

WILDLIFE MANAGEMENT UNIT 7 - KAMAS

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; west on SR-32 to US-40 near Jordanelle; north on US-40 to I-80; north on I-80 to SR-32 and Wanship.

Management Unit Description

The Kamas herd unit is located between the Uinta and Wasatch Mountains in the north-central part of the state. The 1977 inventory of the Kamas unit, then known as Herd Unit 20, classified 10% of the unit as winter range (Giunta 1979). Boundary changes in 1985 reduced the total acreage and shifted a portion of the winter range north of the Weber River into the Chalk Creek management unit. There was another realignment of the herd unit boundaries again in 1996 and in 2004. Even with these changes, the ratio of winter to summer range has stayed basically the same, with about 10% of the area being classified as winter range. The obvious limiting factor for big game in this management unit is the lack of adequate amounts of good quality winter range. With severe winters, the available range is reduced even further. An example of this problem can be illustrated by the large winter deer losses which occurred during the winter of 1992-93.

The western portion of the unit is primarily privately-owned land. The mountainous portion of the unit is managed by the U.S. Forest Service. The Kamas Wildlife Management Area is administered by the DWR. For deer, over 67% of the winter range is under private ownership. The Forest Service manages another 28% of the normal winter range. There is abundant summer range in the Uinta Mountains to the east. These mountains contain the headwaters of the Weber and Provo Rivers, which flow west through the Rhodes and Heber Valleys. The south and west exposures along these rivers, in addition to land along Beaver Creek and the mountain face east and north of Kamas, provide the major deer wintering areas.

Because of the varying topography, the deer winter range is separated into several distinct areas. The upper limits vary considerably, but lower limits generally follow the canyon bottoms, roads, and the upper limits of cultivated land. Wintering areas north of the Weber River, on the Kamas face, Beaver Creek, and the Provo River, have long been recognized as critical to the deer herd on the western edge of the Uinta Mountains. However, there has been a controversy regarding which deer use the Weber River winter range. Data on migration patterns led to the boundary change which shifted this important winter range into the Chalk Creek unit. An area south of Wanship that was surveyed as winter range in 1977 was not considered winter range on the 1984 herd unit map, but the area was sampled with study 7-1 in the past. For a complete and detailed description of all the winter range areas and vegetation types sampled, consult the 1977 Range Inventory (Giunta 1979). The report includes an acreage breakdown by vegetation type and geographic area.

Fourteen different vegetation types were classified, but only nine of the more important types were sampled in the 1977 inventory. Of those, two emerge as the dominant and most valuable types. Together, the oakbrush and sagebrush-grass types occupied more than 70% of the normal winter range. The oakbrush type, dominated by Gambel oak with big sagebrush, serviceberry, and snowberry as the subdominant associates, is often found at the more mesic, higher elevations. The oakbrush range condition, in 1977, was considered generally satisfactory and exhibited light to moderate deer use. Sagebrush-grass, the second most abundant type, often occurs interspersed with the oak type. It normally occupies the lower, especially critical portions of the winter range. Much of the lower areas have been converted to cropland or are heavily grazed by livestock. Other important types include the rather depleted sagebrush type and a significant mountain brush stand on the south-facing slope of Pinyon Canyon.

Big Game Management Objectives

Management objectives for deer are to keep the herd in balance with the available range, which includes a yearly harvest of 1,300 bucks with normal conditions. The number of antlerless deer permits would depend on targeted population goals (9,000 wintering deer, modeled number) and condition and trend of the winter range. Management objectives for elk are to achieve a target population size of 650 wintering elk under normal conditions (modeled number), with a bull to cow ratio of 8:100, and with at least 4 of these bulls 2½ years of age or older. To maintain these target populations, antlerless and either sex permits and a variety of harvest methods and seasons will be used (1998 Utah Big Game Management Plan).

The lack of winter range is the major limiting factor for the deer herd in this unit. A major concern is the continuing loss of habitat to housing and agriculture centered on private lands. Other management concerns for both deer and elk include increases in road building and the resultant highway mortality, minimizing crop depredation by wildlife on private lands, and predation. Overuse by both livestock and big game has led to a deteriorating range condition in many critical locations.

The key solution to the deer problems on the herd unit is the protection of the remaining critical winter range. Land purchase in this unit is a high priority of the Division's land acquisition program. The Division has made purchases of critical land east of Kamas in which improvements should be made to enhance the quality of the range. It will be necessary to work with private landowners to discourage overgrazing, and insure hunter access and adequate depredation protection.

Range Trend Studies

There are seven trend studies in management unit 7. Five of these were established in 1984. Two trend studies near Jordanelle Reservoir were in unit 7, but boundary changes have moved them to unit 17 and will be monitored with the Central Region. Trend studies in this management unit were reread in 1990, 1996, 2001, and 2006. One study, Stevens Hollow (7-1), was discontinued in 2001 by request of the Division biologist who manages the unit. The area surrounding the Stevens Hollow study is undergoing extensive development.

SUMMARY

HERD UNIT 7 - KAMAS

Seven trend studies occur in Wildlife Management Unit 7. These studies were established in 1984 and reread in 1990, 1996, 2001, and 2006. In 1996, the Kamas Water Tanks trend study was moved and renamed Elder Hollow (7-10). In 2001, Stevens Hollow (7-1) was discontinued and the trend study, Above Woodland (7-9), was moved to a nearby more suitable location. Due to the change, the Above Woodland trend study is treated like a new site with baseline data available in 2001.

All trend studies sample big game winter ranges, however five trend studies are above 7,000 feet making them available only during normal winters. Two studies formerly in unit 7 (Hailstone and Provo River Canyon) have been moved to unit 17 after boundary changes were made.

Precipitation data at Kamas from the period of range trend sampling shows five years that would be considered drought (less than 75% of normal annual precipitation): 1987, 1988, 1992, 2001, and 2002 (Figure 1). Spring precipitation (April-June) was less than 75% normal precipitation in eight years: 1987, 1988, 1989, 1992, 1994, 2000, 2001, and 2002 (Figure 2). Spring precipitation is critical for herbaceous plants and shrub recruitment. In 2000, spring precipitation (April through June) was only 50% of normal. In 2001, spring precipitation was 72% of normal. Spring precipitation in 2002 was extremely rare at 34% of normal. Trend studies were originally established in 1984 during the middle of an extended wetter than normal period (Utah Climate Summaries 2006).

The cumulative browse trends (Figure 3) for the entire unit showed a close to stable trend until 2001. The average browse trend for 2006 was -1.3. Two studies were stable and four were down. The downward trends in 2006 were due to declines in mountain big sagebrush populations. Average sagebrush density (Figure 4) in 1996 and 2001 was about 1,460 plants/acre and declined to 973 plants/acre in 2006. Average sagebrush decadence (Figure 5) increased from 17% in 1996 to 27% in 2001 and 2006. It appears that as percent decadence increased in 2001 many of these plants had died off by 2006. Average sagebrush cover (Figure 6) also decreased from 10% in 2001 to 8% in 2006.

Drought conditions during 2001 and 2002 may have contributed to this decline. Dry conditions during winter months may have caused sagebrush winter injury (Nelson and Tiernan 1983). Evidence of the sagebrush defoliator moth was also noted in 2006 on the Elder Hollow study.

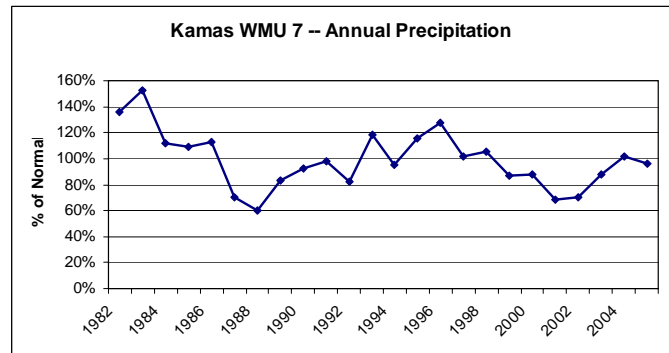


Figure 1. Percent of normal annual precipitation for Kamas, Utah from 1982 to 2006 (Utah Climate Summaries 2006).

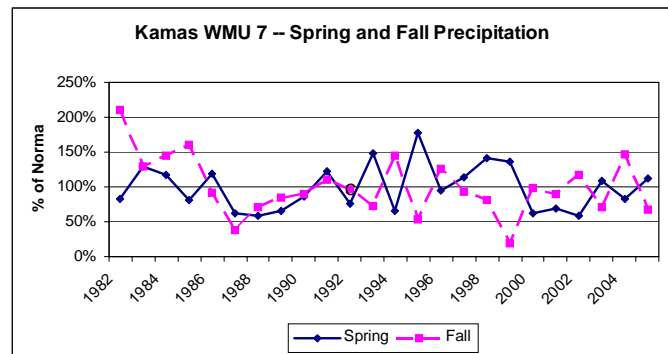


Figure 2. Percent of normal precipitation for spring and fall at Kamas, Utah from 1982 to 2006 (Utah Climate Summaries 2006).

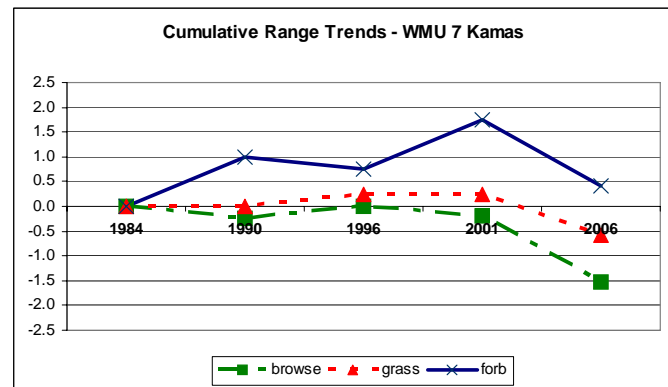


Figure 3. Cumulative range trends for WMU 7 Kamas.

Grass and forb trends have been relatively stable for this unit (Figure 3). The grass trend on average was slightly down in 2006 (-0.8), with an increase in cheatgrass frequency (figure 7). Bulbous bluegrass is only abundant on the Cedar Hollow study. Perennial grasses were only slightly less abundant in 2006. The forb trend was on average slightly down (-1.3) in 2006. Average sum of nested frequency for perennial forbs decreased 17%. Annual forbs increased on half of the trend studies in this unit.

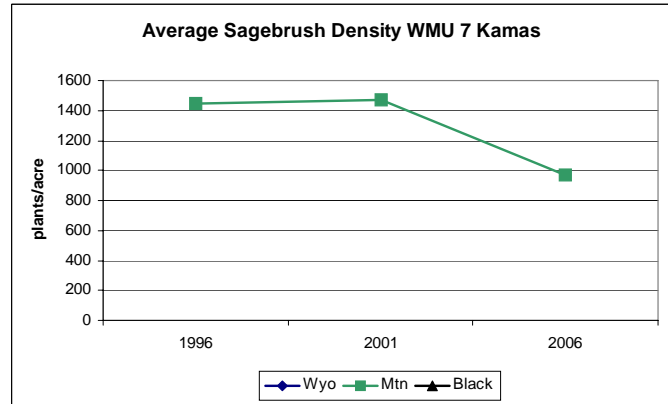


Figure 4. Average sagebrush density for unit 7 Kamas from 1996 to 2006.

The unit wide average Desirable Components Index rating (Figure 9) has remained stable with a fair rating for the three higher potential studies. Greater amounts of preferred browse cover would increase these scores. The mid-level studies ratings were poor in 1996 and 2006. High annual grass cover (Figure 8) contributed to this rating. Decreases in mountain big sagebrush cover (Figure 6) also caused the average rating to decline from fair to poor in 2006.

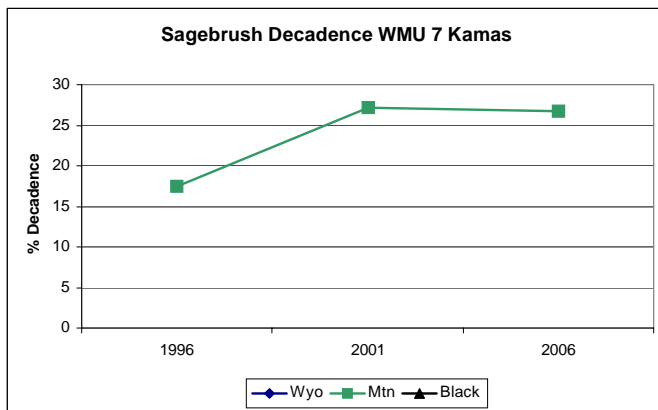


Figure 5. Average sagebrush percent decadence for unit 7 Kamas from 1996 to 2006.

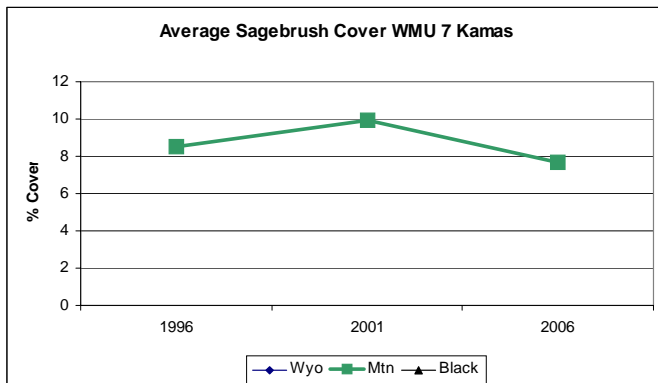


Figure 6. Average sagebrush cover for unit 7 Kamas from 1996 to 2006.

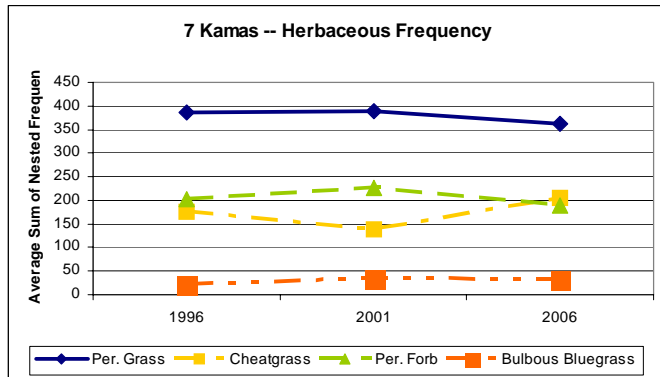


Figure 7. Average sum of nested frequency for perennial grasses, cheatgrass, perennial forbs, and bulbous bluegrass for unit 7 Kamas, from 1996 to 2006.

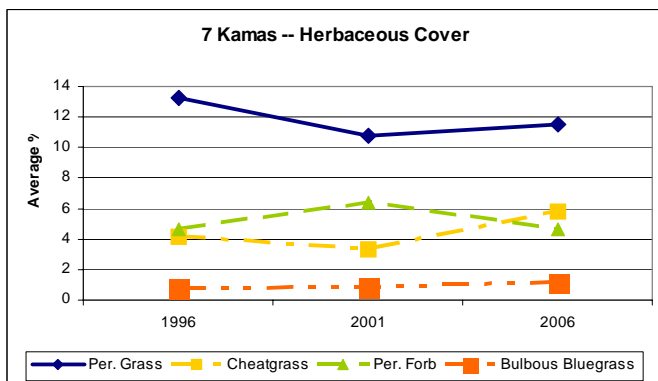


Figure 8. Average percent cover for perennial grasses, cheatgrass, perennial forbs, and bulbous bluegrass for unit 7 Kamas, from 1996 to 2006.

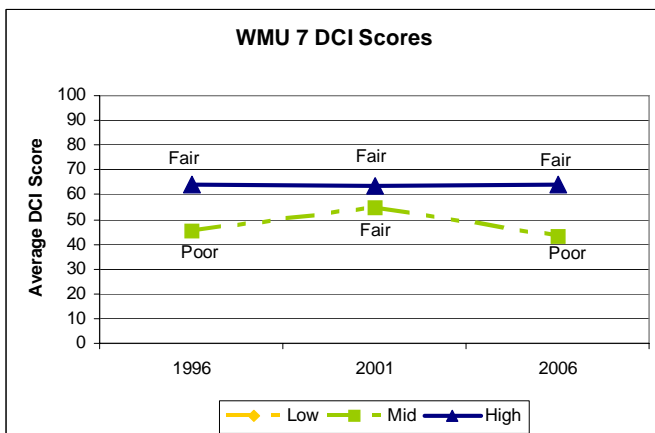


Figure 9. Average Desirable Components Index (DCI) ratings for Unit 7 Kamas, from 1996 to 2006.