls Well drilling – provides year round water to elk, sage grouse and helps distribute livestock in season of use.
Sewing Machine Pass Big Game Guzzler
South Wah wah Valley Big Game Guzzler
Grey Hills Big Game Guzzler
Woods Reservoir Big Game Guzzler
Approximately 20,000 acres treated and 5 new water sources installed.

Planned projects for the future:
Hamlin Valley EA – covers 78,000 acres – various projects proposed within its boundaries
Blawn Wash SITLA chaining – acres to be determined
Pearson Cove Big Game Guzzler - rebuild to increase capacity
South Antelope Valley Big Game Guzzler - rebuild to increase capacity

Others

Manage the Indian Peak WMA and the Mountain Home allotment to encourage elk use by maintaining high quality habitat. Continue enforcing and monitoring seasonal access restrictions that were implemented on Division of Wildlife Resources property during 1997 to encourage elk

to utilize the WMA.
Utilize seasonal access management where appropriate and necessary to improve habitat effectiveness.
Continue cooperative monitoring with BLM on areas concern to determine if there are elk/livestock/horse forage conflicts.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. Intensive helicopter surveys are conducted every three years or more often if budget permits to monitor elk numbers and distribution; supplement with ground and fixed-wing aircraft surveys to identify and monitor areas of concern, and to provide additional herd composition data.

Bull Age Structure - Limited entry bull hunting will continue in order to maintain the quality of the area. Bull age structure is determined by tooth collection. Data is also collected through questionnaires to determine antler measurements for correlation with tooth data.

Harvest - The bull harvest will be determined through the statewide uniform harvest survey as well as regional efforts to collect data. Population size will be achieved through utilizing a variety of harvest methods and seasons. Antlerless permits will be issued to address elk numbers in excess of population goals; or to limit or reduce numbers in areas of demonstrated habitat deterioration with elk as a demonstrated significant factor. Maintain quality bull hunting by separating antlerless and bull seasons. Utilize depredation hunts to control localized problems on private lands. Continue limited entry bull hunting with permit numbers appropriate to achieve bull quality and population diversity objectives.

Management Actions to Remove Population Barriers

Continue to work with land management agency, private landowners and grazing permit holders to implement habitat improvement projects that will increase available forage for and better distribute increased elk populations.
Work with the land management agencies, grazers, private landowners and sportsmen to determine if population increases are reasonable and attainable.
Work with private landowners to make sure depredation is maintained within tolerable levels, and will not become a limiting factor.

Comments/notes from the Southwest Desert unit elk committee that was assembled in October of 2012

- Livestock rep – if elk get an increase the livestock men should be able to increase too.
- BLM – Wild horse handout – at objective – doesn't look positive for future removals in the next few years
- Goal of 5000 acres of habitat treatment is good and we should work hard to make it. Everyone should contribute to the funding.
- 4 mile burning/chaining looks great!
- We need to be responsible about where we do our projects so that they disperse elk.
- Hamlin Valley EA should create room for more opportunities to do habitat projects.
- Livestock rep doesn't want to increase elk population over the current 975.
- Discussion about possible up future projects
    - Mark Winch property
    - Dean Eyre has 2 sections in Cottonwood and Sheep Creek he would like to work on.
    - More on Bill Hall property
    - Merton Spring area of the Shauntie Hills
- Water pipeline in the Lawson Cove area
- Discussion initiated by DWR about the possibilities of splitting the unit at Highway 21 and keeping the area south of highway 21 a limited entry unit with an objective of 1000 elk and making the area north of highway 21 open bull with an objective of 200 elk.
    - Livestock men – no increase of elk
    - Landowner – leave as is, no increase
    - SFW – would like to increase objective. If we split the unit both sides should be Limited entry.
    - Sportsmen's Rep – Like the idea of splitting the unit to increase elk numbers, but would prefer both be Limited Entry. BLM needs to manage the horses better. Water is very limited north of highway 21.
    - Sportsmen's Rep – It would be nice to see more elk, but we need to remember this is a desert and every year is going to be different. Ok with increasing but we need more water.
    - RAC - same sentiments as the sportsmen reps
    - MDF - not opposed to an open bull unit, but how would you maintain it?
    - BLM – concerned that the habitat is still recovering from drought and high horse numbers. Could do a small increase, but would need to be able to control numbers in specific areas to protect habitat. Submitted handout.
    - Livestock men – concerned that we are already over objective of 975. We need to manage for the range. No need for an increase. Concerned about the water sources north of Highway 21 – since he is the water source. No increase now. If unit is split then the south portion should lose 150 elk off its objective.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #21
Fillmore
May 2012

BOUNDARY DESCRIPTION

Millard, Sevier, Sanpete, and Juab counties: Boundary begins at I-70 and I-15; north on I-15 to the Black Rock road; west on the Black Rock road to SR-257; north on SR-257 to US-50 and 6; east on US-50 and 6 to US-6; north on US-6 to SR-132; east on SR-132 to SR-28; south on SR-28 to US-89; south on US-89 to I-70; west on I-70 to I-15.

LAND OWNERSHIP

(Total Unit Area: 1,851,873 acres; Elk Habitat: 505,048)

	Yearlong range		**Summer Range**		**Winter Range**	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	59	0.5%	176,007	90%	103,928	52%
Bureau of Land Management	45,910	41%	1,136	1%	15,262	8%
Utah State Institutional Trust Lands	3,204	3%	3,342	2%	5,019	3%
Native American Trust Lands	0	0%	0	0%	748	<1%
Private	63,012	55%	13,459	7%	66,944	34%
Department of Defense	0	0%	0	0%	0	0%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	0	0%
Utah Division of Wildlife Resources	82	0.5%	0	0%	6,936	3%
TOTAL	**112,267**	**100%**	**193,944**	**100%**	**198,837**	**100%**

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1600 elk (modeled estimate) on the unit, with a maximum of 150 elk on the Oak Creek portion of the unit.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years for all hunt types on the Pahvant Unit and general any-bull hunt strategy on the Oak Creek Unit.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike-only, limited entry any-bull, and general any-bull hunt formats. Propose the Oak Creek Unit be general season any-bull hunt format in 2013

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf recruitment, calf/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.

Winter Range: Work with private and federal agencies to maintain and protect critical and existing winter range from future losses.

Corridors: Provide improved habitat security and escapement opportunities for elk. Provide as much opportunity as possible for elk to navigate roadways safely.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Fillmore Unit. Coordinate with the Fillmore Ranger District and BLM to complete projects designed to improve forage production for both elk and cattle and to improve elk distribution across the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECT FOCUS AREAS

The Fillmore Elk Plan Committee designated two areas of focus for habitat improvement projects on the unit. The northern area (Wild Goose) includes Pioneer, Wild Goose, and Ebbs canyons; the south area (South Mountain) includes South Mountain, Dry Wash, and Dog Valley. Both areas include important summer and winter range that can be improved to benefit elk. Another habitat goal that came from the Fillmore Elk Plan Committee was to develop and protect water sources for elk on the unit. This includes placing troughs at existing springs to reduce elk spring damage and placing guzzlers in remote sites to distribute elk across the unit.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: Crop depredation near Fillmore, Holden, Scipio, and Kanosh present barriers to increasing elk numbers in these areas. Steps to minimize depredation as prescribed by state law and DWR policy will be implemented as needed.

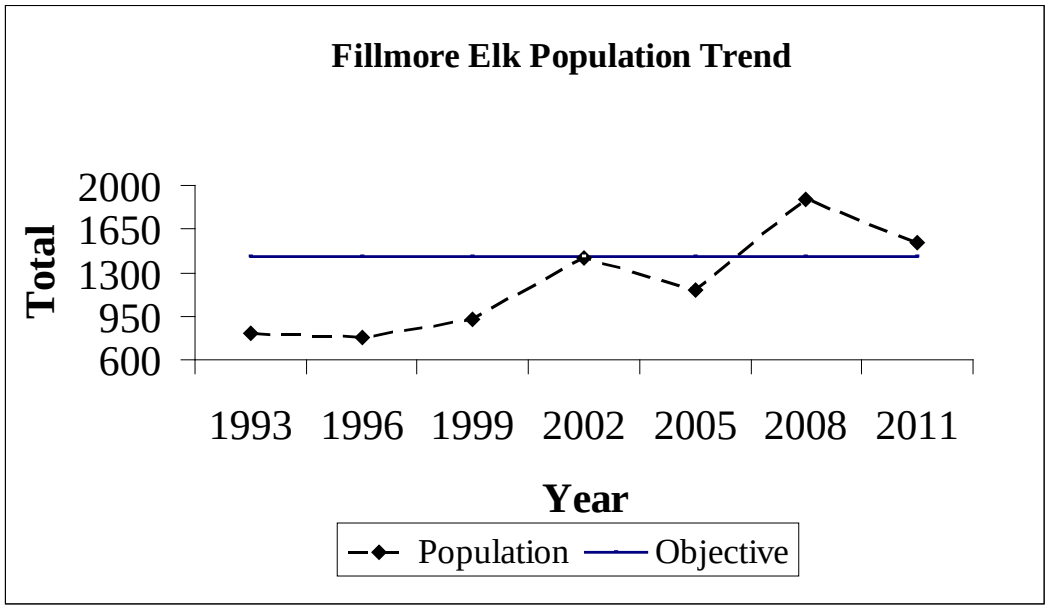
Highway mortality: I-70 and I-15 have been a heavy source of highway mortality for elk. North and South lane fencing on I-70 and portions of I-15 have been completed which significantly decreased ungulate mortality. Additional fencing of I-15 between Cove Fort and Kanosh is being discussed and would reduce highway mortality in that area. Highway 50 has also been a source of mortality for elk.

Habitat: Invasion by spruce-fir and pinyon-juniper has reduced the productivity of much of the summer and winter ranges for elk. Heavy human activity along the Piute ATV trail may also be responsible for reducing elk use of traditional calving areas and increasing use of posted private land and roadless areas on the forest.

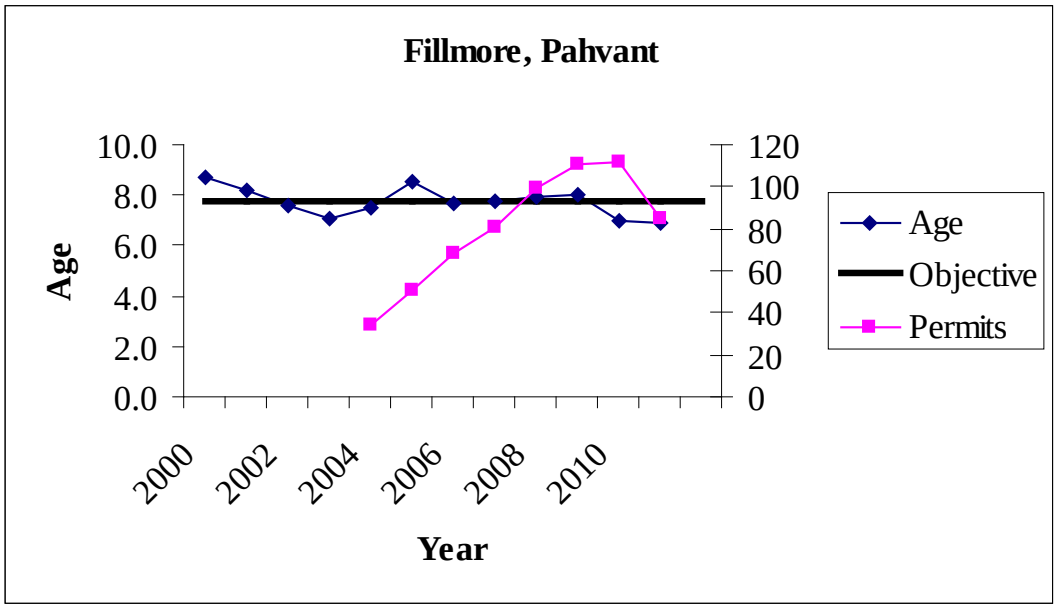
Travel Corridors: The fencing of I-15 and I-70 has limited elk migration to important winter habitat in the Church Hills and Cove Fort areas. Additional fencing of I-15 between Cove Fort and Kanosh will restrict elk access to wintering areas west of I-15. Winter range damage on the east side of I-15 could become a potential problem if elk populations become too large.

Elk Densities: Elk nursery herds in the Chalk Creek Drainage and areas near Skinner Hollow have become quite large during the summer and some damage is occurring in aspen and riparian communities. Cow hunts focusing on reducing the size of these herds should be considered when necessary.

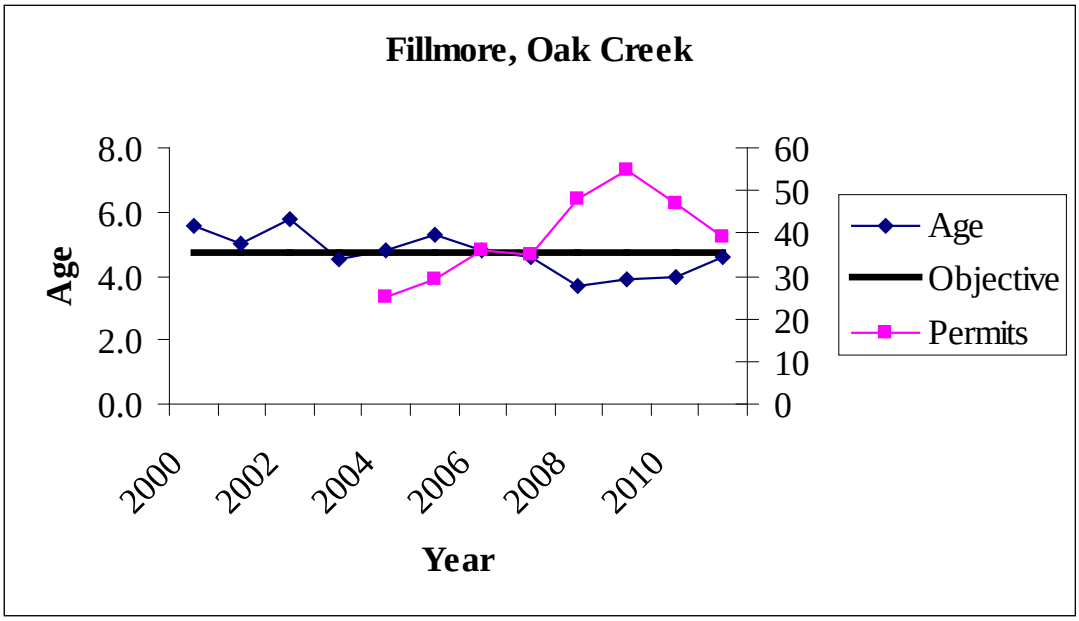
APPENDIX



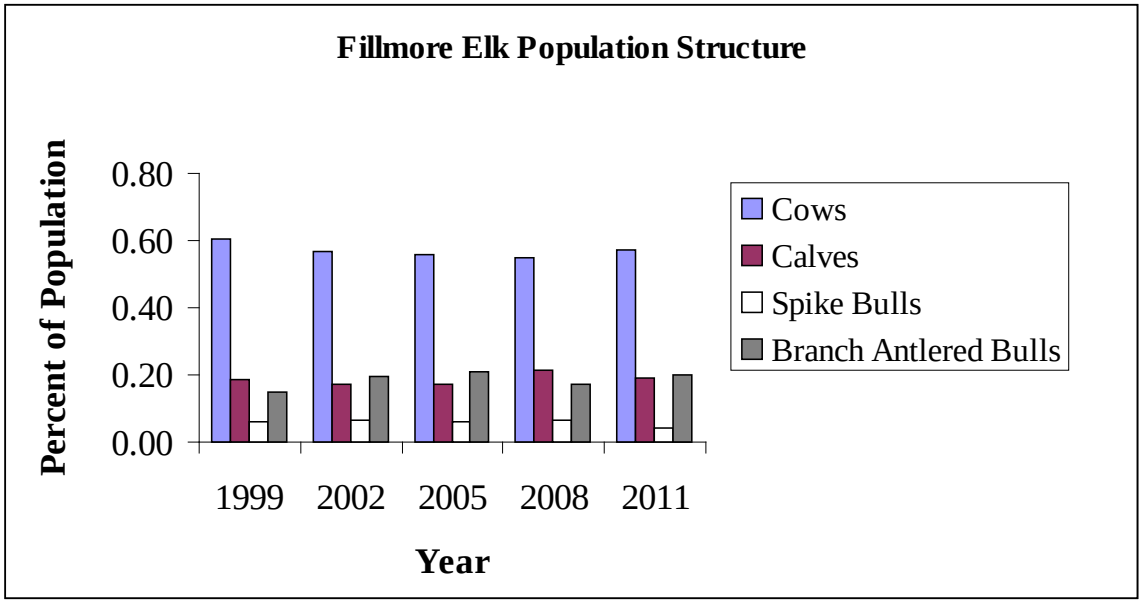
Fillmore Unit elk population trends, Utah 1993-2011.



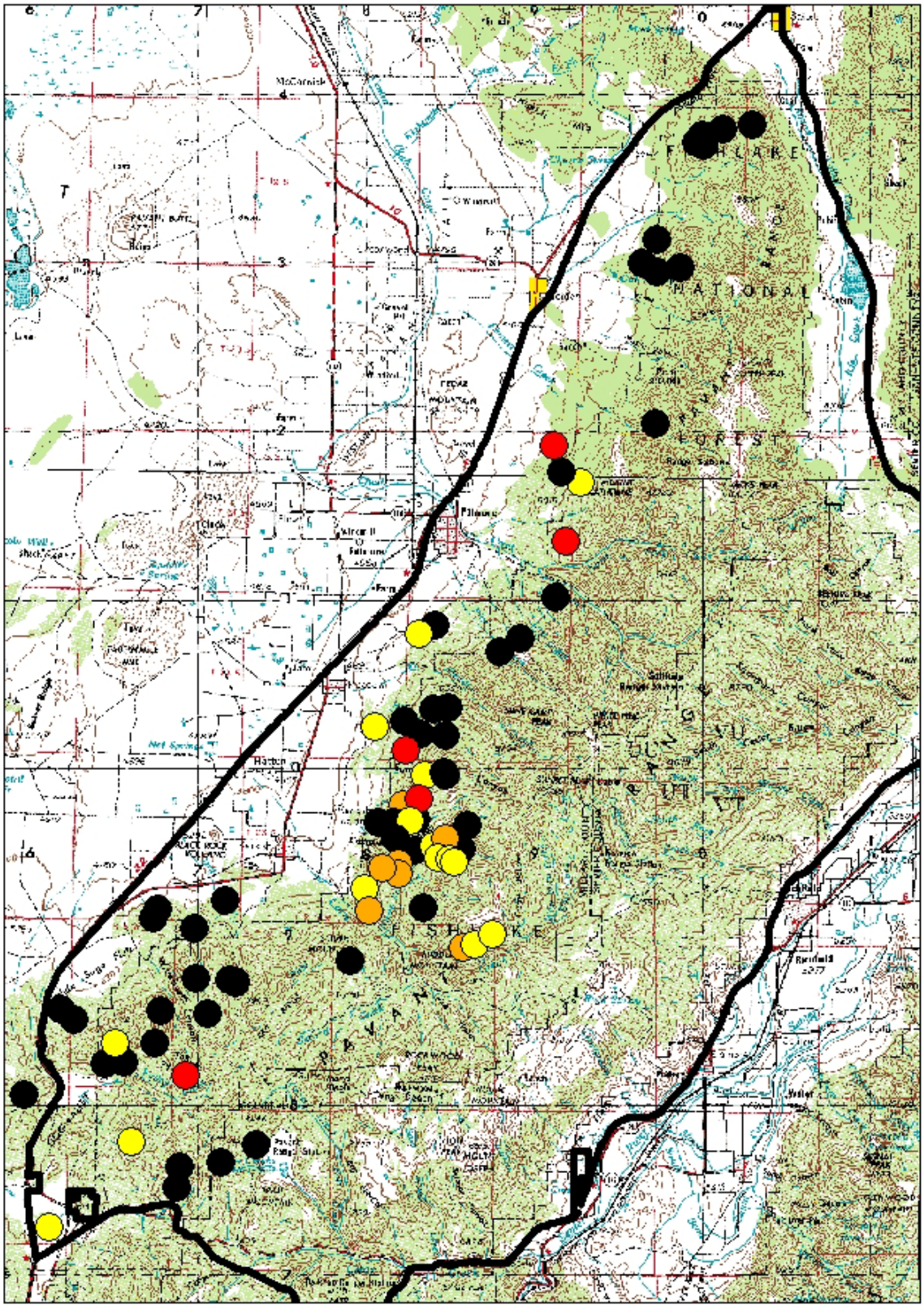
Average Ages of harvested bulls and permit numbers for the Fillmore, Pahvant Unit



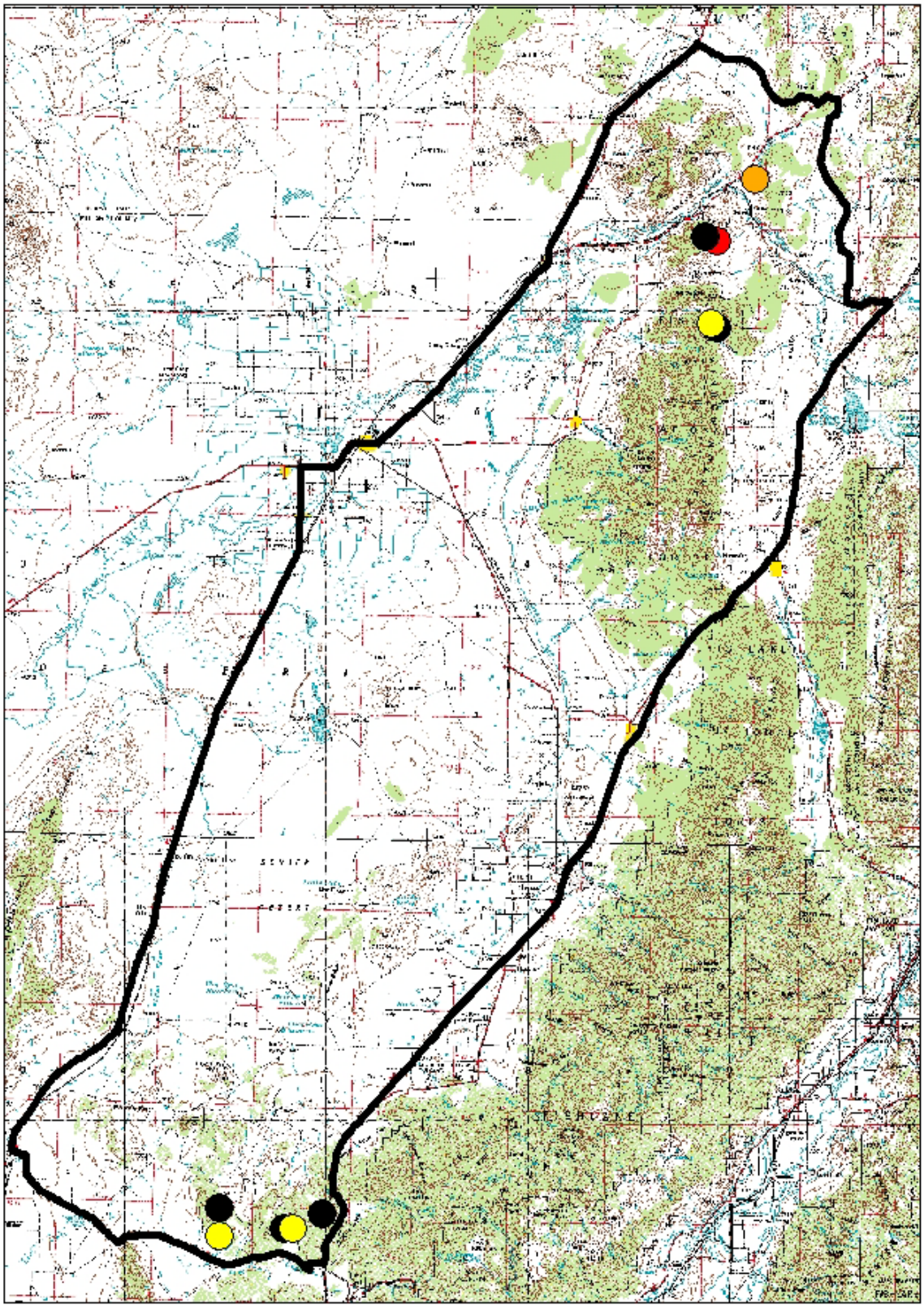
Average age of harvested bulls and permit numbers for the Fillmore, Oak Creek Unit



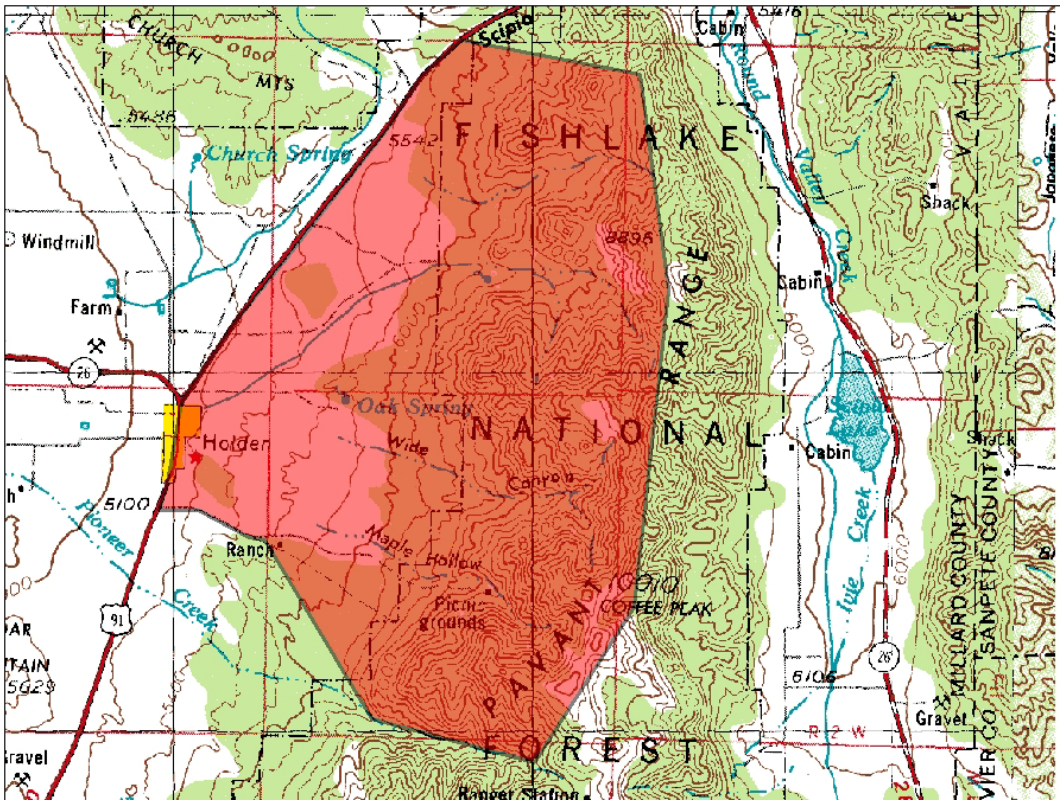
Fillmore Unit elk population age and sex structure



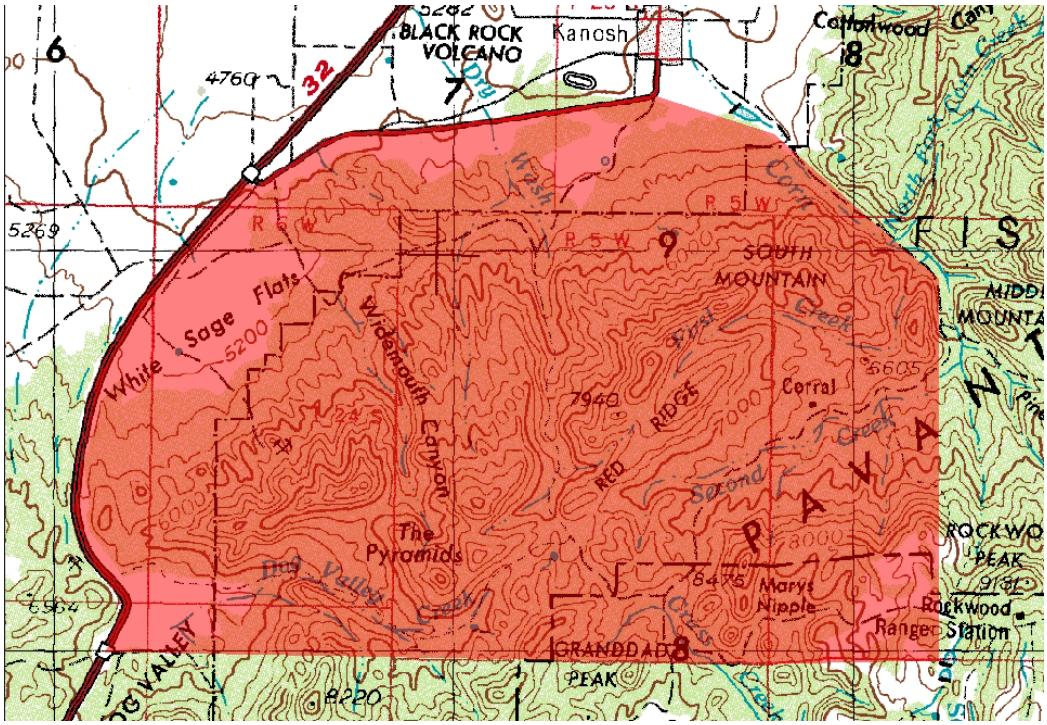
January 2011 Pahvant wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+)



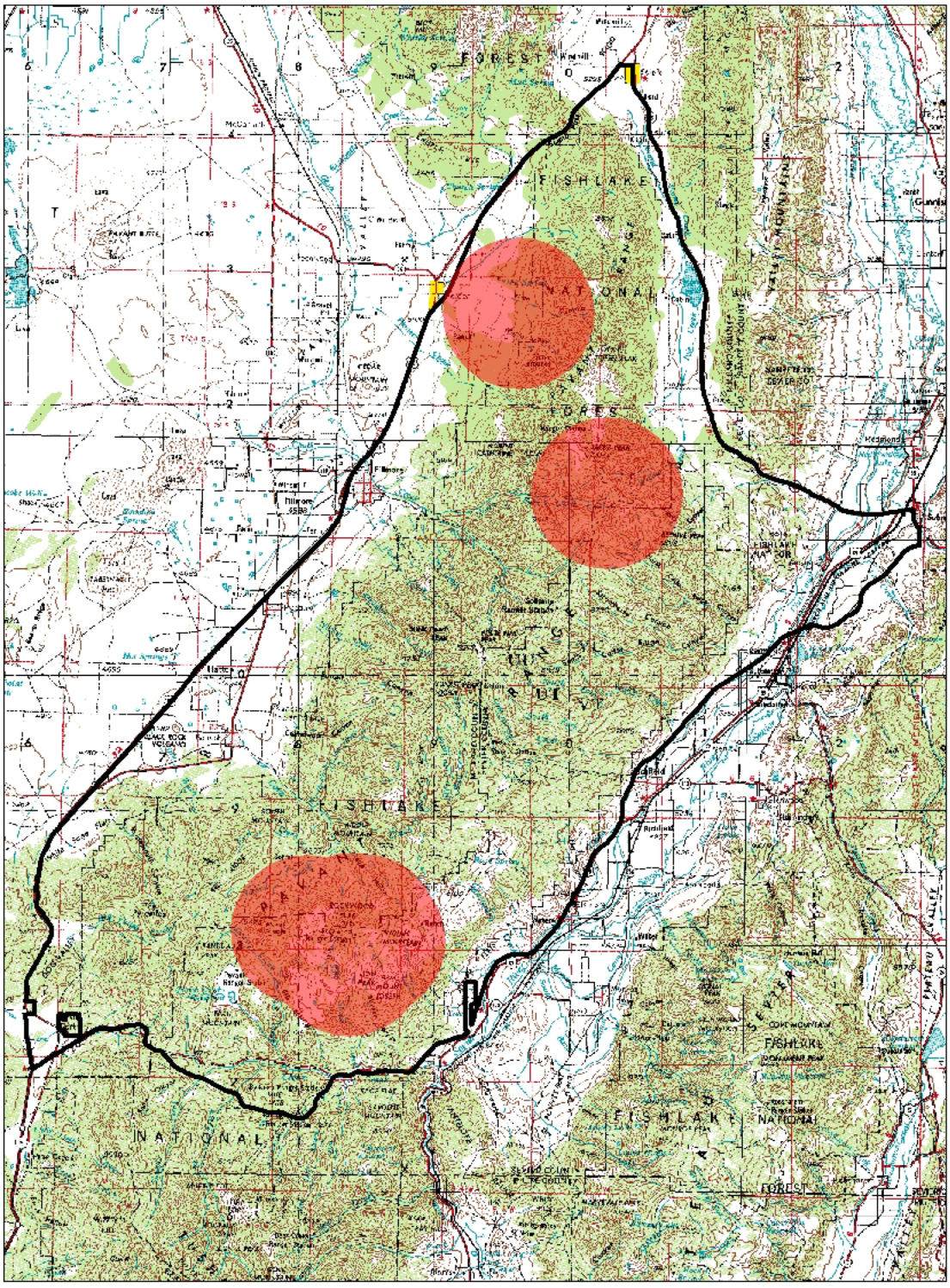
January 2011 Oak Creek wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+).



Wild Goose area that the Fillmore Elk Plan Committee designated for habitat work to improve elk and cattle range distribution.



South Mountain area that the Fillmore Elk Plan Committee designated for habitat work to improve elk and cattle range distribution.



Important elk calving habitat on the Fillmore Unit

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #22
Beaver
May 2012

BOUNDARY DESCRIPTION

Iron, Garfield, Piute, Beaver and Millard Counties – Boundary begins at SR-130 and I-15; north on SR-130 to SR-21; north on SR-21 to SR-257; north on SR-257 to the Black Rock road; east of the Black Rock road to I-15; south of I-15 to I-70; east on I-70 to US-89; south on US-89 to SR-20; west on SR-20 to I-15; south on I-15 to SR-130.

LAND OWNERSHIP

(Total Unit Area: 885,765 acres; Elk Habitat: 505,878)

	Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	229,645	82%	77,049	34%
Bureau of Land Management	18,308	7%	110,056	48%
Utah State Institutional Trust Lands	12,730	4%	14,464	6%
Native American Trust Lands	0	0%	2	<1%
Private	19,817	7%	23,658	10%
Department of Defense	0	0%	0	0%
USFWS Refuge	0	0%	0	0%
National Parks	0	0%	0	0%
Utah State Parks	0	0%	0	0%
Utah Division of Wildlife Resources	0	0%	2,149	2%
Total	**280,500**	**100%**	**227,378**	**100%**

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1050 elk (modeled estimate) on the unit, with elk numbers on the portion of the unit west of I-15 kept as low as possible.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years for all hunt types.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Provide antlerless, general season spike-only, and limited entry any-bull hunt formats. Propose the portion of the unit west side of I-15 be general season any-bull hunt format in 2013.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and pre-season classification data to estimate wintering elk population.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf recruitment, calf/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives. By 2018, improve a minimum of 15,000 acres of elk habitat, with a minimum of 10,000 acres of this total completed in the mountain brush or aspen communities.

Winter Range: Work with private and federal agencies to maintain and protect crucial and existing winter range from future losses.

Corridors: Provide improved habitat security and escapement opportunities for elk. Provide as much opportunity as possible for elk to navigate roadways safely.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Beaver Unit. Coordinate with the Beaver Ranger District and BLM to complete projects designed to improve forage production for both elk and cattle and to improve elk distribution across the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECT FOCUS AREAS

The Beaver Elk Plan Committee designated three areas of focus for habitat improvement projects for elk on the unit: Pine Creek, Jimmy Reed, and South Creek. These areas include important summer and winter range that can be improved to better benefit elk

LIMITING FACTORS TO REACHING OBJECTIVES

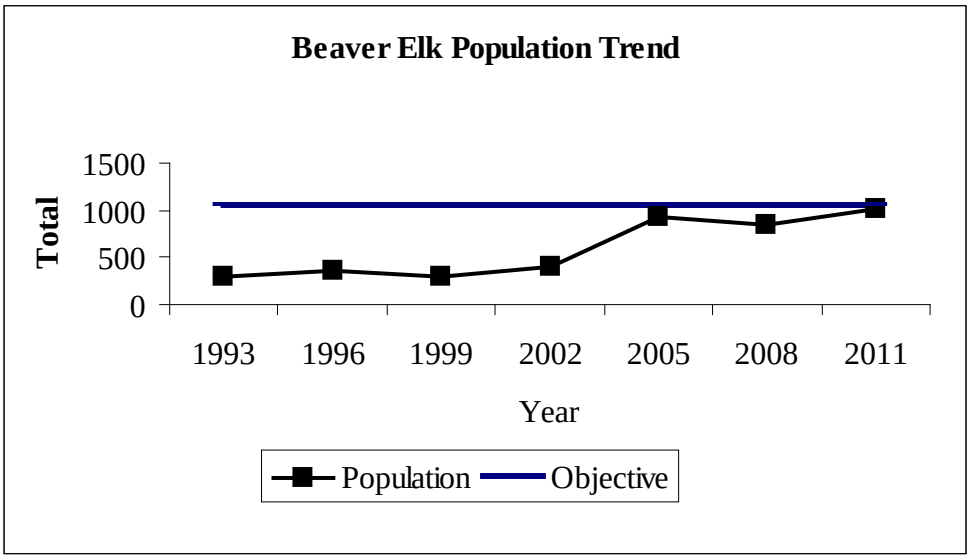
Crop Depredation: Crop depredation near Marysvale, Circleville, Beaver, Sulfurdale, and Manderfield present barriers to increasing elk numbers in these areas. Steps to minimize depredation as prescribed by state law and DWR policy will be implemented as needed.

Highway mortality: I-15 and I-70 has been a source of heavy highway mortality for elk. North and south lane fencing of these interstates has been completed since the fall of 2010 and has significantly decreased ungulate mortality along these roadways. Highway 20 and 89 are currently not a source of significant mortality.

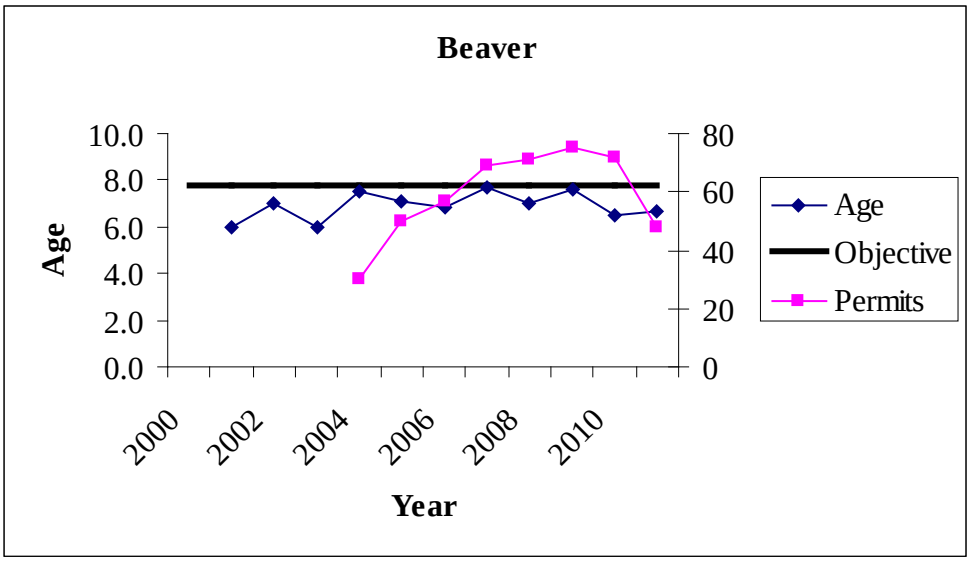
Development: Development of the east bench of Beaver and LaBaron and Puffer lake areas has the potential to increase disturbance, disrupt movements of elk, increase vehicle collisions, and damage habitat.

Habitat: Invasion by spruce-fir and pinyon-juniper has reduced the productivity of much of the summer and winter ranges for elk. Heavy human activity along the Piute ATV trail may also be responsible for reducing elk use of traditional calving areas and increasing use of posted private land and roadless areas on the Forest. The fencing of I-15 and I-70 has limited elk migration to important winter habitat in the areas west of Manderfield and Sulphurdale and east of Cove Fort. Winter range damage in these areas could become a potential problem if elk populations become too large.

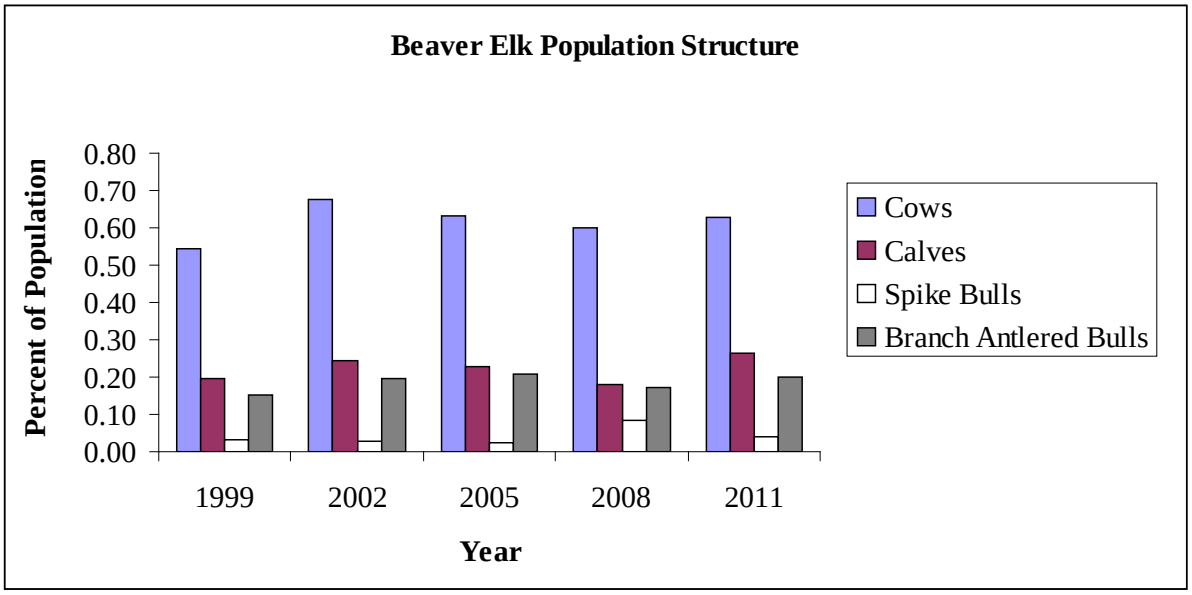
APPENDIX



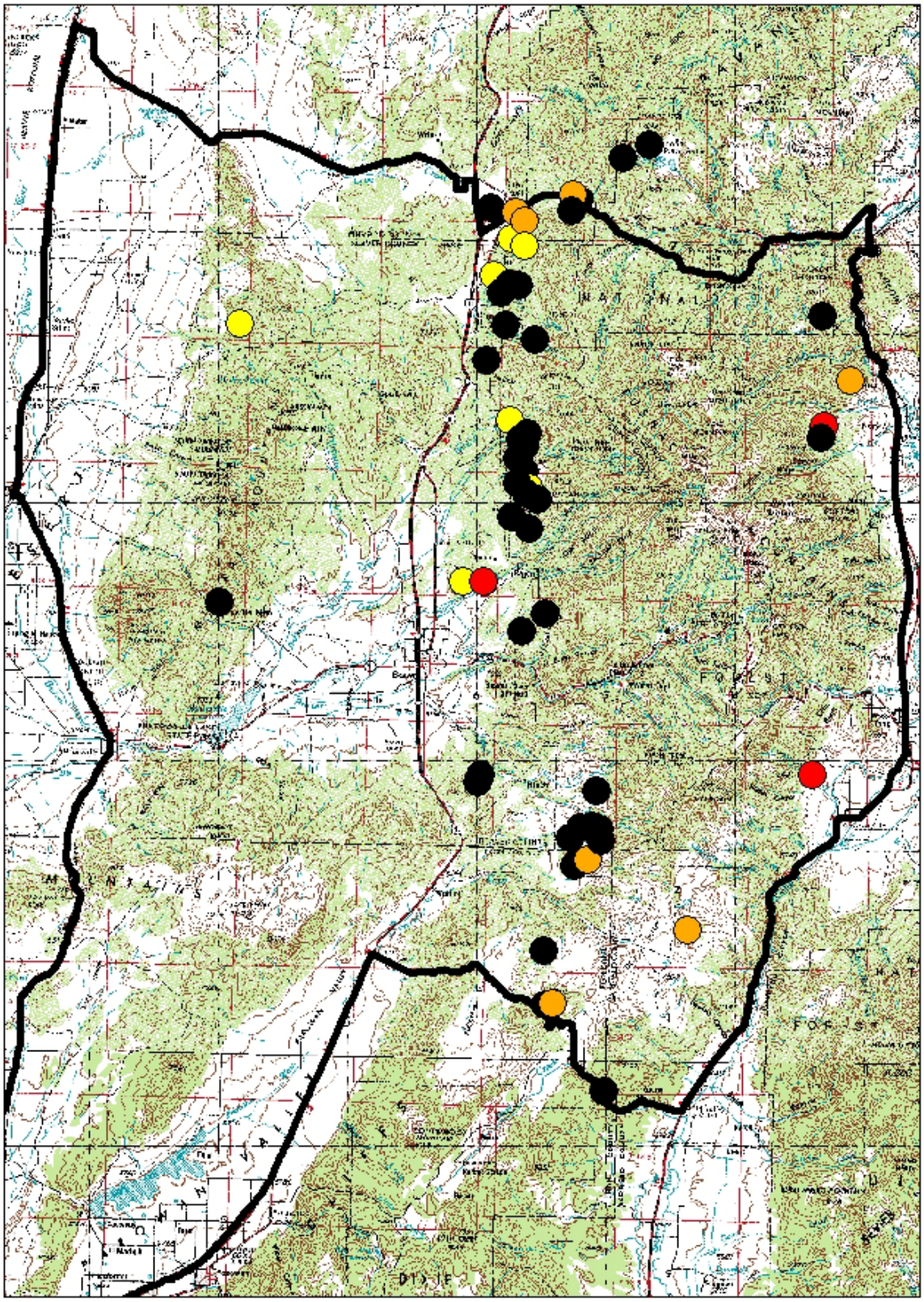
Beaver Unit elk population trends, Utah 1993-2011.



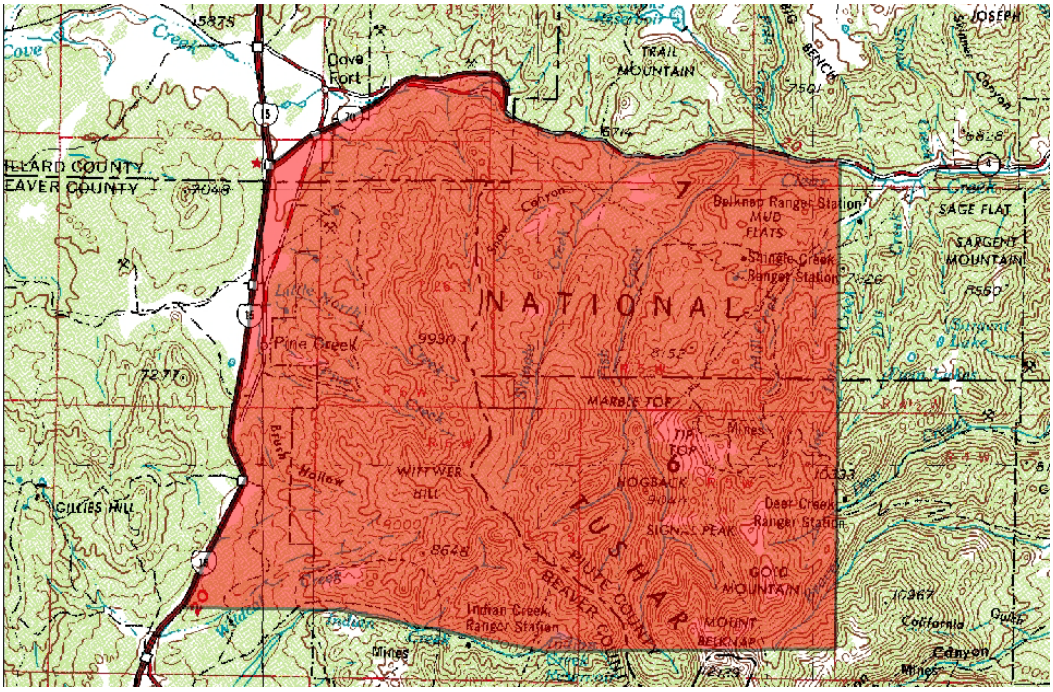
Average age of harvested bulls and permit numbers for the Beaver Unit



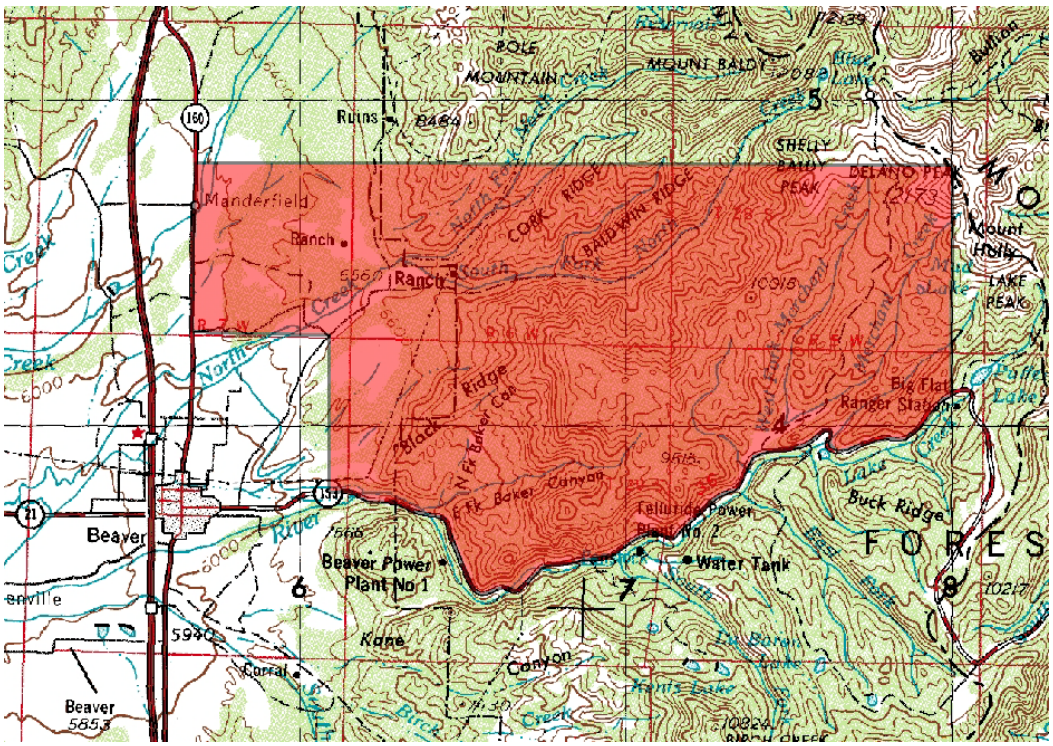
Beaver Unit elk population age and sex structure



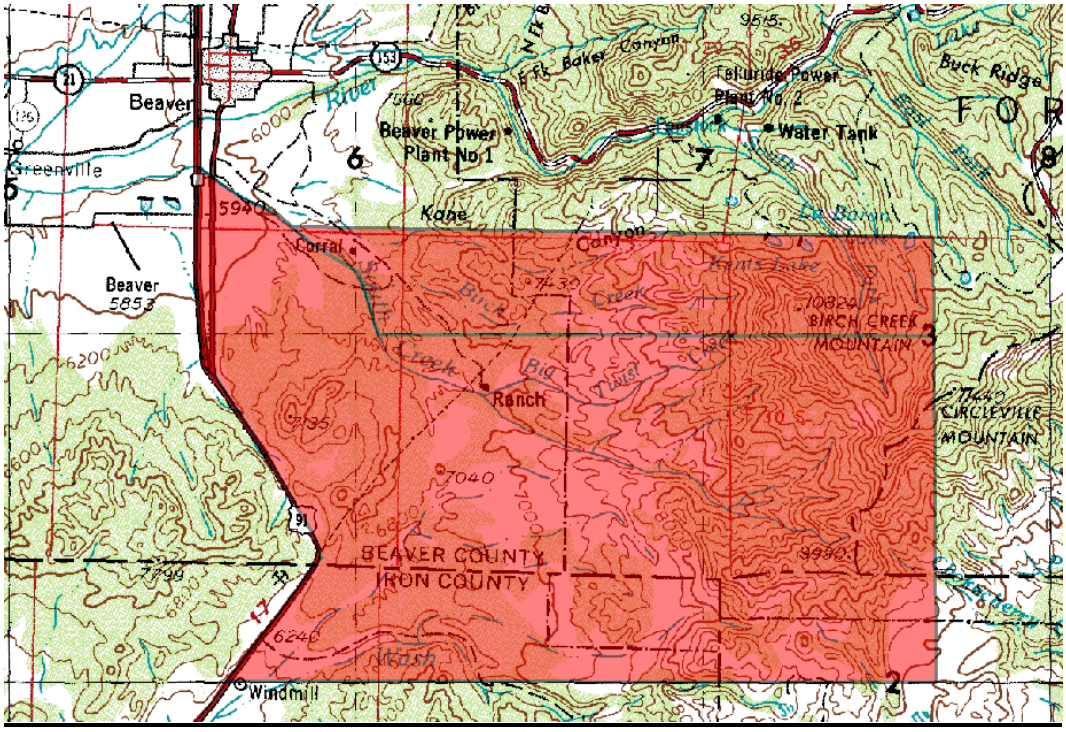
January 2011 Beaver wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+).



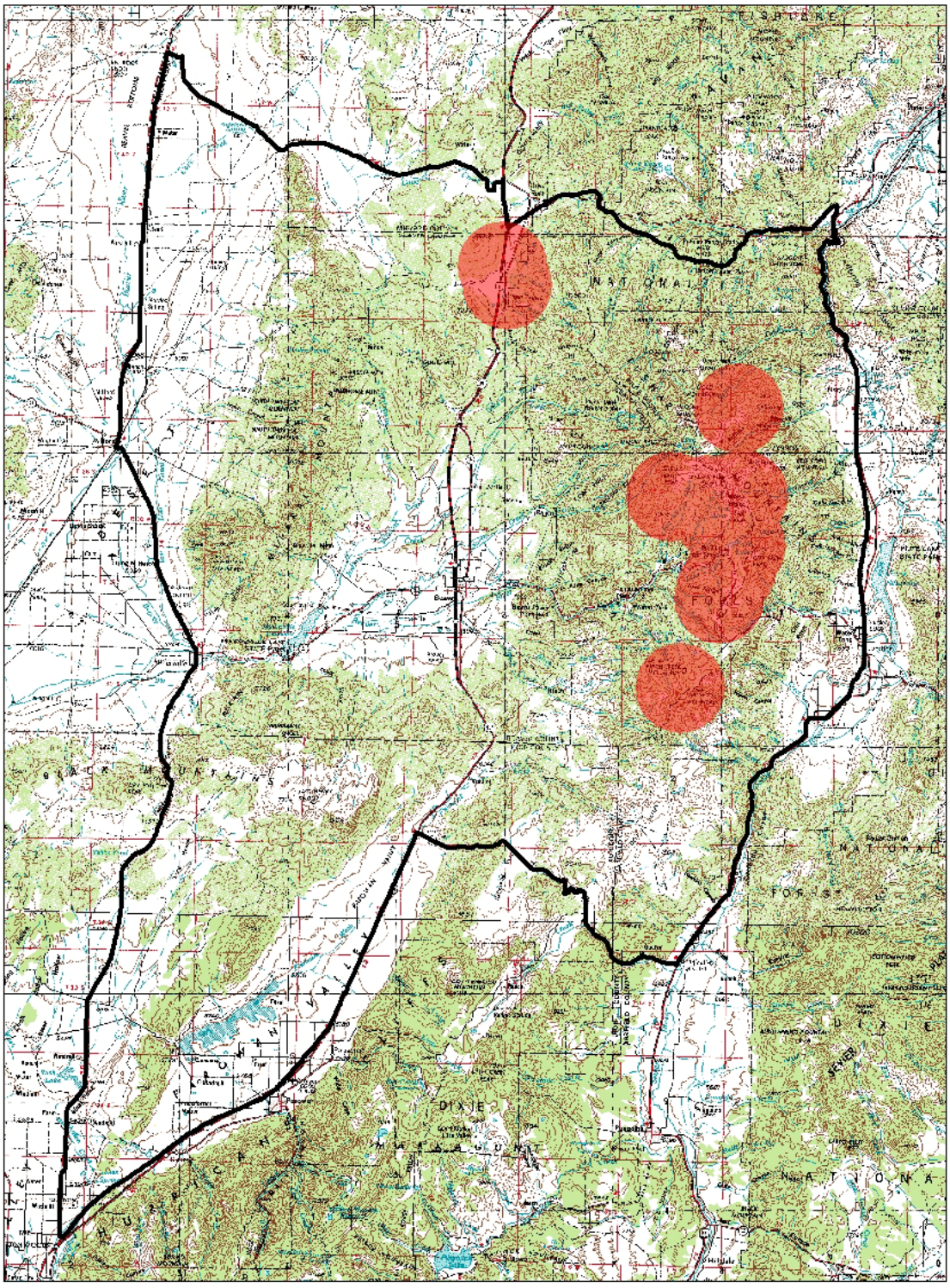
Pine Creek Treatment Area



Jimmy Reed Treatment Area



South Creek Treatment Area



Important elk calving habitat on the Beaver Unit

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #23
Monroe
May 2012

BOUNDARY DESCRIPTION

Piute and Sevier counties—Boundary begins at US-89 and I-70 near Sevier; south on US-89 to SR-62; east and north on SR-62 to SR-24; north on SR-24 to I-70; south on I-70 to US-89 near Sevier.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	5637	22	98909	79	35254	64
Bureau of Land Management	15400	62	2966	2	12644	23
Utah State Institutional Trust Lands	2292	9	7106	6	3097	6
Native American Trust Lands	0	0	0	0	0	0
Private	15	1	16435	13	3604	6
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	1482	6	0	0	230	1
TOTAL	24826	100	125416	100	54829	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1800 elk (modeled estimate) on the unit.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike, and limited entry bull hunt formats.

POPULATION STATUS

The elk population on this unit is currently under the objective of 1800. The population is increasing. A total of 846 elk were counted during a helicopter survey completed in February of 2008. . Using an 80% sightability index this survey estimates 1050 elk on this unit. Through modeling the 2011 population is currently estimated at 1400 elk. The next helicopter survey is scheduled for January 2013 if conditions permit.

The average age of harvested bulls in 2011 was 6.0, which is down from the five-year average of 7.0. The cow:calf ratio in 2011 was 47 calves per 100 cows. Permit numbers for bulls were increased significantly in recent years in order to bring the average age of bulls harvested down to the previous age objective of 5.0-6.0 yrs. In 2010 the age objective was raised to 7.5-8.0. A limited entry permit reduction was implemented in 2011 and another permit reduction is recommended for 2012. Further reduction may be necessary in order to move toward the increased age objective.

In 2009 a general season spike only hunt strategy was implemented on Monroe. Spike harvest has averaged 127 per year over the past 3 years.

Antlerless elk harvest is minimal on Monroe because the population is under objective. In 2011, 29 antlerless elk were harvested. In 2011, only one antlerless hunt was instituted to reduce depredation problems near Greenwich.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf:cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production and habitat quality (including aspen systems) through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.

Winter Range: Work with private and federal agencies to maintain and protect crucial and existing winter range from future losses.

Water Development: Work with land management agencies and livestock producers to enhance water sources and contribute to elk habitat and gain optimum distribution.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Monroe Unit. Coordinate with the USFS, SITLA, BLM and private land owners to complete projects designed to improve forage production for both elk and livestock and to improve elk distribution across the unit.
Encourage and support projects and management actions that will maintain and restore aspen ecosystems on the unit.
Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Monroe Mountain Aspen Working Group- This group was established in 2011 by the USFS. It is charged with finding solutions to address declining aspen stands due to conifer encroachment, aging stands, ungulate use, and other causes. The DWR will support this group's objectives by using all tools available to ensure success of "on the ground" aspen projects while maintaining the current elk population on the unit. This may include special, low number of permits, antlerless hunts on the summer range to discourage elk from using recently treated aspen stands. Any habitat projects instituted by this group will not likely take place until 2014 or later.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Water Development: Indentify potential water development projects that will benefit elk and seek funds/methods to implement them.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECTS

Since 2007 there have been 12,750 acres treated through habitat improvement projects.

The following is a list of projects implemented in the last 5 years that have benefited elk:

Twin Peaks Burn/Harrow (USFS) This 2,000 acre treatment was on summer, transition, and high elevation winter range. Completed in 2011.

Box Creek Burn/Treatment (USFS) This 1,600 treatment began in 2011 and should finish in 2012. Summer range project designed for aspen regeneration.

Burrville Dixie Harrow, (BLM): This 4000 acre project is to benefit elk and deer winter range. Completed in 2011.

Thompson Basin p/j Maintenance (USFS): This 450 acre project is to retreat an area that was treated many years ago to remove advancing stands of pinyon/juniper. Completed in 2008.

Bear Ridge chaining/harrow (BLM) This 1,500 acre project designed to benefit deer and elk summer/transition/and winter range. Completed in 2010.

South Greenwich Fuels Reduction (Bull Hog) This 500 acre project designed to remove encroaching pinyon/juniper on winter range. Completed in 2011

Dry Lake Dixie Harrow, (BLM) This 3000 acre project is to benefit elk and deer winter range and was implemented in 2009.

Glenwood chaining/harrow This 700 acre project was designed to remove pinyon/juniper and increase winter range forage for deer and elk. Completed in 2011

Burnt Flat Harrow (USFS) This 600 acre summer range project designed to increase forage for wildlife. Completed in 2010.

The Following is a list of proposed projects that will benefit elk habitat on this unit:

Box Creek Burn/Treatment (USFS) This 1,600 acre treatment began in 2011 should be finished in 2012. Summer range project designed for aspen regeneration.

Monument Peak fire/mechanical harvest (USFS) This 2,000 acre treatment is designed as a summer range aspen treatment. Project will begin in 2012/13.

Pine Canyon-Koosharem Dixie Harrow (USFS): This 13,000 acre project is to retreat an area that was treated many years ago to remove pinõn/juniper. This project will begin in 2012.

Glenwood cheat grass treatment (SITLA) This 300 acre project is designed to reduce cheat grass and establish shrub species on winter range. This project is scheduled to begin in 2012.

Blue Peak P/J thinning (USFS/BLM) This 1,000 acre project is designed to reduce encroaching P/J on deer and elk winter range.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: The DWR will maintain programs to reduce the burden of crop depredation on private land. Private agricultural land near Greenwich and Koosharem is subject to crop depredation by elk. Antlerless hunts have been and will likely continue to be implemented in this area.

Habitat: The overall range condition is good for elk on both summer and winter range. However much of the winter range is being effected by an advancing pinyon/juniper forest. Current proposed projects as well as future projects must be implemented in order to reverse this trend. The summer range is producing more than adequate feed for elk; however, there is concern with aspen decline. Possible over use by elk is a concern in portions of the unit. Large scale aspen projects are needed in order to maintain the current population of elk and sustain healthy aspen stands.

Age Objective: In 2010 the age objective was raised to 7.5-8.0 yrs. The average age in 2011 was 6.0 yrs. Significant bull permit reductions and several years will likely be needed to reach the age objective.

Illegal Harvest: As fewer bulls are being recruited into the mature age classes, illegal poaching of bulls is becoming more important. The DWR's law enforcement section will address any reports of illegal harvest and strive to reduce illegal take.

Predation: The DWR recognizes the need to efficiently and effectively manage predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. Predator management must include the need for control by species, geographic area and season of year. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

2011 Monroe Elk Committee

In October 2011 the Monroe Elk Committee met to discuss the elk management plan and the possibility of increasing the population objective.

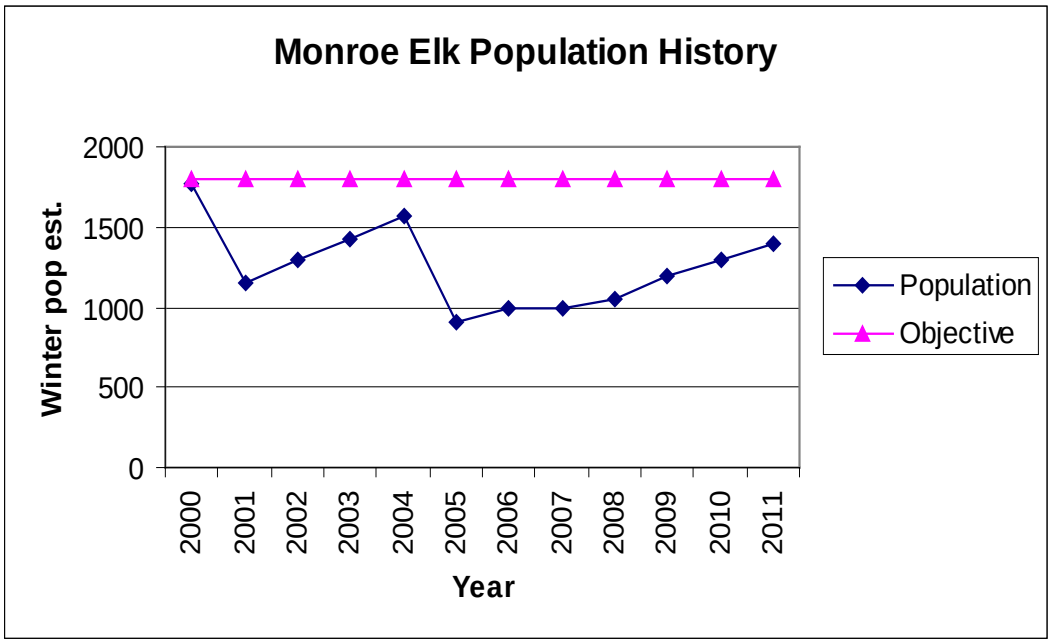
None of the members voted to increase the population above 1800 objective with most citing the fact that we have not reached the objective in the past. They voted to keep the current population objective and work toward reaching it.

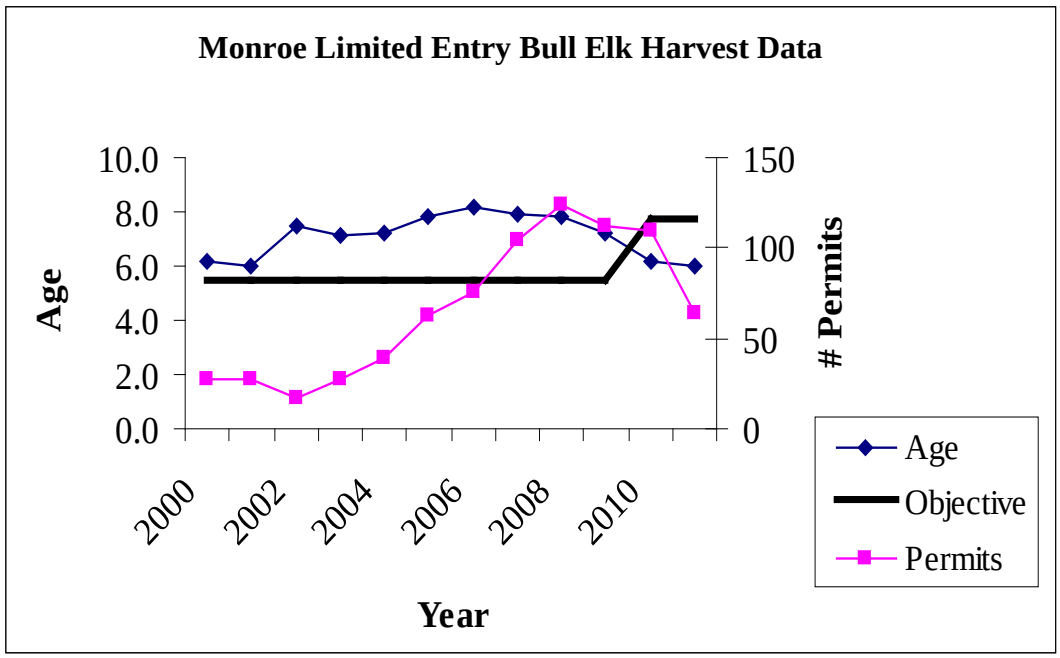
Two topics were of top importance to the majority of the committee members:

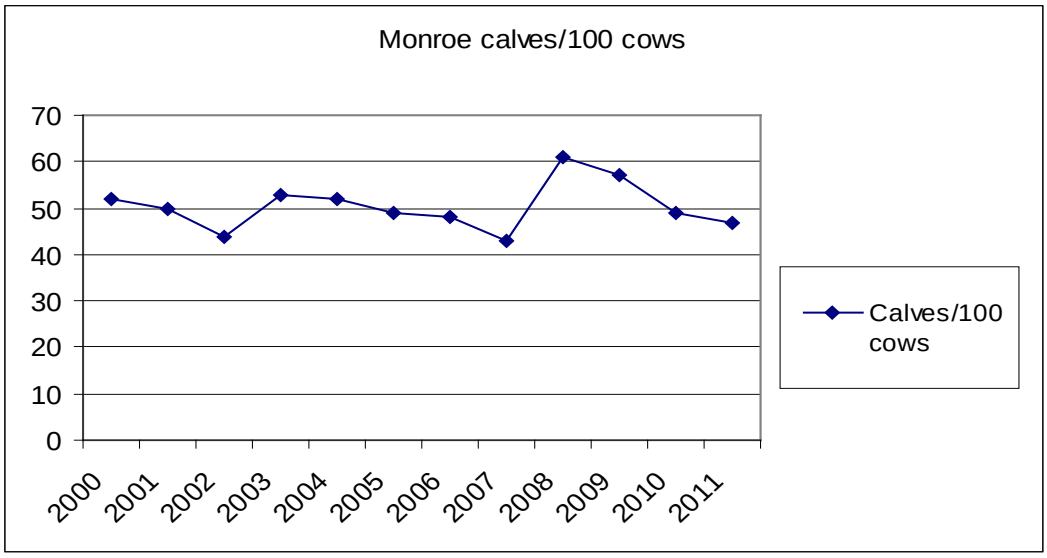
1. They had noticed the number of mature bulls being seen on the unit had declined in recent years and were concerned with the high number of permits being issued.
2. A resounding topic was that of the spike hunt that is just in its 3rd year. Members were concerned with the high spike harvest on the unit (average 127). Many of the members asked if the spike hunt could be eliminated on the Monroe.

In addition to the above topics, Both the USFS and a Sevier County Commissioner expressed concern with aspen regeneration on the unit.

APPENDIX


Monroe Elk Population History
Winter pop est.
2000
1500
1000
500
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Year
Population
Objective


Monroe Limited Entry Bull Elk Harvest Data
Age
10.0
8.0
6.0
4.0
2.0
0.0
150
100
50
0
Permits
2000
2002
2004
2006
2008
2010
Year
Age
Objective
Permits


Monroe calves/100 cows
70
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Calves/100 cows

ELK UNIT MANAGEMENT PLAN
MT DUTTON WMU #24
MAY 2012

A. OVERALL ELK UNIT MANAGEMENT GOALS

a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
b. Balance elk herd impacts on human needs such as private property rights, agricultural crops and local economies.
c. Maintain the population at a level that is within the long-term capability of the available habitat to support.
d. Continue with the limited entry bull harvest strategy.

B. UNIT HABITAT OBJECTIVES

a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
b. Maintain and/or enhance forage production through direct range improvements throughout the unit to achieve population management objectives.
c. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance overall elk habitat.
d. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
e. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned / sources such as old water troughs, ponds, and tanks that can benefit both livestock and wildlife.
f. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.
g. Work with land management agencies to improve calving habitat and minimize disturbance in these areas. Seek opportunities to improve aspen communities and some sagebrush ranges where calving and foraging are occurring.

i. CURRENT STATUS OF ELK HABTIAT MANAGEMENT

1. Habitat conditions on the unit are good, with range conditions stable to improving on most of the unit. Some challenges facing elk habitat include; 1) conifer encroachment of aspen stands, 2) degradation of rangelands by increased woody vegetation, 3) damaged riparian areas, and 4) water availability.

2. Since 1995, several significant habitat projects were completed or are in progress. These projects have greatly improved wildlife habitat and livestock range. Improving and increasing wildlife habitat has been the impetus for many of these projects. Funds were made available through the Utah DWR Habitat Fund, Rocky Mountain Elk Foundation, U.S. Forest Service, and BLM.

3. The most significant habitat improvement during that last 10 years came as a result of the Sanford fire in 2002. This fire burned over 70,000 acres across the management unit, primarily on USFS administered lands. The fire has affected a variety of habitats including both winter range and calving areas and has greatly improved forage productivity in many of these areas. Unfortunately, some of the riparian areas have not fully been restored from the effects of the fire.

4. Several projects that improve elk habitat on the unit have recently been completed. A list of completed projects and currently proposed projects are listed in Appendix 2.

    a. Kanab and Richfield BLM have plans to treat a combined 7000 acres, which was highly supported. USFS was also highly supportive of habitat restoration efforts.

ii. <u>BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES</u>

1. Water distribution, development and maintenance.

2. Degradation of rangelands by woody vegetation.

3. Conifer encroachment of aspen stands.

iii. **<u>STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES</u>**

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.

2. Encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas.

3. Focus on maintaining investments in habitat projects such as seedings, chainings, and water developments.

4. Promote opportunities to restore riparian areas, including translocation of beaver, as allowed in the statewide beaver management plan, and riparian fencing as recommended by the 2011 committee.

C. UNIT POPULATION MANAGEMENT OBJECTIVES

a. Target Winter Herd Size – 1500 total elk wintering across the unit.

i. CURRENT STATUS OF ELK POPULATION MANAGEMENT

1. During the January 2010 aerial survey, 1612 elk were counted resulting in a winter population estimate of approximately 2000 (Figure 1). Several changes were made to the antlerless harvest strategy, including modifying the Deep Creek roadless boundary to address possible refuges and immigrating elk and increasing the length of the late season. These changes appear to be more successful than previous strategies.

2. Preliminary results of the current ratio telemetry study suggest that a high percentage of collared elk migrate off Mt Dutton and summer on an adjacent WMU. The implications of this behavior suggest a lower summer population and therefore substantially less range utilization than originally suspected from winter population estimates.

3. The unit elk committee met in October 2011 and was divided on a wintering population objective. It is recommended to maintain the 1500 wintering elk objective and base any population increases on migration data, habitat acres treated, and range trend data. The 2011 elk committee's comments are attached in Appendix 3.

ii. POPULATION MANAGEMENT STRATEGIES

1. Population Size – Aerial counts and annual preseason classification surveys will be used to monitor the population. Population modeling will also be used to generate annual postseason (winter) population estimates. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objective.

2. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. **BARRIERS TO ACHIEVING UNIT POPULATION MANAGEMENT OBJECTIVES**

1. **Depredation** – Many of the local landowners and livestock owners on the unit worry that an increase in the elk population would increase damages due to elk depredation.

2. **Illegal Harvest** - Illegal harvest can be a significant source of mortality.

iv. **ACTIONS TO REMOVE POPULATION BARRIERS**

1. **Crop Depredation** -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Explore opportunities to create a Mt Dutton Landowners Association for private property owners impacted from elk use.

2. **Illegal Harvest** - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an "Action Plan" developed in cooperation with the Law Enforcement Section.

3. **Plan for population objective increase** –

   a. Continue the implementation and completion of habitat projects on the unit including private, state, USFS, and BLM lands.

   b. Range condition will be monitored by state and federal agencies. Telemetry data and annual range trend data from state and federal agencies will be used to develop a three-year trend. If the range trend is improving over a three-year period, an increase in elk numbers will be considered.

   c. Continue to manage depredation on private property as per state law and policy.

D. UNIT RECREATION OBJECTIVES

a. **Bull Harvest Objective** - Manage for a 5.5–6.0 year average age of harvested bulls as outlined in the Statewide Elk Management Plan.

i. **UNIT RECREATION MANAGEMENT STRATEGIES**

1. Bull Age Structure - Monitor age class structure of the bull population through the use of harvest surveys and tooth aging.

Additionally, data will be analyzed from preseason classification surveys, aerial surveys conducted every 3 years, check stations, and field hunter checks.

2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 2). Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3. Currently, the Mt Dutton unit is achieving the bull harvest age objective (Figure 3).

    a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Mt Dutton WMU #24.

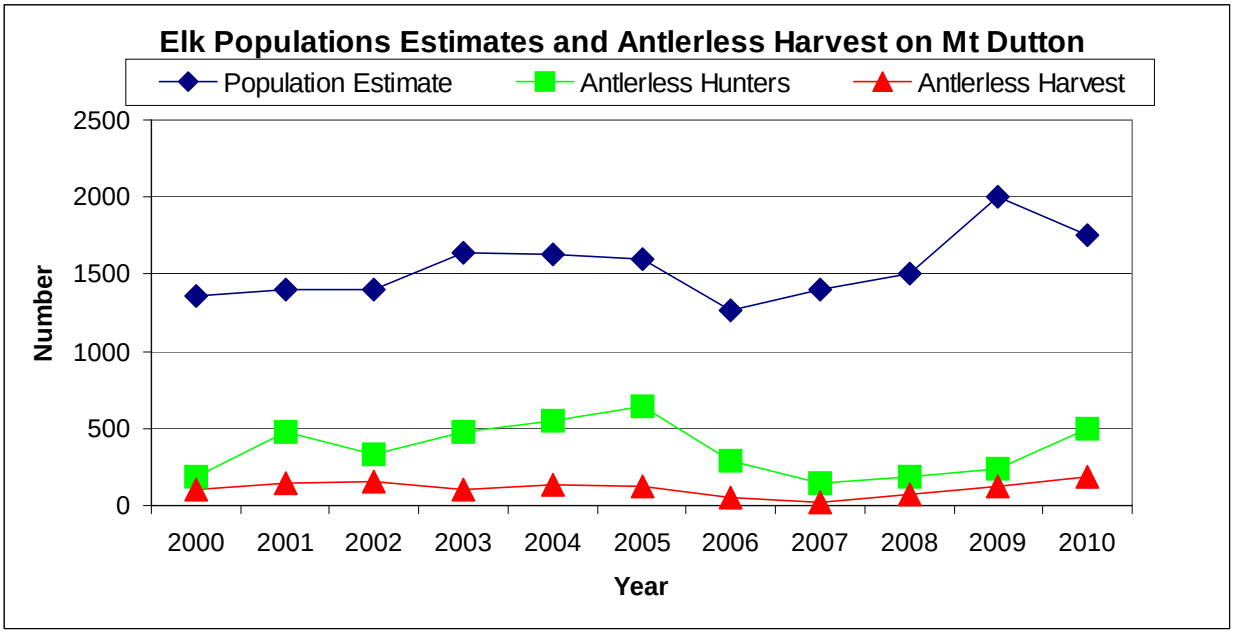


Figure 2. Trend of limited entry bull elk permits and harvest on Mt Dutton WMU #24.

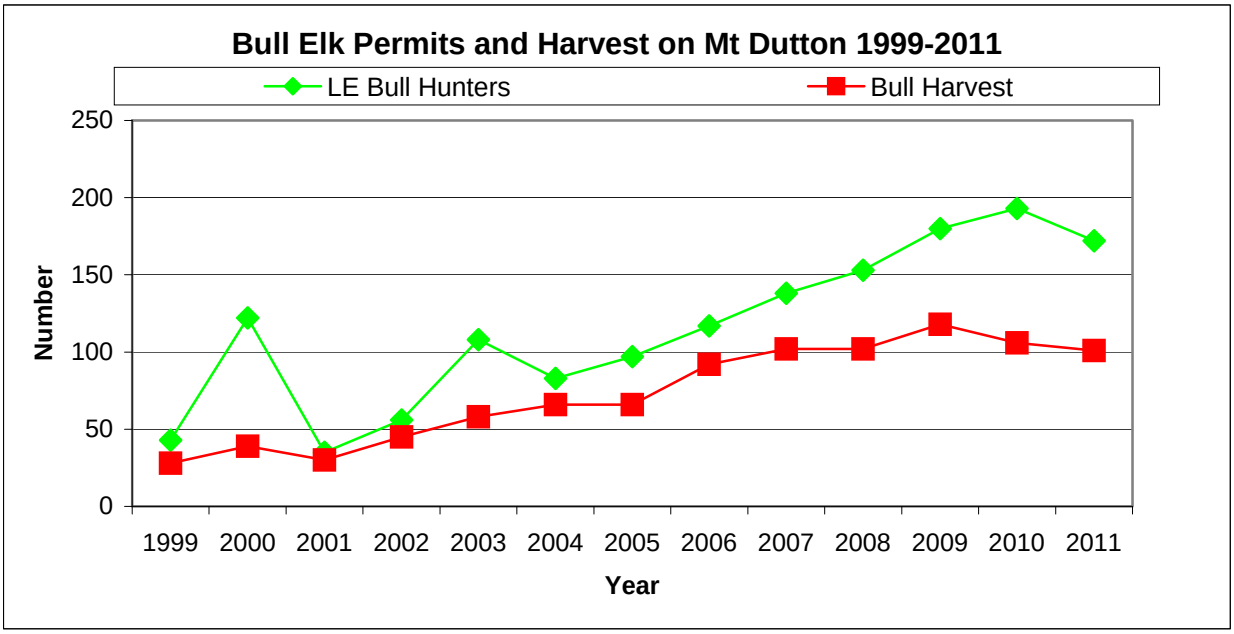
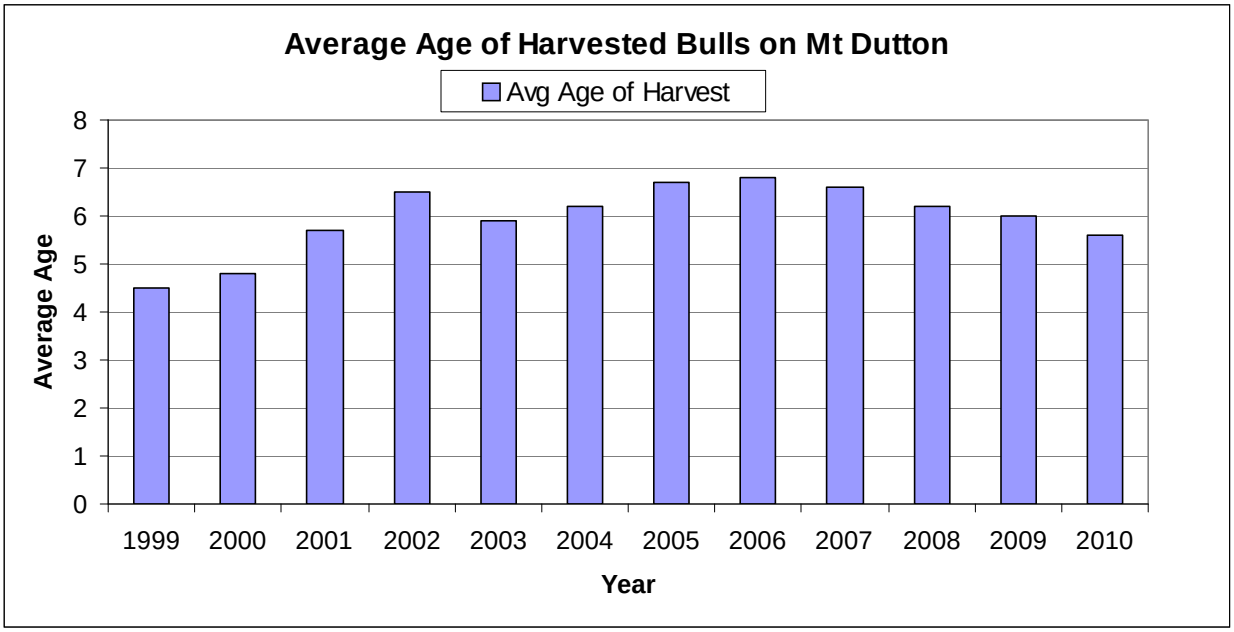


Figure 3. Average age of harvested bull elk on Mt Dutton WMU #24.



Appendix 1. Approximate landownership on the Mt Dutton WMU #24.

RANGE AREA AND APPROXIMATE OWNERSHIP*

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	143,766	92	114,279	99	50,615	70
Bureau of Land Management	8455	5	0	0	7368	10
Utah State Institutional Trust Lands	2527	2	30	.5	10,468	15
Native American Trust Lands	0	0	0	0	0	0
Private	119	1	583	.5	3414	4
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	86	1
TOTAL	154,867	100	114,892	100	71,951	100

Mt. Dutton Elk Habitat Summary				
SEASON	**VALUE**	**Acres**	**% of available Habitat**	**% of WMU**
Summer	substantial	51127	17	12
Winter	crucial	84562	28	20
Year-Long	substantial	165491	55	39
Total Elk Habitat		301180	100	72
Total WMU Area		420798		100

Appendix 2. Recent habitat projects in elk habitat on the Mt Dutton WMU #24.

USFS / RMEF, Rebuilt guzzler - Bear Flat, Corral Flat (2003)
USFS / RMEF / SFH, New guzzler – Showalter, Sanford Ridge (2005/2006)
USFS/DWR, Jones Corral Prescribed Burn (1998) & Sanford (2003)
USFS/DWR, Johnson Bench Prescribed Burn and Reseed
USFS/DWR, Hoodle Creek Water Line (2001)
USFS/RMEF, Mud springs Chaining maintenance 3000 acres, (2006)
USFS/UDWR/RMEF, Showalter sagebrush maintenance 500 acres, (2006)
BLM/DWR, Deer Creek Prescribed Burn and Reseed
BLM, Horse Valley Prescribed Burn
USFS, New Guzzlers – (Up to 10) at Table Mtn, Dry hollow, Spring creek, Deep Cr., etc.
USFS/UDWR/RMEF, Pond cleaning at Table mountain.
USFS/UDWR/RMEF, Marshall canyon chaining maintenance (900) acres.
BLM, Circleville cove sagebrush treatment (800) acres.
BLM, Limekiln and Smith Creek guzzlers, construction and maintenance.
East Bench Panguitch Valley Water Catchment

Mt Dutton WMU #24 habitat projects listed in WRI database 2005-2011.

Mt. Dutton WRI Elk Habitat Project Table 2005 - Present

PROJECT/MAP ID	TITLE	Year Complete	Acres
1697	South Dutton Wildlife water	Planned/In Progress	0.04
2018	Kingston Canyon/Black Canyon WMA Habitat Improvement Phase I	Planned/In Progress	37
461	Sevier Plateau Dixie Harrow	2007	516
1513	Kingston Canyon Property Acquisition	2010	219
1420	Circleville Cove	2010	1305
1441	Antimony Seeding	2010	3891
1901	Pine Creek Chaining	2011	367
1794	Cow and Cottonwood Creek Lop and Scatter	2011	2100
			Total = 8435

Appendix 3. Summary and comments from the 2011 Mt Dutton elk committee.

Meeting was well attended and lasted approximately 4 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Kanab BLM has plans to treat 2000 acres.

Richfield BLM has plans to treat 5000+ acres north of the deer creek bullhog.

Letters of support from sportsmen are useful in the NEPA process.

SFW – important to fence riparian areas. Local landowner does not support fencing. Cattlemen Assoc asked if riparian fencing is really needed? UDWR habitat biologist suggested to work on individual issues.

RAC suggested sportsmen work directly with landowners to identify priority projects.

Richfield BLM – usually lacking seed money.

SFW – important to spend money on both private and public lands.

Sportsmen – impressed with habitat work that has been done.

POPULATION

After presentation of the data, the following comments/discussion were made:

Sportsmen – are we at carrying capacity?

USFS – possibility of summer objectives? Discussion on how to calculate use only available to wildlife based on accessibility.

Cattlemen Assoc – discussion on depredation issues.

RAC – increase as a partnership (wildlife and livestock) – if range is good, why can't we get more of both?

Landowner – decrease in cattle permits has been steady

Cattlemen Assoc – discussed an agreement from 1950's that no more than 500 elk will be on the unit.

Landowner – road closures are not working

Cattlemen Assoc – road closures are reducing antlerless success.

Sportsmen – most accessible elk are being harvested. Antlerless hunt structure should be 3-4 short hunts. Suggested the removal of the late bull hunt because of migration from other units. Overall numbers during the hunt are the lowest in recent memory.

Sportsmen – feels there are lower elk numbers in the summer. Need to lighten up on the spike hunt.

USU Ext – migration study is immature – still not enough to make decisions

RMEF – migration study shows the exact same thung past studies have shown – Dutton is a winter area for all adjacent units.

Sportsmen – increase numbers if we are not at capacity.

MDF – deer herd is decimated – need to protect lower range habitat – hard to support drastic increase in elk numbers

Sportsmen – increase in moderation – remove cow harvest for spike archers and maintain resident cows.

SFW – hunts have been going down every year

Landowner – concerned about elk use on public permits

Cattlemen Assoc – agrees elk are not there in summer – depredation problems are in the spring

All members were asked to state their opinion on winter objectives and the potential for a population increase.

RMEF – migration is difficult to predict and is a large factor. You never know what elk you are killing from each unit. An increase on Dutton would result in increase in summer Monroe numbers. Need to increase incrementally, and monitor cow hunts. Raise to 1650 and will volunteer to purchase crackershells and haze elk in the spring. We need to be working hand in hand with landowners.

Richfield BLM – 1500 is a good number. BLM continues to bullhog, elk habitat will increase.

USFS – migration research needs more data before we make decisions. Need to work hard to get to objectives. Need to stay at 1500 until further range and migration analysis.

USU Ext – 1500 – limit cow harvest for spike archers and maintain resident cow numbers.

Sportsmen – 1650 - Get rid of spike cow harvest. Early cow hunts are counterproductive. Increase based on current research as we get more data. Remove late bull hunt. Increase slightly and monitor.

Sportsmen – 1500 - Need a big increase on resident elk. Spike hunt is hurting limited entry bull hunts.

RAC – 5% increase – 1500 does not address what we want. Need to help landowners where we can. Get all groups together more to see where help can happen. Increase should be equal to livestock increase.

SFW – 1600 – hunting strategies need to change and build summering elk. Need to help landowners in the spring. Sportsmen have put out a lot of money to have elk and no increase may result in loss of their support. We need to work together.

Landowner – 900 – Appreciate working with landowners and elk are great, but they are hard on landowners livelihood. Opposed to an increase.

Cattlemen Assoc – 1200 - appreciate cooperation and enjoys recreation from elk. Cannot support an increase. Damage has increased since 2004 when the jump from 900 to 1500 took place.

Farm Bureau – 1200 - likes elk but wants to know what happened to the 1950s agreement of 500 elk. Whats the use if there are already 1800 elk.

MDF – 1500 – winter and spring habitat being affected by elk the most. Does not support an increase but would if USFS improved more habitat.

RECREATION

RAC – this year's average age will be between 4-5

Sportsmen – it's a tough hunt and best bulls are harvested on the late hunt.

USU Ext – quality has decreased due to the spike hunt

Landowner – wants bull permits for landowners. Would increase tolerance of elk.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #25 A&B
Fish Lake/Thousand Lakes
May 2012

BOUNDARY DESCRIPTION

Emery, Piute, Sevier and Wayne counties—Boundary begins at I-70 and SR-24 north of Sigurd; south and east on SR-24 to the Caineville Wash road; north on this road to the Cathedral Valley road; west on this road to Rock Springs Bench and the Last Chance Desert road; north on this road to the Blue Flats road; north and east on this road to the Willow Springs road; north on this road towards Windy Peak and the Windy Peak road; west on this road to SR-72; north on SR-72 to I-70; west on I-70 to SR-24 north of Sigurd.

LAND OWNERSHIP

Fish Lake Subunit (25A)	**Yearlong range**		**Summer Range**		**Winter Range**	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0		137,016	84	147,908	57
Bureau of Land Management	0		15	%	60,397	23
Utah State Institutional Trust Lands	0		316	%	14,867	6
Native American Trust Lands	0		0		0	
Private	0		25,131	15	36,606	14
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		0	
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		20	%
TOTAL			162,478	100	259,798	100

Thousand Lakes subunit (25B)	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0		32,088	100	61,842	42
Bureau of Land Management	0		0		47,683	33
Utah State Institutional Trust Lands	0		0		6115	4
Native American Trust Lands	0		0		0	
Private	0		0		4575	3
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		25,511	18
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		0	
TOTAL	0		32,088	100	145,726	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve and maintain the current target population objective of 5,600 elk (modeled estimate) on the unit.

The Division recommends increasing the population objective by 800 wintering animals from 4800 to 5600. The Division recognizes that increasing elk populations is controversial and has the possibility of creating challenges with habitat use and livestock operations; however, the Division believes that the habitat on the unit can support this increase. By adhering to the strategies outlined in this plan, by practicing adaptive management, and by working closely with land management agencies and livestock operators, any negative effects of the increased population can be negated.

Bull Age Structure: Maintain a 3-year average age of bull harvest of 5.5-6.0 years.

Note: The Statewide Elk Management Plan calls for an increase in the age objective from 5.5-6.0 to 6.5-7.0 on the Fish Lake/Thousand Lakes unit, if the population objective is raised to 6,500 animals.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike-only, and limited entry bull hunting formats.

POPULATION STATUS

The elk population on this unit is estimated to be at or near its current objective of 4,800. An aerial survey was conducted on this unit on January 30-31, 2012. During this flight 2,808 elk were counted. Using a 70% sightability index, the population based on the flight data only, was estimated at 4,011 animals. A warm winter with little snowpack made for less than ideal survey conditions and allowed elk to winter in non-traditional areas. Nearby units were unable to be surveyed due to poor snow conditions. Due to the lower than expected count, few antlerless permits will be issued in 2012.

The average age of harvested bulls in 2011 was 6.1, which is down from the five-year average of 7.1. The cow:calf ratio in 2011 was 50 calves per 100 cows. Permit numbers for bulls have been increased significantly in recent years to bring the average age of bulls harvested down to the objective of 5.5-6.0 yrs.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calve recruitment, calve/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production and habitat quality (including aspen systems) through direct range improvements throughout the unit on winter and summer range to achieve population management objectives. Focus will be on high use areas especially

where we can entice animals away from agricultural areas and crucial range areas receiving higher than desired use.

Winter Range and Monitoring: Work with private and federal agencies to maintain and protect crucial winter range from future losses. Elk habitat will be monitored by current long-term vegetative trend studies and range tours in cooperation with public and private land managers.

Water Development: Work with land management agencies and livestock producers to enhance water sources, contribute to elk habitat, and gain optimum distribution.

Corridors: Cooperate with land management agencies and private landowners to identify critical areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT MANAGEMENT STRATEGIES

The overall range condition and total production for elk is good on both winter and summer range. However, much of the winter range is covered with an advancing pinyon-juniper forest. There are also concerns over decadent stands/monocultures of sage species. On the summer range above 9000 feet, the trend is toward a climax Engleman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate stands. Due to many successful treatments on winter ranges the condition of those treated ranges is showing an upward trend.

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the unit. Coordinate with the USFS, SITLA, BLM and private land owners to complete projects designed to improve forage production for both elk and livestock and to improve elk distribution across the unit. Identify higher elevation habitat projects that would encourage elk to winter higher and potentially away from traditional deer wintering areas. Encourage and support projects and management actions that will maintain and restore aspen ecosystems on the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range and Monitoring: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Water Development: Indentify potential water development projects that will benefit elk and seek funds/methods to implement them.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECTS

Between 2002-2007 there were 28,700 acres of elk habitat treated through habitat improvement projects on the Fish Lake/Thousand Lakes units. There was also approximately 10,000 acres of winter range treated on the Parker rim and the east side of Grass Valley from the Fish Lake summit to the Narrows. This is on the Boulder unit but winters many elk from the Fish Lake herd.

Between 2007-2011 there have been roughly 9,750 acres treated through the following projects:

Cedar Creek: (USFS) 400 acres of pinyon/juniper treated through fire, harrow, and hand thinning, and reseeding. Work began in 2007.

Solomon Basin Fuels: (USFS) 2,000 acres of pinyon/juniper thinning, 2009

Geyser Peak: (USFS) An 800 acre spruce/fir project in former aspen habitat, 2010.

Fish Lake Basin Fuels: (USFS) A 1,500 acre Dixie harrow and mowing treatment to remove decadent sagebrush.

Clay Flats: (USFS) A 900 acre project to remove decadent sagebrush and encroaching pinyon/juniper, 2011.

Flat Tops Dixie Harrow: (USFS) 200 acre treatment to remove decadent sagebrush and encroaching pinyon/juniper, 2007.

Rex Reservoir Pinyon/Juniper Maintenance: (USFS) A 600 acre treatment to remove decadent sagebrush, oak, and encroaching pinyon/juniper, 2008.

7 mile and Mt Terrill Dixie Harrow: (USFS) A 1,500 acre treatment to remove decadent sagebrush, 2008.

Sand Ledges: (SITLA) A 900 acre chaining and harrow to regenerate sage and oak brush and reduce encroaching pinyon/juniper, 2009.

Johnson Mountain Ranch: (CWMU) A 950 acre treatment to remove encroaching pinyon/juniper, 2009.

The following are habitat projects planned to take place in the next 3 years:

Sand Ledges 2nd phase: (SITLA) a 2,000 acre project designed to reduce encroaching pinyon juniper and remove decadent sagebrush

Johnson Mtn Ranch 2nd phase: (CWMU) A 700 acre project to encourage elk forage and reduce encroaching pinyon/juniper.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: The DWR will maintain programs to reduce the burden of crop depredation on private land. Currently Elk from the Fish lake herd cause depredation to fields near Lyman and fields in the Gooseberry area. Antlerless control hunts have been held and will be held to reduce this problem. As per Division policy, qualifying landowners may receive antlers elk permits to help encourage tolerance of elk and also to reduce numbers of elk using private lands.

Habitat: The overall range condition is good for elk on both summer and winter range. However much of the winter range is being effected by an advancing pinyon/juniper forest. Current proposed projects as well as future projects must be implemented in order to reverse this trend. Winter range, especially on the east portions of the Fish Lake Unit (Fremont district of the USFS) can receive heavy elk use during the winter. This habitat must me monitored closely for signs of over use. Localized antlerless hunts may be used to reduce pressure on specific areas.

Summer range projects to stimulate aspen recruitment and reduce conifer encroachment must be identified and implemented.

Comments from the USFS and livestock operators regarding the eastern half of the management unit, expressed in the Fish Lake elk committee meeting the following concerns regarding habitat:

1. Spring range is already being utilized and cannot sustain more elk.
2. Environmental groups are scrutinizing grazing levels.
3. Livestock AUM's have not been increased.

If the elk objective is increased special attention must be paid to the above areas and issues. To assist with these issues, the addition of smaller scale antlerless hunts could be used to try and encourage elk to utilize spring/winter ranges on the western side of the unit, where habitat projects have produced exceptional forage conditions and the resource is being under utilized. If late season antlerless elk permits are issued at higher levels in the eastern side of the unit, compared to the western side, then much of the population increase should come from the western side. In addition, livestock operators could work with land management agencies to explore shifting AUMs and /or season of use on some ranges in a way that could benefit operators.

Predation: The DWR recognizes the need to efficiently and effectively manage predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. Predator management must include the need for control by species, geographic area and season of year. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

Deer/Elk Competition: Concern has been expressed by some sportsmen and others that elk populations are responsible for declines in deer herds; however, there is currently little evidence to support that idea. Deer herd declines have occurred in areas where there are few or no elk, and deer herd increases have occurred in areas where there are large elk populations. There is also

concern that elk and livestock compete for the same forage on shared ranges. Ranges where elk coexist with mule deer and livestock should be closely monitored to prevent over use and competition. Additionally, habitat improvement projects should be focused in those areas to reduce competition and improve range conditions for all species.

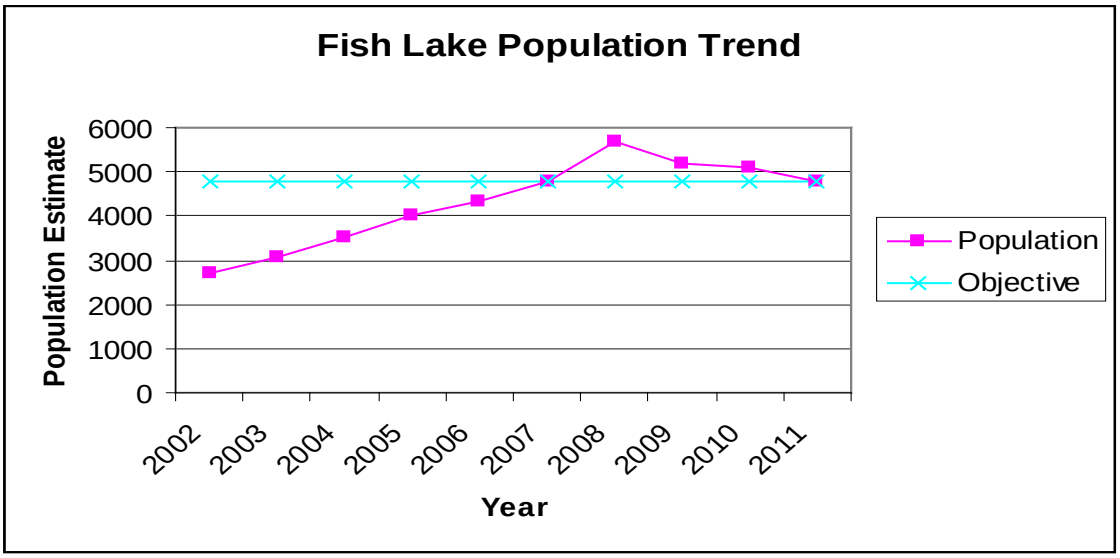
2011 Fish Lake Elk Committee

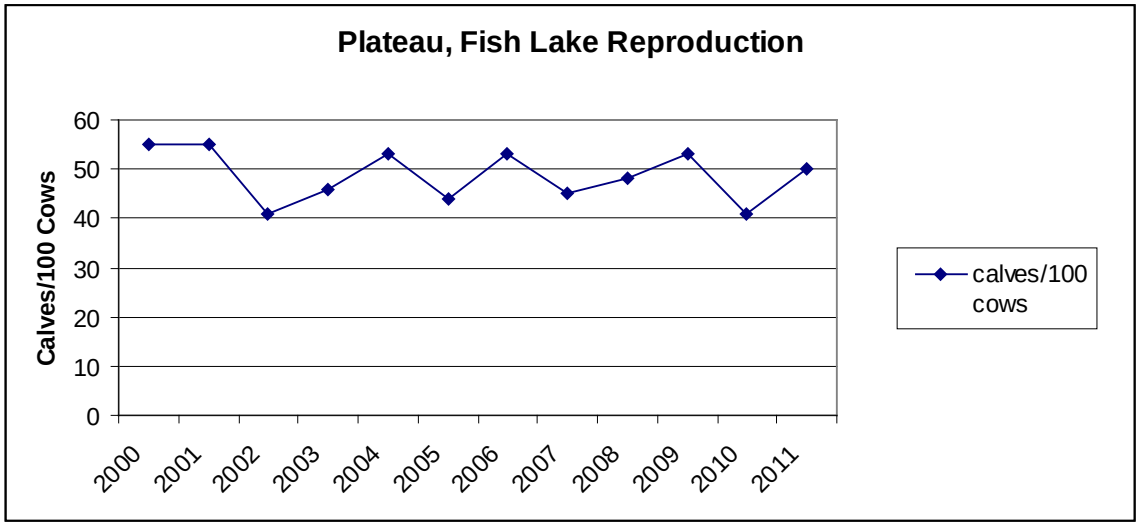
In October 2011 the Fish Lake Elk Committee met to discuss the elk management plan and the possibility of increasing the population objective. This diverse committee consisted of public and private stakeholders that have a keen interest in the elk herd.

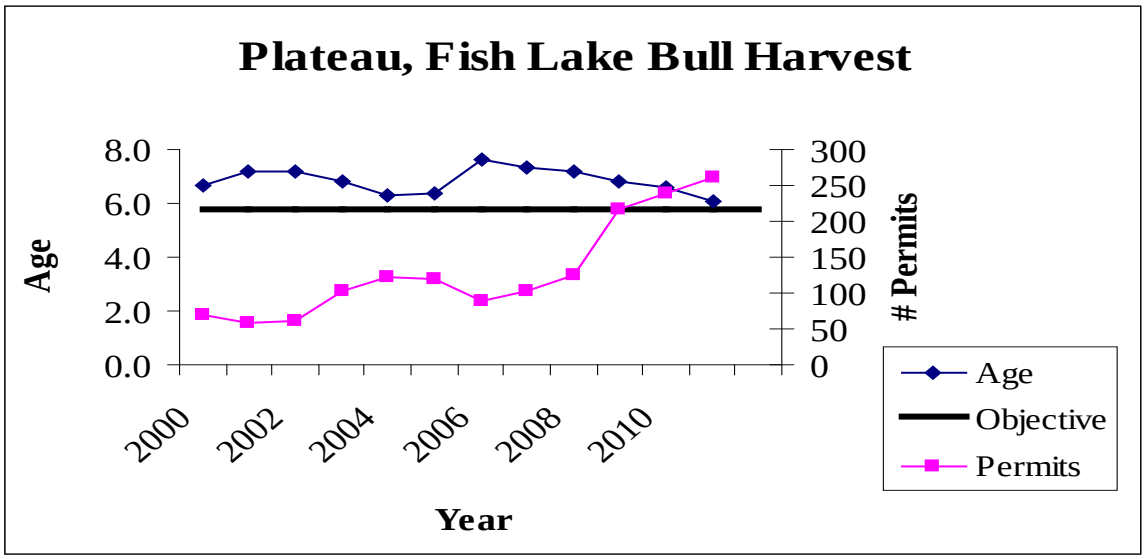
The representatives of the following interest groups were in favor of a population increase:
BLM
Sportsman rep #1
Sportsman rep #2
CWMU rep
Mule Deer Foundation
Sportsman for Fish and Wildlife
Rocky Mountain Elk Foundation

The representatives of the following interest groups were not in favor of a population increase:
USFS
RAC
Utah Farm Bureau
Cattleman's Association
Wayne County Commissioner
Landowner/permittee

APPENDIX


Fish Lake Population Trend
Population Estimate
6000
5000
4000
3000
2000
1000
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Year
Population
Objective


Plateau, Fish Lake Reproduction
Calves/100 Cows
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
calves/100 cows


Plateau, Fish Lake Bull Harvest
Age
8.0
6.0
4.0
2.0
0.0
Permits
300
250
200
150
100
50
0
2000
2002
2004
2006
2008
2010
Year
Age
Objective
Permits

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #25C/26
Plateau, Boulder/Kaiparowits
May 2012

BOUNDARY DESCRIPTION

Garfield, Piute, Kane and Wayne counties - Boundary begins at SR-24 and SR-62; south on SR-62 to SR-22; south on SR-22 to the Antimony- Widtsoe road; south on this road to SR-12; east on SR-12 to the Paria River; south along the Paria River to the Utah-Arizona state line; east along this state line to the shore of Lake Powell; northeast along the shore of Lake Powell to the Burr Trail; northwest on the Burr Trail Road to the Notom Road; north on the Notom Road to SR-24; west on SR-24 to SR-62.

LAND OWNERSHIP BOULDER

Boulder Sub-unit	**Yearlong range**		**Summer Range**		**Winter Range**	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	7129	94	380439	89	223550	37
Bureau of Land Management	0		5614	1	257084	42
Utah State Institutional Trust Lands	186	2	39792	9	85131	14
Native American Trust Lands	0		0		0	
Private	234	3	1535	%	14977	2
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		26028	4
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		281	%
TOTAL	7549	100	427380	100	607051	100

LAND OWNERSHIP KAIPAROWITS

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	2033	38	8662	4
Bureau of Land Management	0	0	1544	29	184,072	85
Utah State Institutional Trust Lands	0	0	637	13	19,382	8
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	1074	20	5461	2
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	96	1
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	5288	100	217,673	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, livestock grazing, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

Conduct habitat projects to curb the invasion of pinyon-juniper on winter range areas and spruce-fir invasion in historic aspen communities. Sagebrush steppe ecosystems need to be assessed to determine productivity. Return these areas to productive plant communities by using all available management tools to create and maintain healthy and productive wildlife/elk habitat and plant communities.

UNIT MANAGEMENT OBJECTIVES

Habitat

Develop cooperative programs that encourage public and private land managers to maintain a stable or upward trend in desirable vegetative composition for wildlife species, with emphasis on high use areas, especially where we can entice animals away from agricultural depredation problem areas.

Water development - Work with land management agencies and livestock producers to enhance water sources, contribute to elk habitat and gain optimum animal distribution.

Encourage vegetation manipulation projects and seeding to increase the availability, abundance and nutritional content of browse, grass, and forb species.

Elk habitat will be monitored by current long-term vegetative trend studies, pellet group, and seasonal monitoring range tours.

Discourage the encroachment of pinyon-juniper (p/j) trees and spruce-fir (s/f) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning and mechanical treatments to improve habitat where p/j or s/f encroachment is occurring.

Population

Target Winter Herd Size - Achieve a winter population size of 1,525 wintering elk for the combined unit. (Computer modeled population).

At this time there will be no recommendation to increase the herd objective for the following reasons:

1) Habitat loss is occurring faster than habitat is being treated and restored, especially encroachment of pinyon-juniper and spruce-fir.
2) The deer herd is currently under objective and there is concern that more elk may further reduce deer numbers.
3) If an increase in the elk population objective is considered it must be based on range improvements and those improvements must be completed and producing results.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

The overall range condition and total production for elk is good on summer range but limiting on winter range. Much of the winter range is covered with an advancing pinõn-juniper forest. There are also concerns over decadent stands/monocultures of sagebrush species. Projects need to be identified and implemented that will restore and maintain these communities to a healthy and productive condition. On the summer range above 9000 feet the trend is toward a climax Engleman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate stands. Due to successful habitat treatments, winter ranges on this unit are showing an upward trend.

Since 2006 there have been 26,204 acres treated through habitat improvement projects.

Project Title	Year Completed	Acres
Durfey Creek	2006	642
South Narrows Dixie Harrow	2006	22
Circle Cliffs	2006	932
Pretty Tree Bench Rx Burn	2006	541
North Narrows Dixie Harrow	2009	1369
North Slope Rehabilitation	2009	781
Rock Bench P-J	2010	900
North Narrows #2	2010	1049
Home Bench P-J		300
Mud Springs North	2010	400
Black Hills P-J		250
Coal Bench P-J		2000/ 800 completed
Antimony Creek S-F	2008	40
Whites/Pine Creek P-J	2010	1700
Oak Creek Rx Fire	1998 forward	1600
Sunflower Flat Rx Fire	2009	1337
Lower Bowns Chaining Maintenance	2006	572
Bear Creek Fire	2008	1464
Corn Creek Fire	2008	2200
Sawmill Point Aspen	In Progress	940
Dipping Vat	2011	800
South Creek P-J Removal	2010	125
South Creek Sagebrush Restoration	2010	500
Stump Springs Sagebrush	2011	260
Stump Springs Pine Underburn	In Progress	4053
Stump Springs P-J Burn	In Progress	568
Park Ridge	2008	732
Pollywog Rx Burn	2011	585
North Slope Chaining Maintenance	2010	742

The following are projects in the planning stage.

Project Title	Planned to begin	Acres
Boulder Foothills Fuels	2012	3601
Wide Hollow P-J		4000
Mitchell S-F	NFMA	75
Cowpuncher	2014	2000
Pockets, Aspen	2013	783
Clayton Springs S-F	2013	15
North Creek		300
Hungry Creek	2014	100
Stump Springs Pine Underburn	In Progress	4053

Stump Springs P-J Burn	In Progress	568
East Boulder Slope Rx Burn	NFMA	4000
Barney Top Aspen	2013	111
Iron Springs Asepn	2013	352
Jacobs S-F	2014	1000

Population

The elk population trend on this unit is currently near the objective of 1500 and slowly increasing. A total of 1186 elk were counted during a helicopter survey completed in February 2009. Using 75% sightability, the population on this unit is estimated to be 1500 elk. Over the last five years the bull harvest has been maintained at a stable level, while Limited Entry bull permits have decreased slightly. The average age of harvested bulls is currently 7.4, with a three year average of 7.6 years.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

The overall range condition and total production for elk is good on summer range but limiting on winter range. Much of the winter range is covered with an advancing pinyon-juniper forest. There are also concerns over decadent stands/monocultures of sage-brush species. Projects need to be identified and implemented that will restore and maintain these vegetative communities to a healthy and productive condition. On summer range above 9000 feet, the trend is toward a climax Engleman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate the stand. Excessive habitat utilization will be addressed.

Population

This unit is in the oldest age category for average age of harvest of Limited Entry bull elk. The three year average age of harvest is 7.6 years, within the objective of 7.5-8.0.

Other Barriers

Crop Depredation - The Division of Wildlife Resources will maintain programs to reduce the burden of elk depredation on private cultivated and stored agricultural crops. When depredation problems occur, the DWR will follow the legislative laws, policies, and procedures of the Utah's Landowner Assistance Program for big game. The DWR will recommend antlerless hunts where needed. If emergency situations arise, local biologists may call depredation hunts and/or issue mitigation permits to reduce elk damage on cultivated and stored agricultural crops. These hunts will be specified in areas to target offending animals. Legislative laws, polices, and procedures will also be followed to lessen the burden of big game on private rangelands.

Predation - The DWR recognizes the need to efficiently and effectively manage

predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

Highway Mortality - Cooperate with the Utah Department of Transportation in construction of highway fences, passage structures and warning signs, etc.

Illegal Harvest - Should illegal harvest become an identified and significant source of mortality develop specific preventive measures within the context of an Action Plan in cooperation with the Law Enforcement Section.

Drought- When a drought event occurs and the elk population is at objective an emergency hunt should be instituted immediately to reduce elk numbers and relieve pressure on the habitat resource.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Develop cooperative programs that encourage public and private land managers to maintain a stable or upward trend in vegetative composition with emphasis on high use areas, especially where we can entice animals away from critical agricultural depredation problem areas.

Encourage vegetation manipulation projects and seeding to increase the availability, abundance and nutritional content of browse, grass, and forb species.

Elk habitat will also be monitored by pellet trend studies and seasonal monitoring range tours.

Actions to Remove Habitat Barriers

Maintain and/or enhance forage production through habitat improvement projects throughout the unit on winter range to achieve population management objectives.

Work with private and federal agencies to maintain and protect crucial and existing winter range from future deterioration or habitat loss.

Provide improved habitat security and escapement opportunities for elk.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit varies because of the influx and outflow of animals from the Dutton, Monroe and Fishlake/Thousand Lakes units. Movement data obtained from telemetry studies indicate that significant numbers of elk from those units at times winter on the Boulder/Kaiparowits Unit.

Sub-Unit #25C - The north-west portion of the subunit (Parker Mountain rim area) will be counted and modeled as part of subunits 25A & B (Fishlake/Thousand Lakes).

Bull Age Structure - Monitor age class structure of the bull population through the use of checking stations, uniform harvest surveys, tooth aging, field bag checks, preseason classification and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons. Ages will be obtained from harvested bulls through tooth age data.

Actions to Remove Population Barriers

Work to improve habitat to a point where an increase in elk objective could be considered through the management plan process.

Implement habitat projects for the purposes of healthy range for healthier herds.

Work with private landowners to ensure depredation is maintained within tolerable levels, and will not become a limiting factor.

ELK UNIT MANAGEMENT PLAN
PAUNSAUGUNT WMU #27
MAY 2012

A. OVERALL ELK UNIT MANAGEMENT GOALS

a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
b. Balance elk herd impacts on human needs such as private property rights, agricultural crops, other big game species and local economies.
c. Maintain the population at a level that is within the long-term capability of the available habitat and that does not negatively impact the mule deer population.
d. Continue with limited entry unit and cooperative programs with landowners association and Alton Cooperative Wildlife Management Unit.

B. UNIT HABITAT MANAGEMENT OBJECTIVES

a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
b. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance wildlife habitat.
c. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
d. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned sources such as old water trough's, ponds, and tanks that can benefit both livestock and wildlife.
e. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.

i. HABITAT MANAGEMENT STRATEGIES

1. Provide for habitat projects in focus areas including Hatch Bench – winter range (SITLA/USFS), East Fork Sevier River – calving/summer range (USFS), and Skutumpah Terrace and Glendale Bench – year long range (BLM).

    a. Focus on the three priority improvements identified by the 2011 elk committee including water development and maintenance, winter range enhancement, and summer range enhancement.

        i. Work with USFS to continue projects with guzzlers,

riparian improvement, and timber harvest in key calving habitat on the East Fork.

1. Timber harvest on USFS lands was highly supported by the 2011 elk committee.

ii. Work with the BLM and Grand Staircase Escalante National Monument to continue projects on vegetation enhancement, PJ encroachment, guzzlers, ponds and water distribution.

1. Habitat restoration in the Kanab Creek drainage was highly supported by the 2011 elk committee.

2. Continue to monitor the permanent range trend studies located throughout the winter range. Work with state range trend monitoring crew to establish new trend studies in areas where elk use or trend is a concern.

3. Encourage and provide support to other land management agencies, private landowners, and stakeholders when developing habitat projects that will enhance or improve elk habitat throughout the management unit.

4. Encourage habitat restoration project funding proposals through a diversity of sources including UPCD and Alton Coal.

ii. **CURRENT STATUS OF ELK HABITAT MANAGEMENT**

1. Overall, elk habitat on the Paunsaugunt WMU is good with stable range conditions throughout most of their range. Some challenges facing elk habitat include conifer encroachment of aspen stands, degradation of rangelands by increased woody vegetation, and water availability.

2. Many habitat restoration projects have been completed in the past 5-10 years that have improved elk habitat. There are also several thousand acres across the unit currently proposed for treatment. Many of these projects are listed in Appendix 2.

iii. BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES

1. Water distribution, development and maintenance.

2. Degradation of summer and winter rangelands.

3. Conifer encroachment of aspen stands.

iv. **STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.

2. Support habitat improvement projects in the Skutumpah Terrace and Glendale Bench areas that could attract elk and other wildlife away from private land at lower elevations. Focus on public lands in pinyon and juniper or sagebrush areas.

3. Continue to focus on improving habitat in upper elevation calving habitat on the East Fork of the Sevier River. Projects that provide for aspen and water at higher elevations would be beneficial.

4. Conduct large-scale habitat projects to help prevent elk and other wildlife from concentrating on isolated patches of improved habitat.

5. Encourage projects on private land that maintain habitat for elk over the long-term.

6. Work closely with State Trust Lands (SITLA) to conserve crucial/key winter habitat along the Hatch Bench.

7. Continue projects with USFS, BLM, state and private landowners to enhance overall elk habitat.

8. To reduce potential negative impacts on the mule deer population, habitat projects will be needed to improve range conditions on both summer and winter ranges.

C. UNIT POPULATION MANAGEMENT OBJECTIVES

a. Target Winter Herd Size – 140 total elk wintering across the unit. This is a reduction from the previous plan as a result of the 2011 elk committee recommendation. This recommendation was made largely to provide antlerless harvest opportunities and reduce potential negative impacts to mule deer on a premium mule deer unit. Comments from the 2011 elk committee are listed in Appendix 3.

i. CURRENT STATUS OF ELK POPULATION MANAGEMENT

1. In recent years, wintering elk numbers have increased in the Skutumpah area. Prior to winter 2009-10, very few elk were counted during aerial surveys since the Paunsaugunt was mainly used by elk in the summer months (Figure 1). With the recent expansion, there are currently 2 different wintering herds on the Paunsaugunt; Hatch Bench and Skutumpah Terrace/Glendale Bench. The Mt Dutton telemetry research suggests the Hatch Bench segment may also utilize areas on Mt Dutton during the winter months.

2. Population modeling is extremely difficult since the Paunsaugunt winters few elk in comparison to adjacent units and experiences higher numbers during summer months (Figure 2) when aerial surveys are impractical.

ii. POPULATION MANAGEMENT STRATEGIES

1. Population Size – Aerial counts and annual preseason classification surveys will be used to monitor the population. Opportunistic ground surveys in the winter months appear to also provide some useful trend data due to low overall numbers.

2. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objectives and reducing potential negative impacts to mule deer. The Skutumpah area should be a focus for any antlerless harvest since this wintering herd is the closest to mule deer winter range. Antlerless harvest may be used if there is evidence of negative impacts to mule deer on additional ranges.

3. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. BARRIERS TO ACHIEVING UNIT POPULATION MANAGEMENT OBJECTIVES

1. Depredation – Many of the local landowners and livestock owners on the unit worry that an increase in the elk population would increase damages due to elk depredation.

2. Political - Many people in the area are opposed to an increase in elk numbers on the unit. Many of these people feel that an increase in the elk population may negatively impact mule deer, which are managed as a premium unit.

3. Illegal Harvest - Illegal harvest can be a significant source of mortality.

iv. MANAGEMENT ACTIONS TO REMOVE POPULATION BARRIERS

1. Depredation -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Maintain the Alton CWMU and Paunsaugunt Elk Landowners Association to compensate for elk use of private lands.

2. Political – Effectively address situations where elk negatively impact mule deer habitat or populations. Closely monitor for signs of negative competition between the two species. Look for and take advantage of opportunities to convey these efforts to the public. Also, look for and take advantage of opportunities to convey to the public DWR efforts to handle depredation issues.

3. Illegal Harvest - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an "Action Plan" developed in cooperation with the Law Enforcement Section.

D. UNIT RECREATION MANAGEMENT OBJECTIVES

a. Bull Harvest Objective - Manage for a 4.5-5.0 year average age of harvested bulls.

i. RECREATION MANAGEMENT STRATEGIES

1. Bull Age Structure - Monitor age class structure of the bull population through the use of uniform harvest surveys, field bag checks, preseason classification and aerial classification. Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3.

2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 3). Currently, the Paunsaugunt unit is above the harvest age objective (Figure 4.)

    a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Paunsaugunt WMU #27.

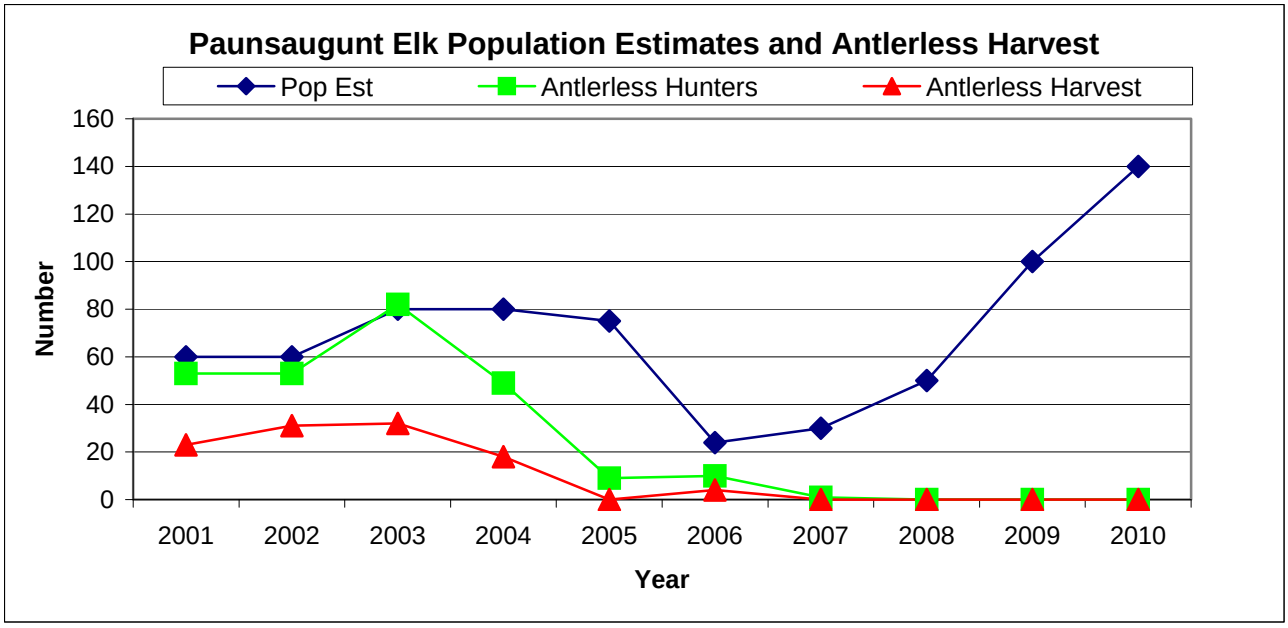


Figure 2. Trend of preseason classification surveys (July-August) on Paunsaugunt WMU #27.

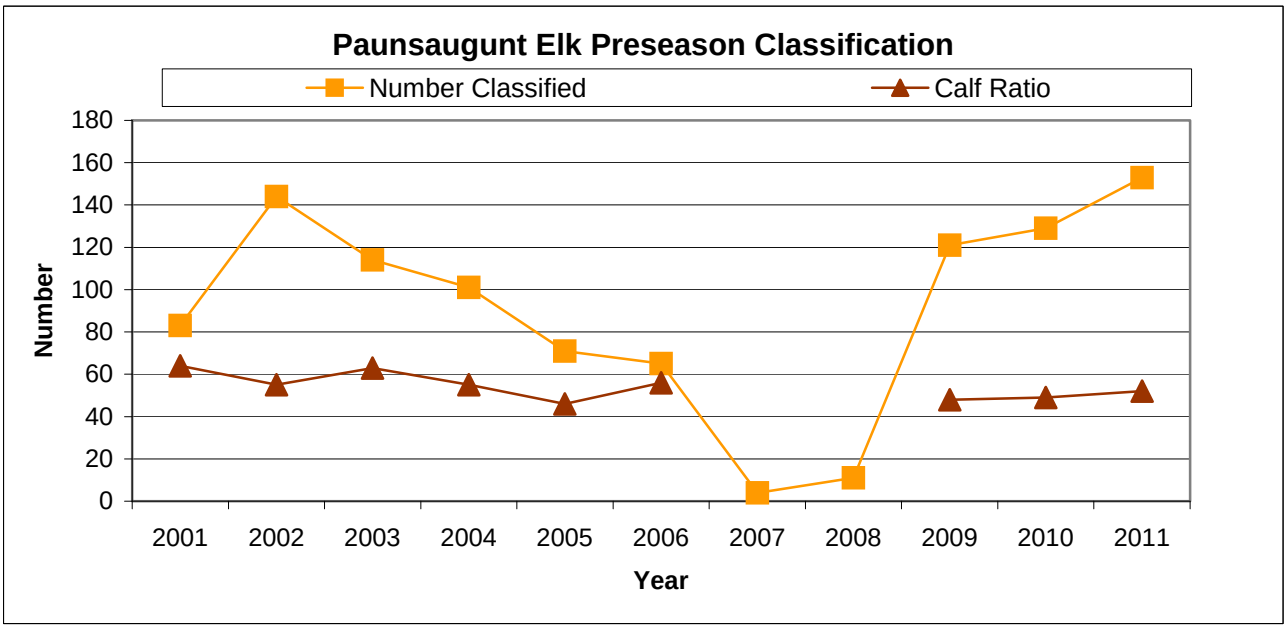


Figure 3. Trend of limited entry bull elk permits and harvest on Paunsaugunt WMU #27.

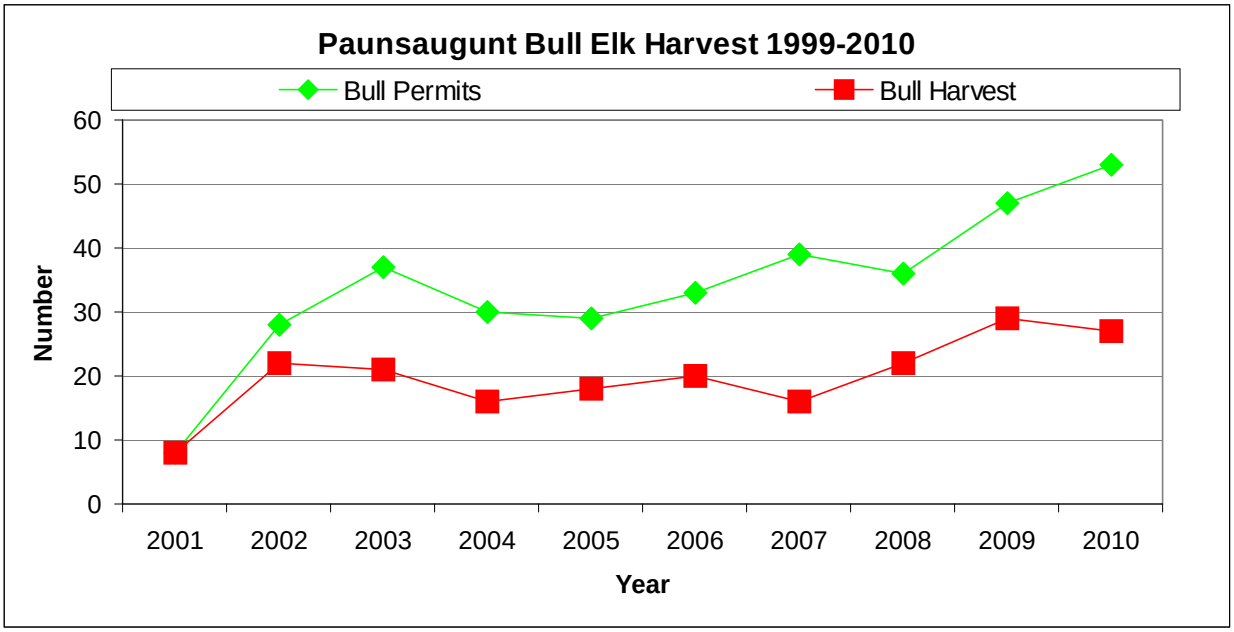
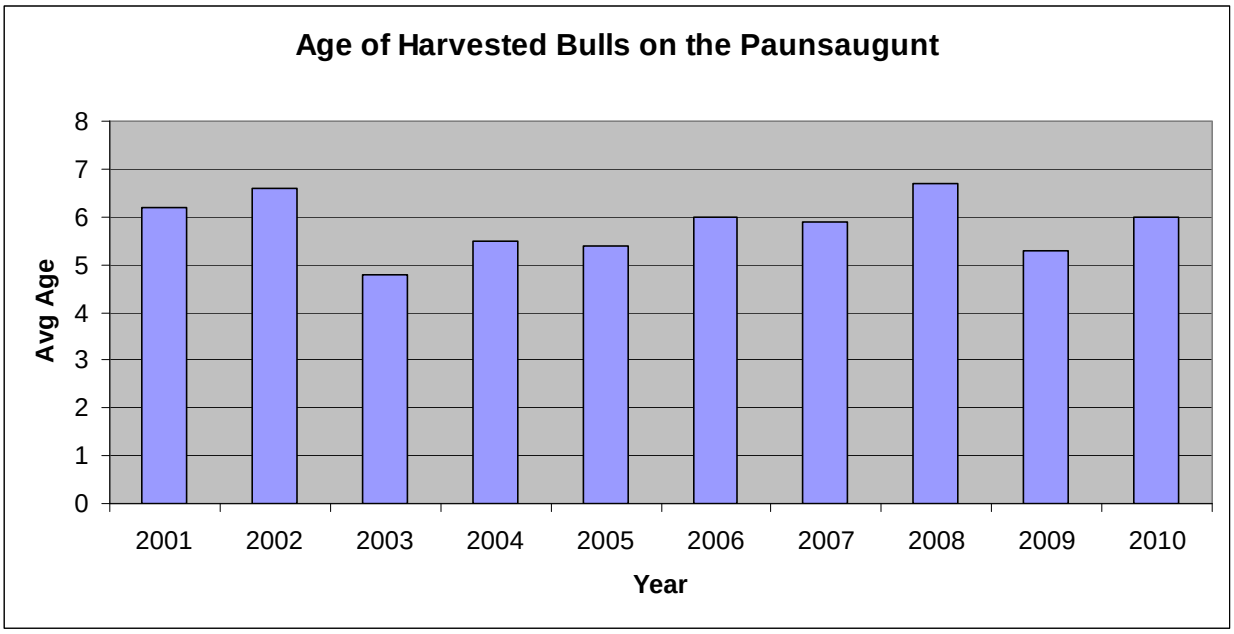


Figure 4. Average age of harvested bull elk on Paunsaugunt WMU #27.



Appendix 1. Approximate landownership on the Paunsaugunt WMU #27.

RANGE AREA AND APPROXIMATE OWNERSHIP*

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	94,519	64	0	0
Bureau of Land Management	0	0	7862	5	40,673	73
Utah State Institutional Trust Lands	0	0	2779	2	3925	7
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	41,358	28	11,058	20
Department of Defense	0	0	0	0	0	0
USFWS Wildlife Refuge	0	0	0	0	0	0
0National Parks	0	0	618	1	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	147,136	100	55,656	100

Paunsaugunt Elk Habitat	Sum_Acres	% of available habitat	% of WMU
Summer Crucial	60615	17	6
Summer Substantial	83854	23	9
Winter Crucial	17489	5	2
Winter Substantial	20991	6	2
Year Long Substantial	175970	49	18
TOTAL ELK HABITAT	358919	100	37
Wildlife MGMT Unit Total Area	957122		100

Appendix 2. Recent habitat projects in elk habitat on the Paunsaugunt WMU #27.

BLM-Alton Sink Valley Bullhog/Seeding (800 ac) (2005/2006)
BLM Alton Sink Valley Lop and Scatter 200 ac 2005/2006
BLM (GSENM)Ford Pasture Bull Hog-XXX acres
BLM Mill Creek/Alton Sagebrush Restoration-1700 acres lop and scatter
BLM Mill Creek Sagebrush Restoration 1700 acres (2007)
BLM Ford Fire Rehab300 acres (2007)
Upper Kanab Creek Restoration (Fire and Fuels) 500 ac (2007)

Paunsaugunt WMU #27 habitat projects listed in WRI database 2006-2011.

APPROVED DATE	PROJECT_ID/ MAP LABEL	TITLE	YEAR COMPLETED	Acres
2011	1696	Black Mountain Clearing	Planned/In	324
2009	1410	Ahlstrom Hollow	Planned/In	4727
2012	2064	2012 North Paunsaugunt habitat	Planned/In	482
2011	1657	Upper Kanab Creek Seeding Maintenance	Planned/In	2702
2011	2069	Hatch Bench Habitat Improvement	Planned/In	5907
2006	301	Merlin Esplin Discretionary Seeding	2006	111
2006	305	Bruce Bunting Discretionary Seeding	2006	122
2006	340	John Bramall Seed Contribution	2006	114
2006	120	Alton Sink Valley	2006	821
2006	302	Jim Guthrie Discretionary Seeding	2006	84
2007	653	Karl Heaton Seed Contribution FY07	2007	127
2007	655	Merlin Esplin Seed Contribution FY07	2007	455
2007	654	Kurt Brinkerhoff Seed Contribution FY07	2007	50
2007	656	Roger Holland Seed Contribution FY07	2007	211
2008	985	J.G. Seed Donation	2008	245
2008	1052	Ma. Spencer Seed Donation	2008	442
2008	990	K.B. Seed Donation	2008	17
2008	1044	Da. Johnson Discretionary Seed	2008	43
2009	1169	Five Mile Mountain Habitat Restoration	2009	267
2009	1169	Five Mile Mountain Habitat Restoration	2009	1043
2009	1313	Mill Creek Aerial Seeding	2009	912
2009	1308	Heaton Discretionary Seed	2009	36
2008	900	Alton/Mill Creek Sagebrush Restoration -	2009	912
2010	1170	Buckskin Mountain Phase III	2010	1867

Total = 22,022 acres

Appendix 3. Summary from the 2011 elk committee for Paunsaugunt WMU #27.

Meeting was well attended and lasted approximately 4 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Discussion included a range of topics that included current and proposed work on both BLM and USFS. USFS is currently working on large scale EA's to improve aspen and riparian areas, and also had a discussion on their travel plan. BLM gave an update on the Kanab Creek EA and the Alton Coal federal lease.

Farm Bureau expressed concern about private lands projects improving grass (and elk habitat) on the Glendale bench and a protest by UDWR based on sage grouse. Improved communication was discussed.

RAC member discussed competition between elk and deer was discussed and how the Paunsaugunt deer population has been cut due to habitat concerns.

Comments

- Need to encourage more projects on federal lands (CATTLEMEN)
- Concerns about GSENM bailing out of projects (Kanab Creek EA) (LANDOWNER)
- Include broad encouragement statement of support on Pauns timber sale (USFS)
- Include broad statement to involve Alton Coal in off-site mitigation (ALL)
- Monitoring projects (and range trend) should include private lands (FARM BUREAU)
- Look into adding range trend transect in Mill Creek Area (ALL)

POPULATION

Discussion about the language about an agreement to manage for 300 summering population. The USFS and BLM is not aware of this "agreement" but did agree to research this before we remove it from the plan. The CWMU felt there should be a summer objective. Tolerance of elk is very low below the white cliffs, and the Cattlemen Assoc. believed the antlerless boundary for "Skutumpah" should be extended south to the state line. Discussion about "blue-light special" antlerless permits was discussed for the lower portion of the Paunsaugunt.

All agreed to remove the language that talked about conducting spring flights since it is not feasible. All agreed to look into extending the Dutton elk research to better estimate elk numbers summering on the pauns.

Discussed spike archery cow harvest opportunity. Look into allowing this regardless of winter population status and base it on at least 2 of 3 adjacent WMU's population status.

CWMU felt that the system is backwards in that the unit plan has to conform to the statewide plan. They should listen to the local people on the ground and go from there. County Commission agreed and stated the people on top will just do what they want anyway. Also feels that the federal agencies are taking away the rights of private citizens.

We went around the table and had everyone discuss how many wintering elk should be on the Pauns in their opinion and why.

Comments

- CWMU – 100 – feels this would mean there would be 200 summering, which private landowners can handle. Just wants dead elk.
- Sportsmen – 125 – need to reduce but not that drastically and would like to see it more of a deer unit.
- Landowner – 100 – worried about elk not migrating and increased depredation. Also very concerned that GSENM are going behind our backs.

- County Commission – no comment
- USFS – 175 - no increase since there is no data to support it. Does not want to decrease due to possible implications about reductions in hoofed animals
- Farm Bureau – 100 – depredation concerns and competition with deer
- BLM – 175 – no increase but don't decrease. Elk are another reason to get habitat work done
- RAC – 100 – competition with deer. Deer numbers have been cut back and want elk down until deer are back up.
- SFW – 100-125 – need cow hunting opportunity, lower tolerance on the south end
- Sportsmen – 140 – concerned about feds getting funding to get projects done if we cut too much at once. This would also allow for cow hunting opportunity.
- Cattlemen – 140 – worried about dropping too much too fast in terms of getting habitat projects done. 99% of the projects are being done by the private landowner. Give the antlerless permits to the youth.

RECREATION

Discussion was based on the idea of open bull unit. It was realized that increased bull hunting opportunities would increase hunters on the unit and not decrease population size. Also was realized that the LOA and CWMU would no longer get permits. It was unanimous that we leave the unit limited entry bull hunting.

Everyone also agreed on the prospect of a late bull hunt to increase opportunity and reach age objectives.

Comments

USFS – as a hunter, appreciated not being overrun with elk hunters during his deer hunt

RAC – leave it the way it is if landowners won't get their permits. Recognized how many hunters open bull would mean

CWMU – leave it despite wanting less elk.

ELK UNIT MANAGEMENT PLAN
PANGUITCH LAKE WMU #28
MAY 2012

A. OVERALL ELK UNIT MANAGEMENT GOALS

a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
b. Balance elk herd impacts on human needs such as private property rights, agricultural crops and local economies.
c. Maintain the population at a level that is within the long-term capability of the available habitat to support.
d. Continue with the limited entry bull harvest strategy.

B. UNIT HABITAT OBJECTIVES

a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
b. Maintain and/or enhance forage production through direct range improvements throughout the unit to achieve population management objectives.
c. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance overall elk habitat.
d. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
e. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned/sources such as old water troughs, ponds, and tanks that can benefit both livestock and wildlife.
f. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.
g. Work with land management agencies to improve calving habitat and minimize disturbance in these areas. Seek opportunities to improve aspen communities, and some sagebrush ranges where calving and foraging are occurring.

i. CURRENT STATUS OF ELK HABITAT MANAGEMENT

1. Overall, elk habitat on the Panguitch Lake WMU is good with stable range conditions on most of the unit. Some challenges facing elk habitat include; 1) conifer encroachment of aspen stands, 2) degradation of rangelands by increased woody vegetation, and 3) water availability.

2. Many habitat restoration projects have been completed in the past 5-10 years that have improved elk habitat. There are also several thousand acres across the unit currently proposed for treatment. Many of these projects are listed in Appendix 2.

ii. BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES

1. Rangelands are degraded by increased woody vegetation. Canopy closure is a landscape wide problem across the unit with pinion/juniper and mountain mahogany stands. Pinion/juniper has encroached beyond its historical range due to fire suppression. Many mountain mahogany south facing slopes are old, overgrown, decadent stands. Private landowners, livestock permitees, federal and state land management agencies and the Utah Division of Wildlife Resources are encouraged to work together to conduct landscape wide treatments.

2. Conifer encroachment into aspen stands reduces important habitat function in important calving areas including reduced forage productivity and watershed performance. In an effort to regenerate aspen communities, land managers are encouraged to use fire, mechanical or chemical treatments on landscape level projects.

3. New water developments and maintenance of existing water sources continues to be a priority across the unit. Wide scale habitat restoration projects are preferred to rehabilitate many watersheds. Livestock permitees have historically created structures to collect and store water; however, these ponds and earthen dams have filled with sediments or been damaged by flooding and need regular maintenance. Private landowners, livestock permitees, federal and state land management agencies and the Utah Division of Wildlife Resources are encouraged to cooperate to complete landscape habitat restoration projects, develop new water sources and maintain historic developments, which will improve distribution of both big game and livestock.

iii. STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT HABITAT MANAGEMENT OBJECTIVES

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.

2. Encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas.

a. Areas identified by the 2011 committee include Deer Creek, Little Valleys, and adjacent to the Cedar Breaks National Monument.

3. Focus on maintaining investments in habitat projects such as seedings, chainings, and water developments.

    a. The 2011 committee was very supportive of cooperative water developments and encourages funding proposals beyond UPCD.

    b. A goal from the 2011 committee was to encourage at least 10,000 acres of treatment in elk habitat during this plan.

C. UNIT POPULATION OBJECTIVES

a. Target Winter Herd Size – 1100 total elk wintering across the unit.

i. CURRENT STATUS OF ELK POPULATION MANAGEMENT

1. The unit elk committee met in October 2011 to discuss population objectives. It was recommended to maintain the 1100 wintering elk objective for the duration of this plan. The objective may increase in the next plan revision if habitat projects continue and range trends continue to improve. The 2011 elk committee's comments are attached in Appendix 3.

2. During the January 2010 aerial survey, 628 elk were counted resulting in a winter population estimate of 785. Since the unit was below the population objective, antlerless harvest was suspended (Figure 1). Preseason classification surveys have shown in good calf production, which should result in stable to increasing overall elk numbers (Figure 2).

ii. POPULATION MANAGEMENT STRATEGIES

1. Population Size – Aerial surveys and annual preseason classification surveys (July – August) will be used to monitor the population. Population modeling will also be used to generate annual postseason (winter) population estimates. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objective.

2. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. BARRIERS TO REACHING POPULATION OBJECTIVES

1. Crop Depredation – Many of the local landowners and livestock permitees on the unit are concerned that an increase in the elk population would increase damages due to elk depredation.

2. Illegal Harvest - Illegal harvest can be a significant source of mortality.

iv. ACTIONS TO REMOVE POPULATION BARRIERS

1. Crop Depredation -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Continue the cooperative program with Panguitch Lake Landowners Association.

2. Illegal Harvest - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an "Action Plan" developed in cooperation with the Law Enforcement Section.

D. UNIT RECREATION OBJECTIVES

a. Bull Harvest Objective - Manage for 5.5–6.0 year average age of harvested bulls as outlined in the Statewide Elk Management Plan.

i. UNIT RECREATION MANAGEMENT STRATEGIES

1. Bull Age Structure - Monitor age class structure of the bull population through the use of harvest surveys and tooth analysis. Additionally, data will be analyzed from preseason classification surveys, aerial census surveys, check stations, and field hunter checks.

2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 3). Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3. Currently, the Panguitch Lake unit is achieving the bull harvest age objective (Figure 4).

    a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Panguitch Lake WMU #28.

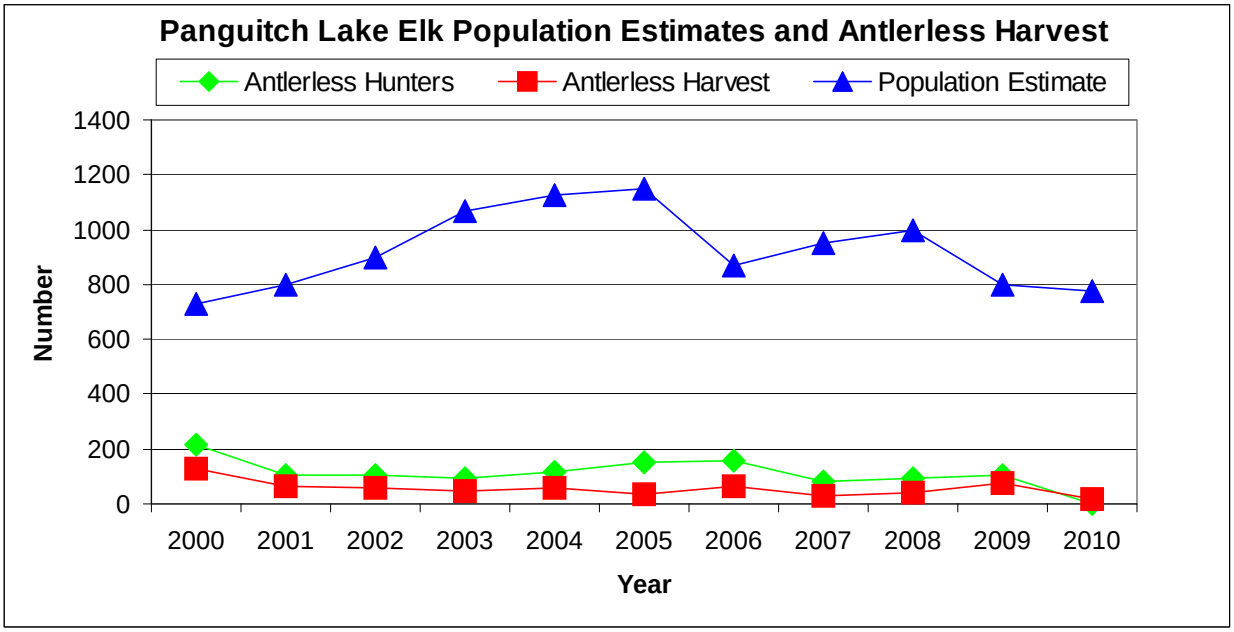


Figure 2. Preseason classification surveys of elk on Panguitch Lake WMU #28.

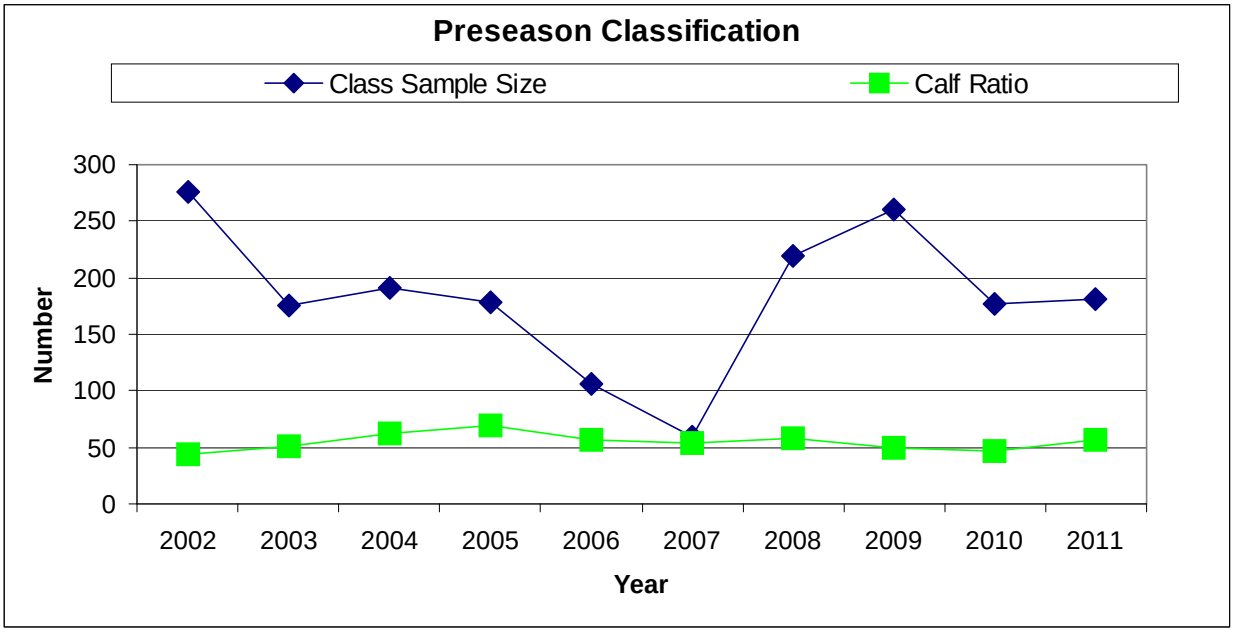


Figure 3. Trend of limited entry bull elk permits and harvest on Panguitch Lake WMU #28.

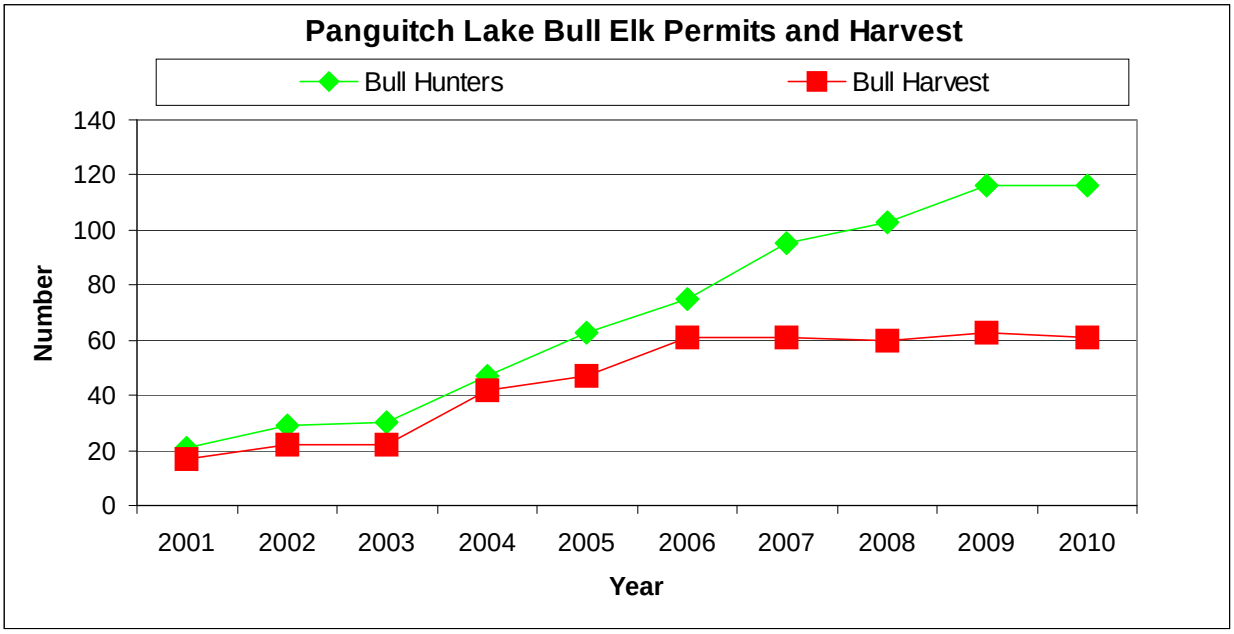
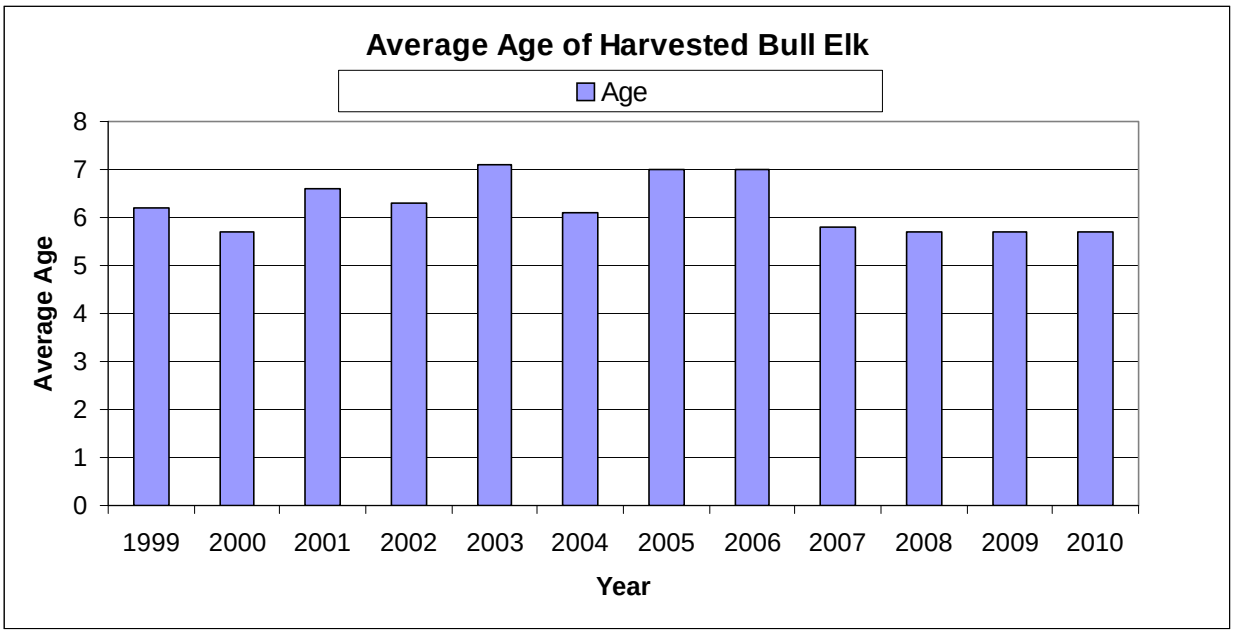


Figure 4. Average age of harvested bull elk on Panguitch Lake WMU #28.



Appendix 1. Approximate landownership on the Panguitch Lake WMU #28.

RANGE AREA AND APPROXIMATE OWNERSHIP*

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	238,300	75	47,560	53
Bureau of Land Management	0	0	14,578	5	29,845	33
Utah State Institutional Trust Lands	0	0	3498	2	3544	8
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	49,000	15	8828	5
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	6005	2	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	1289	1	27	1
TOTAL	0	0	312,670	100	89,804	100

Panguitch Lake WMU Elk Habitat Summary Table				
SEASON	**VALUE**	**ACRES**	**% of available habitat**	**% of WMU**
SUMMER	**All**	**311272**	**74**	**55**
summer	crucial	42181	10	7
summer	substantial	269091	64	48
WINTER	**All**	**86302**	**21**	**15**
Winter	Crucial	0	0	0
winter	substantial	86302	21	15
year-long	substantial	21164	5	4
TOTAL ELK HABITAT		**418738**	**100**	**74**
WMU TOTAL AREA		**565071**		**100**

Appendix 2. Recent habitat projects in elk habitat on the Panguitch Lake WMU #28.

BLM-Sage Hen Hollow PJ thinning (500 ac) (1996-2002)
BLM /UDWR Western Town Bull hog and seeding(900 ac)2003/2006
BLM/Upper Sevier Watershed dollars-Dickinson Hill/Fuels (800 ac) Bullhog, 200ac hydro ax-2005/2006
BLM-Sheep Hollow Catchment 2006
BLM--Five Mile Hollow Thinning-Lop and Scatter 1700 ac 2006
BLM South Canyon Water Haul 2006
FS—Five Mile Burn and Reseed
FS – Cottonwood PJ Encroachment Project, 1200 ac
FS – Shumake Hollow Dixie Harrow
FS – Ashdown, Pine Hollow and Coal Pit Dixie Harrow, 420 acres
FS –Haycock Mountain Trick Tank Guzzler Improvement
FS –Henrie Knolls Guzzler Improvement
FS –Asay Bench Guzzler Improvement
FS –Mud Springs PJ Encroachment Project, 960 acres
FS –Tebbs Hollow Harrow Overseed Project, 400 acres
FS –Tebbs Hollow PJ Encroachment Project, 350 acre completed, 500 remaining
FS –Sheep Hollow, Duck Creek Sinks, and Mammoth Cave Guzzler Improvement Projects
FS –Swains Creek Access Management Plan
BLM-Five Mile Hollow 2 Lop and Scatter 1700 ac
FS – Cottonwood Burn
FS –Tebbs Hollow PJ Encroachment Project, 500 acre

Panguitch Lake WMU #28 habitat projects listed in WRI database 2006-2011.

Panguitch Lake WMU WRI ELK Projects 2006-Present				
APPROVED	PROJECT/MAP ID #	TITLE	Year Complete	Acres
2010	1482	Edward Springs Rx Fire	Planned/In Progress	3528
2009	1481	Duck Creek Aspen Regeneration	Planned/In Progress	48
2012	2027	South Canyon Year 2	Planned/In Progress	2549
2006	189	Five Mile Hollow Sagebrush Restoration - Year 1	2006	1542
2006	242	Buckskin Valley Hwy 20	2006	270
2006	212	Tebbs Hollow Sagebrush Restoration PJ Removal	2006	456
2007	458	Tebbs Hollow/Mud Springs Sagebrush and PJ Treatment	2007	456
2007	467	Fivemile Hollow Sagebrush Restoration - Year 2	2008	1369
2008	1056	D. Burton Discretionary Seed	2008	1
2006	239	Mud Springs Sagebrush and PJ Encroachment Project	2008	985
2009	1206	Panguitch Creek WMA PJ Thinning	2009	22
2009	1206	Panguitch Creek WMA PJ Thinning	2009	332
2009	1206	Panguitch Creek WMA PJ Thinning	2009	29
2009	1199	North Cottonwood Canyon Lop and Scatter/Bullhog Treatment	2009	688
2009	1199	North Cottonwood Canyon Lop and Scatter/Bullhog Treatment	2009	128
2008	862	Tebbs Hollow Pinyon/Juniper Encroachment Project	2009	1477
2010	1579	Horse Valley Fire Rehab	2010	301
2010	1591	B.D. Discretionary Seed	2010	21
2009	1443	Castle Valley Aspen Regeneration	2010	68
2010	1615	Horse Valley Fire Area Seeding	2010	506
2011	1716	South Canyon	2011	1749

Appendix 3. Summary from the 2011 elk committee for Panguitch Lake WMU #28.

Meeting was well attended and lasted approximately 3.5 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Discussion included a range of topics that included current and proposed work on both BLM and USFS. USFS is currently working on EA's to improve foreset health and implementing their travel plan.

Predators were discussed by elected official and local landowner. LOA also expressed concern about growing bear population.

USFS discussed water projects that were not funded because of UPCD ranking them low priority. Need to improve communication and seek funding through private sources beyond UPCD. RMEF and RAC support water projects to help disperse utilization. LOA discussed good cooperation between BLM in the Sage Hen Hollow area. Local landowner expressed concern about dispersing animals away from riparian areas.

Discussion was held about changing the wording under "strategies for removing habitat barriers" on the bottomlands impact statement. Change to "encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas."

POPULATION

RMEF: Panguitch Lake is 3rd highest unit for money spent, but we still have a pretty low population objective. We have done more on this unit, and have a lower population and it seems like we could raise it up a little bit- gradually as all of these projects have been implemented. Then we can keep track of trends and be responsible in how we are raising it. We could gradually raise this up.

LOA: Looking at the migration patterns and count those that have migrated and take those into consideration.

Landowner: why are we below objective?

Farm Bureau: concerned that we are killing too many bulls- spikes and trophy bulls.

SFW- to the federal agencies- are we where we need to be?

USFS- is still at reduced permittee grazing levels.

Landowner Assoc - if we keep livestock where they are, we can keep the elk where we are. But we should always consider where the permittees are in relation to the elk population.

USFS- lets get to the 1100 and then consider an increase. Let's just maintain, because of our permittees.

Landowner- if we set that 1100 are we locked in at 5 years? We shouldn't be locked in. Lets get more of these habitat projects implemented on the ground, then let's talk about an increase.

Landowner Assoc. - what about the 2 year growing season placed on livestock? To get livestock back to full allocation…….cows are sitting on riparian areas. Treatments are helping, but the water is also crucial. The drought situation has also made it difficult to sustain livestock numbers, but the elk have maintained….now we are seeing the elk decline.

Landowner - livestock is easy to manage compared to elk. We go get our cows…..but there is no way to harvest the

elk or get them off there if needed. We should probably manage both cows and elk on worst case scenario. This summer has been a spectacular summer….so we can't base it on this.

BLM- what about putting some incremental increases into the plan depending on vegetative conditions. Staged increases over time bases on vegetation.

USFS reads transects annually. BLM reads them now and then based on renewals.

Landowner- 1947 they introduced elk onto Dutton. Livestock operators took a 50% cut. We are now supporting 68,000 elk now. The elk are there year round, the livestock are there 4 months. These ranges are supporting a LOT more than we were back in the day. I think the sheep affecting it more than the cows since they eat grass shorter. Bottom line, a lot more animal units on the ground these days.

Commissioner- a lot of PJ encroachment.

SFW- we are dumping a lot of money into projects. We want to do what is best for both livestock and wildlife. We need to ramp up the habitat projects. Lets increase our projects and then consider getting there. Deer/elk competition: what is going on? Is there a conflict. The Parowan Front is different than the east side of this unit.

The following comments where made from everyone when asked how many wintering elk should be on Panguitch Lake in their opinion and why:

- MDF- 1100 – too much spike harvest and we need to alternate years for spike hunting.
- RMEF – 1250 - Get to the target first and then increase the target responsibly. End goal should be to increase.
- RAC – 1300 – increase should be tied to permittee and AUM's
- SFW – 1250-1300 – increase due to dollars invested in the unit. Need fewer bulls permits, no spike hunting, implement a management bull hunt. If we lose sportsmen money, we're in trouble. Work together to get the increase.
- Local Sportsmen – 1100 – decrease the bull permits to get back to trophy level. Trophy level could be better. Get the cow permits back.
- USFS (Veronica) – 1100 – Balance all the interests.
- USFS (Nate) – 1250 – agree with a phased-in approach. Increase to 1250 in 5 years as long as grazing permits are back up and range trend data is supportive.
- Landowner – 1100 – need to give landowners a bull permit that could be sold and would go back unto improving habitat. Comfortable with 1100 until cattle permits are back.
- County Commission – 1100 – Get rid of spike hunt and get back to trophy unit. Cooperation – take care of livestockmen and sportsmen – need to stick together. Need to get the habitat where it needs to be first. Be aggressive in a predator control program and focus on lions.
- Cattlemen Association – 1100 – agrees with local sportsmen. Need to get trophy unit back and balance bull cow ratios.
- Farm Bureau – 1100 – Work together and maybe we can get an increase.
- BLM – 1100 – we have made progress over time but there is still work to do. Long term goal should be to increase.

RECREATION

RMEF – people are not harvesting because they are not finding trophy class bulls.

SFW – Cannot use most effective weapon during the most susceptible time – need to balance quality and opportunity. Move the rifle hunt out of the rut.

Local Sportsmen – Very few trophy bulls left on the unit. Would like to see it better.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 29
Zion
May 2012

BOUNDARY DESCRIPTION

Iron, Washington and Kane counties - Boundary begins at I-15 and the Utah-Arizona state line; north on I-15 to SR-14; east on SR-14 to US-89; south on US-89 to US-89A; south on US-89A to the Utah-Arizona state line; west on the Utah-Arizona state line to I-15.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	12,512	7	0	0
Bureau of Land Management	21,861	35	13,014	8	14,550	47
Utah State Institutional Trust Lands	7,318	12	2,184	1	2,389	8
Native American Trust Lands	0	0	0	0	2,088	7
Private	33,446	53	133,459	79	5,978	20
Water Resources	0	0	43	>1	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	184	<1	8,765	5	5,611	18
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	11
TOTAL	62,809	100	169,979	100	30,616	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

A major portion of the Zion Elk Herd is located on private land. Consequently, the herd objective will be determined and maintained by working with the private landowners in the area. Most key landowners contact the DWR annually between August and October for issuance of mitigation elk permits. At that time there is an opportunity for dialogue to exchange ideas and information about the population status, age structure, and productivity of the herd. Habitat concerns and access problems/solutions can be discussed at this time.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives.
Work with federal agencies, Utah State Division of Lands and private landowners on habitat improvement projects to maximize hunting opportunities on this unit.
Work with federal and local agencies on road management plans to minimize the density of roads on the public portions of this unit to provide better security for elk.

Population

Target Winter Herd Size - Achieve and maintain wintering population of 300 elk.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat on this unit is currently stable at this point. The elk population on this unit is currently limited by the tolerance of the private landowners. Because this is a private rangeland unit, it is perceived that the elk are competing for livestock forage at this time. Reported fence damages are also an issue.

Population

An aerial survey was conducted on this population in January 2008. At that time the population was estimated to be near 500 elk. UDWR implemented increased hunting seasons and permit numbers to address the overpopulation of elk in the 2009 and 2010 seasons with 300+ permits being issued to both public and private landowners. For 2011 the two hunt structure was maintained and permits were reduced to around 150. Another survey was completed in January 2011. The wintering population at that time was estimated to be 275 elk. The population has been reduced and will be stabilized at 300.

Age structure has not been monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since a large portion of the unit consists of private land, no classification or age information is being collected.

Harvest of this unit is low because of the lack of public access to the private lands. In 2011 bull hunting success was 9% success with over 700 hunters. Hunter success for antlerless elk is much higher. In 2011, DWR had 2 public hunts, with 25% success on 50 permits in October and 41% success on 50 permits in November/December.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Crop Depredation - Depredation may be a limiting factor in localized segments of the unit. The DWR will take all steps necessary to minimize depredation as prescribed by state law and DWR policy.

Habitat - (winter/summer range conditions) Competition between elk and livestock on private rangelands may be a limiting factor. Excessive habitat utilization will be addressed.

Illegal Harvest - Illegal harvest does not seem to be a significant problem from a population standpoint.

Predation - Predators seem to have little impact on the Zion elk herd although it is thought that a few are kill by mountain lions on the winter ranges.

Highway Mortality - Although there is some highway mortality, it is not a limiting factor for the Zion elk herd.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

With a major portion of the Cedar Mountain area under private ownership, very few range-trend studies have been conducted on the unit. Vegetative monitoring will be the responsibility of the Cedar City District of the Dixie National Forest and the Dixie Resource and Kanab Resource Areas of the Cedar City District of the BLM. Results of the vegetative monitoring will indicate areas where some herd reduction may be necessary.
DWR will cooperate with land management agencies and private landowners to identify critical areas and work together to maintain and enhance elk habitat. DWR will promote, encourage, and participate, where possible with the USFS, BLM, and private landowners in vegetative manipulation projects that enhance elk habitat. The Zion Elk Committee has suggested that the DWR be a participating partner in the Cedar Mountain Initiative and work with landowners on larges-scale aspen regeneration projects.

Population

Population Size -The population will be monitored by doing an aerial helicopter survey during the winter months. If funds are available, helicopter counts would be used every third year. As a data base is established for the unit, population models will be used to fine tune management objectives for the unit. Work with key landowners in the core area to establish antlerless permit numbers that will maintain elk numbers at acceptable levels for the area. Major portions of the population occur in the Deep Creek, Crystal Creek, Kolob Reservoir and Virgin Flats area. Smaller populations of elk are located on scattered areas from Kolob Reservoir along the western portions of the range to the head of Shurtz Canyon. The summer elk population is most likely more than 300 due to interchange from the Panguitch Unit to the north of highway 14.

Bull Age Structure -Age structure will not be monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since a large portion of the unit consists of private land, no classification or age information is being collected.

Harvest -The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved by use of antlerless harvest, using a variety of methods including mitigation permits. DWR will devise a program to monitor the harvest on mitigation landowner permits issued. A general season open bull hunt is the preferred hunt strategy because this unit consists of a major portion of private land with limited access. Managing for open bull hunting appears to be the only way to assure that people with permits can obtain permission to hunt these private lands.

Actions to Remove Other Barriers

Work with the land management agencies, public land grazers and private landowners to determine if the objective is reasonable and attainable. Work with private landowners to ensure depredation is held within tolerable levels, and will not become a limiting factor.

Comments/notes from the Zion Unit Elk Committee that was assembled in October of 2012

-Are there youth opportunities for mitigation vouchers?
-Need to work with landowners to allow access to keep population in check. This is crucial.
-Illegal trespass is a huge deal. In a lot of instances landowners ignore trespass so they don't have any backlash.
-We need to do more habitat projects to better spread and disperse elk.
-BLM and Forest Service need to do more projects for aspen regeneration and pinion and juniper removal.
-Can NRCS or conservation permit money help private landowners with fence damage issues.
-Need to fly adjacent unit in same years to make sure we are keeping track of all the elk that are affecting the Zion Unit.
-Work with grazers to protect their interests.
-No groups supported an increase in the herd unit objective.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 30
Pine Valley
May 2012

BOUNDARY DESCRIPTION

Iron and Washington counties - Boundary begins at I-15 and the Utah-Arizona state line; north on I-15 to SR-56; west on SR-56 to the Lund Highway; northwest along the Lund Highway to the Union Pacific railroad tracks at Lund; southwest on the Union Pacific railroad tracks to the Utah-Nevada state line; south on this state line to the Utah-Arizona state line; west on this state line to I-15.

LAND OWNERSHIP

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	0	0	0	0	0	0
Bureau of Land Management	0	0	0	0	0	0
Utah State Institutional Trust Lands	0	0	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	0	0	0	0
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

UNIT MANAGEMENT GOALS

The Division will not actively manage for increased elk numbers on this unit. If depredation occurs in agricultural areas, those cases will be handled aggressively.

UNIT MANAGEMENT OBJECTIVES

Habitat

A public committee including sportsmen, landowners, grazers and public land managers assembled by the DWR agreed that the habitat on this unit should not be actively managed for increased elk populations.

Population

Target Winter Herd Size - Manage for no more than 50 elk.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat in the northern portion on this unit is currently stable at this time. It is desired that it not be managed for elk at this time.

Large areas in the southern portion of this unit have been affected by wildfires in the past 10 years and several thousand acres of mule deer winter range has been negatively impacted.

Population

The elk population on this unit is currently estimated at 50 animals. Small populations have been reported to exist in the Horse Valley/Mt. Meadow and Studhorse/Crestline areas of this unit. Sightings of a few elk in the New Harmony area have been reported. Depredation permits were issued to large tract/agricultural landowners and the sighted animals were removed.

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size -The population will be monitored by conducting an aerial helicopter survey during the winter months every 3 years if funds are available. As a database is established for the unit, population models will be used to fine tune management objectives for the unit. Due to the small size of the herd and priority of other units no helicopter surveys have been done.

Bull Age Structure -Age structure will not be monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since the population is so small and therefore difficult to locate, no classification or age information is being collected.

Harvest -The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved by use of antlerless harvest using a variety of methods including mitigation permits. DWR will devise a program to monitor the harvest on mitigation landowner permits issued. A general season open bull hunt is the preferred hunt strategy to make sure that the population is kept down to the objective and to maximize hunter opportunity.

Depredation problems will be handled under the rules set down in Utah Code and Rules.

Limiting Factors (May prevent achieving management objectives)

Crop Depredation - Depredation may be a limiting factor in localized segments of the unit. The DWR will take all steps necessary to minimize depredation as prescribed by state law and DWR policy.

Habitat - (winter/summer range conditions) Competition between elk and livestock on private rangelands may be a limiting factor. Excessive habitat utilization will be addressed.

Illegal Harvest - Illegal harvest does not seem to be a significant problem from a population stand point.

Predation - Predators seem to have little impact on the Pine Valley elk herd.

Highway Mortality - Although there is some highway mortality, it is not a limiting factor for the Pine Valley elk herd.

Comments from the Pine Valley unit elk committee that was assembled in October of 2012

Sportsman for Fish and Wildlife – group would prefer management of this unit be focused on mule deer.

Sportsman for Fish and Wildlife – consider using antlerless control permits on this unit to stay at objective.

Sportsman for Fish and Wildlife – Youth any-bull hunt has been really positive. Possibly offer a cow permit along with their bull permit.

Mule Deer Foundation – wouldn't bother MDF if unit was managed for a population objective of zero elk.

BLM - support keeping elk populations on the northern end of the unit at low numbers

BLM – priority is to manage BLM lands between New Harmony and Enterprise (and south of highway 56) as mule deer habitat.