WILDLIFE MANAGEMENT UNIT 24 - MT. DUTTON

Boundary Description

**Garfield and Piute Counties** - Boundary begins at the junction of Highways US-89 and SR-62; then south on US-89 to Highway SR-12; then east on SR-12 to the Widtsoe-Antimony road; then north on this road to Highway SR-22; then north on SR-22 to SR-62; then west on SR-62 to US-89 and beginning point.

Herd Unit Description

The Dutton Unit is located at the southern end of one of several high plateaus in southern Utah that are the result of a long succession of volcanic activity which centered in the Tushar Mountains and extended south and east to create the Kolob, Sevier and Aquarius Plateaus. Table Mountain is an example of a lava capped plateau on the north end of the unit. Non-marine sedimentary rocks form the parent material for the soils at lower elevations on the southern and eastern portions of the unit. Mt. Dutton rises to an elevation of 11,036 feet near the center of the unit. The reader is directed to review the herd unit description given by Huff and Bowns (1965) for information on the major drainages, municipalities and the limits of normal and severe deer winter range. Huff and Bowns (1965) identified the vegetation composition of normal and severe deer winter range. The acreages for each type are presented below.

ACREAGE OF VEGETATION TYPES FOR NORMAL AND SEVERE WINTER RANGE

| Vegetation Type | Acres | % |
|---|---|---|
| Pinyon-Juniper | 97,500 | 66 |
| Sagebrush | 32,000 | 22 |
| Mixed Types | 10,900 | 8 |
| Sagebrush-Rabbitbrush | 900 | 1 |
| Seedings | 1,900 | 1 |
| Agricultural Lands | 2,600 | 2 |
| TOTAL | 145,900 | 100 |

The 1998 deer and elk management plans estimate 131,752 acres of deer and 114,892 acres of elk summer range on the unit. The majority of the summer range for deer and elk is on land administered by the U. S. Forest Service, 94% and 99% respectively. Deer and elk winter range is estimated at 159,508 acres and 71,951 acres, with most being on Forest Service lands, 51% and 70% respectively. BLM administered lands make up most of the remainder of deer and elk winter range.

Key Areas

Key winter range areas for deer were identified by the local interagency committee during the spring of 1987 and include the following areas: North Pole Canyon, Deer Creek Bench, North Bull Rush, Mud Springs, Cow Creek, and the Marshall Basin chaining. The elevation of these key areas range from 6,500 to 7,300 feet. Range types included in the monitoring effort are pinyon-juniper (chained and seeded), Wyoming big sagebrush, and black sagebrush.

Key areas for elk during the winter and summer periods were also identified by the local interagency committee and include: Suicide Pasture, Table Mountain, Cow Creek, Mud Spring Ridge, Barnhurst Ridge,

and Prospect Pasture. These sites range in elevation from 7,200 feet for winter range in Cow Creek to 9,600 feet for summer range in Suicide. The range types included in the monitoring effort are mixed alpine, black sagebrush, and mixed mountain brush.

Activities which have greatly influenced the vegetation composition on these key areas are livestock grazing, range seedings, prescribed burning, and logging. Since livestock grazing has impacted every key area, a discussion of the allotment management plans for each area gives important background information for these sites. **The following discussion comes from the 1997 Range Trend Report and grazing information was current in 1997. Actual dates and numbers of grazing animals may have changed since.**

Livestock Grazing Summary

East Pines - C & H Allotment

Prior to 1954, sheep and cattle used the area now included in this allotment. Approximately 5,770 acres were dixie harrowed or plowed and seeded from 1949 to the early 1950's. From 1954-68, the unit was grazed on a deferred rotation system. Since 1968, it has been grazed by cattle only on a three pasture, rest-rotation system involving the Showalter, West Hunt, and East Hunt pastures. The Mud Spring trend study is located in the Showalter pasture. The Allotment Management Plan, prepared in 1965 and updated in 1977 found 23% of the pasture to be in good condition, 70% in fair condition, and 7% in poor condition. About 50% of the pasture which is suitable for livestock grazing was seeded in the early 1950's. The permittee uses this Forest Service allotment 6/1 to 10/10 and then grazes state land adjacent to U.S. Forest Land in Johns Valley in the fall from 10/10-12/1.

Hunt Creek

Cottonwood S & G Allotment

The allotment has been grazed by livestock since the 1860's. Livestock numbers have fluctuated from 50 to 140 cows and from 800-1,750 sheep. In addition, cattle drift in from adjacent areas to increase the level of use in the area. In 1953, the allotment was allocated to sheep only. From 1953-59 the allotment was composed of the West Hunt Creek S & G Allotment and the Prospect Creek - Spring Creek S & G Allotment. Active preference for the two units was 1,148 sheep from 6/15-9/30 each year (803 AUMs). In 1960, these two units were combined to form the Hunt Creek S & G Allotment. Stocking levels were reduced to 595 AUMs for the same period of use. In 1965, the same number of AUMs were authorized for a shorter grazing period (7/1-9/30). In 1981, the allotment was combined with the Cottonwood S & G Allotment. Numbers were changed to 1,200 from 6/16-10/10 (932 AUMs). Prior to this time, 400-450 AUMs had been allocated for sheep use in the Cottonwood Allotment since 1962. The Barnhurst Ridge trend study is located in the West Hunt Pasture which is grazed by 930 cattle as part of a 5 pasture deferred rotation grazing system.

Widtsoe C & H Allotment

The population in Johns Valley reached a peak population of 1,200 in 1915 as homesteaders attempted to dry farm. Lack of sufficient moisture forced the settlers to move. By 1935, most of the homesteads were purchased by the government through the Resettlement Act and returned to federal ownership. In 1960, an executive order gave sole jurisdiction of 14,825 acres to the BLM and 11,783 acres to the U.S. Forest Service. The Widtsoe Allotment was described as a separate unit and included inside the U.S. Forest Service boundary at that time. The unit was divided into three pastures in 1968 following the treatment of approximately 8,200 acres of sagebrush rangeland. A 1977 updated AMP shows that 88% of the treated area is in good condition, and 12% is only in fair condition. The native range (1,139 acres) is considered to be in fair condition, and 500

acres dominated by rabbitbrush are listed as being in poor condition.

The Prospect trend study is located in the lower Prospect Pasture which is grazed by 337 cattle from June 1st to October 10th, as part of a three pasture deferred rotation system. The number of elk using this allotment has increased over the years during late winter and early spring months.

Jones Corral C & H Allotment

The Mud Springs, Jones Correl, and Suicide trend studies are located in the Mud Springs Division of the Jones Corral C & H Allotment. The Mud Springs site was chained and seeded in 1975 (2,418 acres). The Jones Corral Enclosure was also seeded.

The Mud Springs C & H allotment was established in 1969. Prior to 1955, seven permittees grazed 110 cattle season long. The cows drifted to higher elevations and caused overstocking problems in the vicinity of Jones Corral. Prior to the creation of the U.S. Forest Service, the Jones Corral area was grazed by a large number of sheep. It has since been converted to cattle and is the middle unit of a 3-pasture deferred rotation system involving two pastures in the Mud Springs chaining. Currently, the Mud Springs part of the unit is grazed by 208 cattle sometime between June 1st to October 10th depending on the rotation. Cattle do not get on to the Suicide area until mid-July.

Deer Creek Sheep Allotment

Three units make up this allotment: Horse Valley, Table Mountain and Deer Creek. The Marshall Basin trend study is located in the Horse Valley Unit, although the chained area has been set aside for wildlife. The Table Mountain study is located in the Table Mountain Unit.

The Horse Valley Unit was grazed with cattle and horses prior to 1922. After 1922, it was switched over to sheep use, and numbers varied from 1,076 prior to 1924 to 900 in 1931 following a 10% reduction. Table Mountain has always been sheep range. Cattle have drifted from the Jones Corral Unit onto Table Mountain, and sheep have drifted into the cattle allotment. For the past few years, sheep have been kept off the Table Mountain area.

Pine Creek Allotment - BLM

This allotment historically has provided spring and fall range for cattle. For the grazing history of this area and the percent composition of the various condition classes for suitable grazing land, the reader is referred to the BLM Resource Management Plan for the area. Active preference is 691 AUM's on the federal portion and 62 AUM's on the state with spring and fall cattle use.

The North Pole Canyon and Cow Creek trend studies are located on state land adjacent to this allotment.

Herd Unit Management Objectives

The current management objectives for deer are to achieve a target population size of 2,700 wintering deer with a post season buck to doe ratio of 15:100 and 30% of these bucks being three point or better. The elk management objective is to achieve a target winter population of 1,500 elk with a minimum post season bull to cow ratio of 14:100 and at least 7 of these bulls being 2 ½ years of age or older. The bull elk harvest objective is to provide opportunity for a 60% bull harvest success ratio and 40% of the harvest being 2 ½ year or older bulls. The bull harvest will be managed to average 5-6 year old animals.

Herd Unit Status

The buck deer harvest averaged 201 between 1990 and 1995. This is a major decline from the previous four years (1986 to 1989) which averaged 565 bucks harvested per year. The fawn/doe ratio was marginal with 49 fawns/100 does estimated during the 1994-95 and 1995-96 seasons. Since 1991-92, the ratio has averaged only 54 fawns/100 does. Poor fawn production was also found in 1989-90 and 1990-91 at 34 and 42 fawns/100 does respectively. Prior to those years fawn production was much higher averaging 72 fawns/100 does between 1986-87 and 1988-89.

The Mount Dutton unit is a limited entry elk unit. Harvests averaged 41 bulls between 1991 and 1995. Antlerless permits have been issued during each season with the exception of 1992. A high of 500 antlerless permits were issued in 2003. Elk calf production has improved since the severe winter of 1991-92 when only 20 calves/100 cows were estimated. In 1994-95, that ratio increased to 52 calves/100 cows.

Study Site Description

A total of 11 trend study sites were established on the unit in 1987. Most of these sites were reread in 1991, 1997, and 2003. Two additional studies were established on the unit following 1987. One study was established in 1998 to sample a prescribed burn on a conifer/aspen vegetation type on the right fork of Sanford Canyon. The other study was established near the Jones Correl exclosure in 2003 to monitor an area heavily used by elk and livestock. Study sites monitor important winter, spring/winter, and summer range for elk and deer. A site description for each site follows along with data tables and a discussion of trends taking place.

## SUMMARY

## WILDLIFE MANAGEMENT UNIT 24 - MT DUTTON

Eleven trend studies were read in the Mount Dutton Wildlife Management unit in 2003. Nine of these studies were originally established in 1987 and reread in 1991, 1997, and 2003. Seven of these trend studies sample winter ranges. One site, Mud Spring, monitors a transitional range and Table Mountain and the new site at Jones Corral, sample summer range. A special study, Sanford (24R-1), established in 1998 samples an aspen/conifer area which was burned in 2002. This site was reread in 2003.

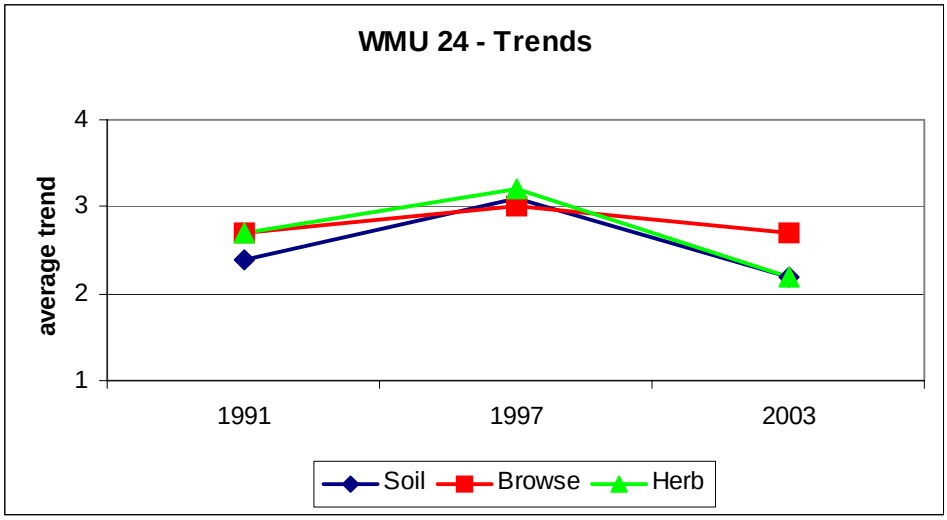
Unit trends are very similar to 1991 which was at the end of a drought period. Each site's trends are rated on a 1 to 5 scale; 1 being a down trend, 2 being a slightly down trend, 3 is stable, 4 is slightly up, and 5 is up. Average soil trends are slightly down overall with an average value of 2.2. Five of the trend studies had stable soil trends while 5 sites displayed declining soil trends. One unit wide trend noted in 2003 was an increase in average soil temperature. Average soil temperature for all sites in 1997 was 54.4°F increasing to 67.3°F in 2003, a 13 degree increase. This would indicate dry soil profiles in 2003 which makes shrub recruitment especially difficult and causes stress on herbaceous plants. The reason for the difference in average soil temperature is precipitation trends. Weather station data from around the unit (see precipitation graph below) show that spring precipitation (April - June) in 1997 was 136% of normal. In 2003, spring precipitation was only about 45% of normal. In addition, spring precipitation has been well below normal, averaging only 46.5% of normal, for the past 4 years (2000-2003). The year 2002 was especially dry. Annual precipitation in 2002 was only 77% of normal and spring precipitation was only 22% of normal. Precipitation is the main driving force for the trends on the unit.

Browse trends averaged 2.7 or slightly down. Four sites had downward trends for browse, 4 others were stable, and 2 sites showed improving trends. Average percent decadence of sagebrush, the key browse species, on the winter range sites more than doubled, increasing from 25% in 1997 to 56.5% in 2003. Young recruitment, on winter range sites, dropped nearly 6 fold from an average of 553 young plants/acre per site to 97 plants/acre.

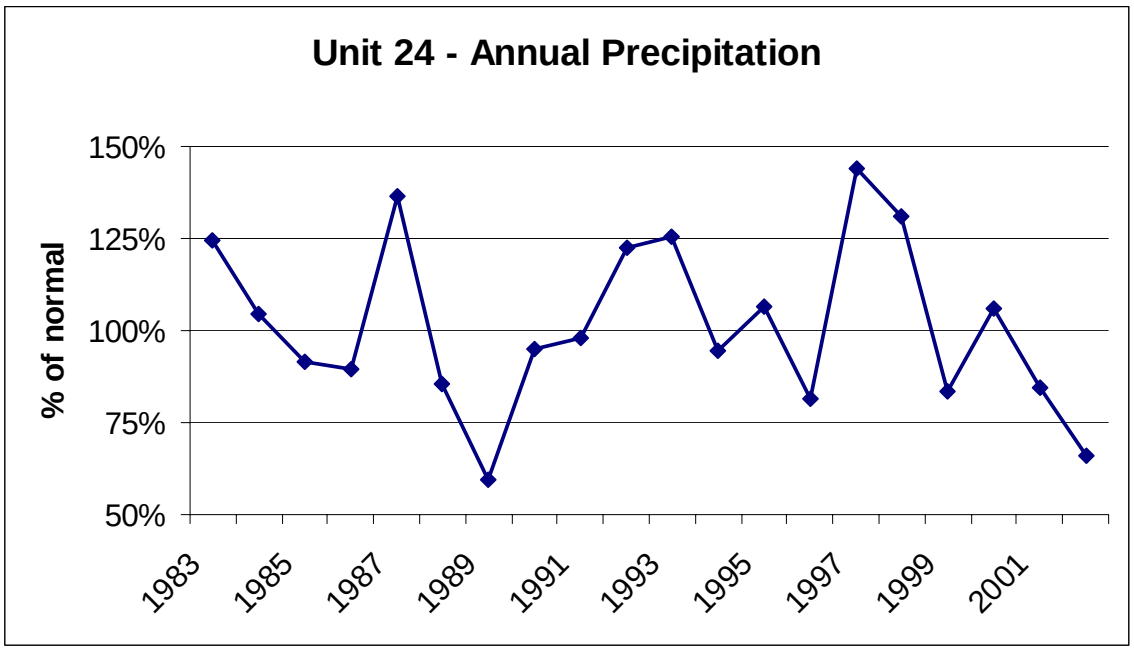
Herbaceous trends were slightly down overall averaging 2.2. Six trend studies had a downward herbaceous trend while 3 sites were stable and only 1 site, North Pole Canyon, was upward. The upward herbaceous trend on North Pole Canyon was due to an increase in the warm season grass, blue grama. Poor spring but more normal summer precipitation caused warm season grasses to increase on a few sites while cool season grasses have declined on 4 sites. Three trend studies, Mud Spring Chaining (24-4), Prospect Seeding (24-4), and Marshall Basin (24-12), had a decline in the cover and frequency of crested wheatgrass. Overall, average cover of perennial grasses remained similar to 1997 (11.4% to 11.3%). Sum of nested frequency declined slightly overall. Winter ranges on this unit all have very poor forb cover and frequency. Average forb cover was poor at less than ½ of 1% estimated at only 0.23% in 1997, declining to 0.08% in 2003. Forb cover and frequency were much higher on the summer and transitional range trend sites but drought conditions have caused a decline here as well. The summer range site at Table Mountain showed a 37% decline in forb cover since 1997 while forb cover at the transitional range site, Mud Spring, declined 22%.

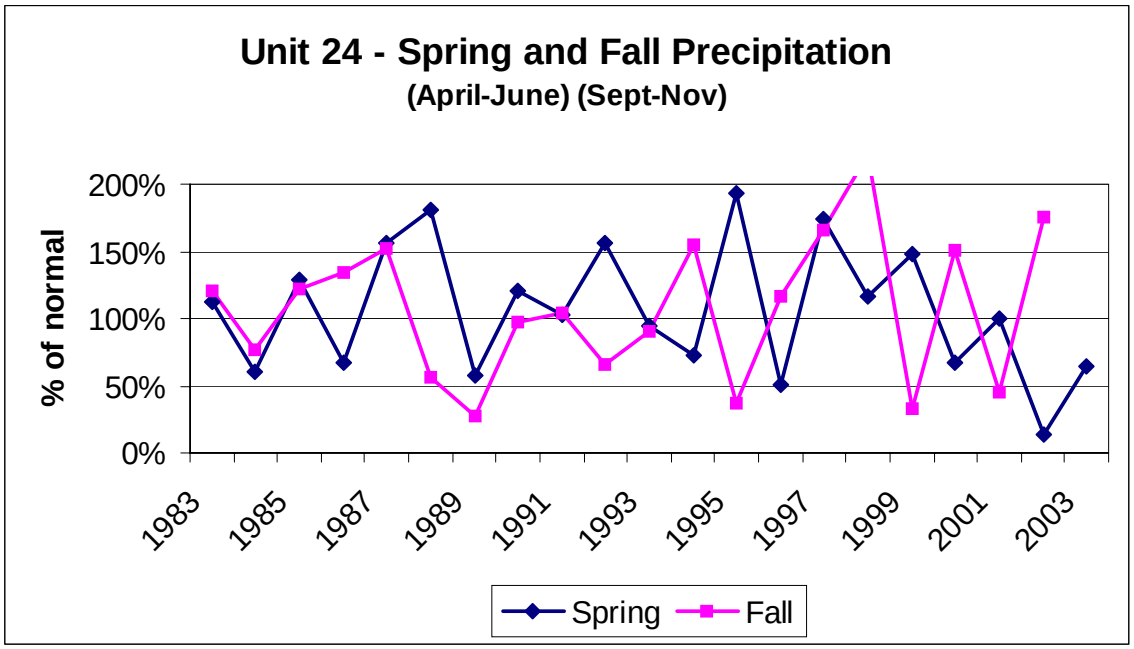
North Bull Rush (24-3) and Prospect Seeding (24-8) are the only regular trend studies that showed declining trends in all categories. The Wyoming big sagebrush at Prospect Seeding is in extremely poor condition and it appears that sagebrush will die out completely in the near future. The special study, Sanford, samples an aspen/conifer prescribed burn. It was first read prior to the fire and the downward soil and herbaceous trends found in 2003 are due to the burn treatment. Precipitation graphs and trends for each study site can be found below.

| | Unit 24 Average Trends | | |
|---|---|---|---|
| | 1991 | 1997 | 2003 |
| Soil | 2.4 | 3.1 | 2.2 |
| Browse | 2.7 | 3.0 | 2.7 |
| Herb | 2.8 | 3.2 | 2.2 |
| | 9 sites | 9 sites | 10 sites |



Below are precipitation graphs for the Dutton unit. Data represents percent of normal precipitation averaged for 4 weather stations which include Angle, Bryce National Park, Circleville, and Panguitch (Utah Climate Summaries 2004).



Trend Summary

| | Category | 1987 | 1991 | 1997 | 2003 |
|---|---|---|---|---|---|
| 24-1 North Pole Canyon | soil | est | 3 | 3 | 3 |
| | browse | est | 1 | 4 | 1 |
| | herbaceous understory | est | 2 | 3 | 4 |
| 24-2 Deer Creek Bench | soil | est | 2 | 4 | 3 |
| | browse | est | 2 | 3 | 3 |
| | herbaceous understory | est | 2 | 4 | 3 |
| 24-3 North Bull Rush | soil | est | 2 | 3 | 2 |
| | browse | est | 1 | 2 | 2 |
| | herbaceous understory | est | 2 | 3 | 2 |
| 24-4 Mud Spring Chaining | soil | est | 2 | 3 | 3 |
| | browse | est | 5 | 3 | 3 |
| | herbaceous understory | est | 3 | 3 | 3 |
| 24-6 Table Mountain | soil | est | 4 | 3 | 1 |
| | browse | est | 4 | 5 | 3 |
| | herbaceous understory | est | 4 | 3 | 1 |
| 24-7 Cow Creek | soil | est | 2 | 3 | 3 |
| | browse | est | 2 | 2 | 2 |
| | herbaceous understory | est | 2 | 3 | 3 |
| 24-8 Prospect Seeding | soil | est | 3 | 3 | 1 |
| | browse | est | 1 | 2 | 1 |
| | herbaceous understory | est | 2 | 4 | 1 |
| 24-9 Mud Spring | soil | est | 2 | 3 | 3 |
| | browse | est | 5 | 2 | 5 |
| | herbaceous understory | est | 3 | 3 | 2 |

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established, susp = suspended, NR = not read

| | Category | 1987 | 1991 | 1997 | 2003 |
|---|---|---|---|---|---|
| 24-12<br>Marshall Basin | soil | est | 2 | 3 | 2 |
| | browse | est | 3 | 4 | 3 |
| | herbaceous understory | est | 3 | 3 | 2 |
| 24-13<br>Jones Corral | soil | | | | est |
| | browse | | | | est |
| | herbaceous understory | | | | est |
| | Category | | | 1998 | 2003 |
| 24R-1<br>Sanford | soil | | | est | 1 |
| | browse | | | est | 4 |
| | herbaceous understory | | | est | 1 |

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established, susp = suspended, NR = not read