

**ELK UNIT MANAGEMENT PLAN**  
**Elk Herd Unit #16**  
**MANTI**  
**2023**

**BOUNDARY DESCRIPTION**

Utah, Carbon, Emery, Sevier, and Sanpete counties - Boundary begins at the junction of US-6 and I-89 in Spanish Fork Canyon; southeast on US-6 to Price and SR-10; south on SR-10 to I-70; west on I-70 to US-89; north on US-89 to US-6 in Spanish Fork Canyon.

**UNIT MANAGEMENT GOALS**

- Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing
- Maintain an elk population consistent with available range resources that are in balance with other range uses such as livestock grazing and watershed protection
- Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies
- 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 from oil and gas development, road construction, urban expansion, increased recreation or other land use impacts

**UNIT MANAGEMENT OBJECTIVES**

**Habitat** - The unit habitat objectives will follow the goals and objectives outlined in the statewide elk plan with the primary goal to "conserve and improve elk habitat throughout the state." This will be done by maintaining sufficient habitat to support elk herds at population objectives, reducing competition for forage between elk and livestock, and reducing adverse impacts to elk herds and elk habitat.

Unit habitat objectives will include:

- 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 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
- Remove pinion-juniper encroachment into winter range sagebrush parks and summer and transitional range mountain brush communities
- 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** - Desired elk population levels are guided by habitat conditions and public tolerance of elk.

**Target Winter Herd Size Objective** - Maintain a wintering elk population of 12,000. This is the same objective as the previous plan.

**Bull Elk Harvest Objectives** - Maintain an average age of harvested bulls between 5.5-6.0 years. Utilize general season spike-only hunting and limited entry any bull hunting to accomplish herd composition objectives. Utilize private lands only permits, depredation permits, and CWMU permits to increase antlerless harvest on private lands.

## **CURRENT STATUS OF ELK MANAGEMENT**

**Habitat** - There are approximately 25 permanent range trend study locations on the Manti unit that occur primarily on elk winter ranges. The Manti unit was read in 2019. 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 on low elevation deer ranges inhabited primarily by deer. Range Trend Study locations at mid elevations where elk typically winter show a better trend. The majority of range trend sites monitored on predominantly elk ranges were in fair to good condition with stable browse and herbaceous understory components. The average of all of the DCI scores on elk winter ranges suggest the winter elk habitat is in fair to good condition.

One of the habitat limiting factors on the unit is encroachment of pinyon juniper into shrub communities. On summer ranges, introduced perennial grasses are present and may become invasive and outcompete native species. Some mountain browse sites are experiencing heavy use by elk which can lead to decreased shrub and herbaceous vigor. The threat of noxious weeds from development, disturbance, and grazing is high on winter ranges.

Cooperative DWR/BLM/USFS spring range rides have shown relatively stable to declining elk utilization patterns on winter ranges with some localized areas being over utilized. Declines in elk use can be attributed to aggressive antlerless harvest that has reduced the overall population and changed migration patterns.

Elk summer habitat appears to be in stable condition. This unit has benefitted from numerous wildfires in the last decade that have promoted early successional species that will likely benefit elk. These wildfires have changed elk distribution and migration patterns. 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. High levels of development and recreation pose risks to habitat from direct loss to introduction of noxious weeds.

Crop depredation by elk on this unit is most pronounced during late winter and spring when elk migrate to low elevation ranges and inhabit irrigated fields at the mouths of most major drainages. Depredation to haystacks, standing alfalfa crops, and fencing can at times be significant. This depredation is mitigated by aggressive antlerless harvest on private lands and payments.

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

### Range Area and Approximate Ownership

Ownership	Yearlong range		Summer Range		Winter Range	
	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
<b>TOTAL</b>	214878	100	536808	100	703996	100

**Population** - The elk population on the Manti unit was reduced to 9300 elk in 2019 as a result of aggressive antlerless harvest the previous several years. Since then, the population has been allowed to slowly increase. The aerial survey data collected in January 2023 suggests a current population of 11,700 elk. Calf production based on summer preseason classification counts has averaged 47 calves per 100 cows over the past 5 years. Limited entry bull harvest on the unit has steadily increased during this period. Despite these increases, the average age of harvested bull has remained stable at 6.6 years. Spike harvest has remained stable.

Year	Population Estimate	LE Bull Harvest (public and CWMU)	Gen. Season Spike Harvest	AVE. Age of Harvested Bulls	Antlerless Harvest
2017	11300	385	257	6.1	468
2018	11300	366	383	6.5	731
2019	9300	364	301	6.4	629
2020	9500	408	292	6.8	537
2021	9900	428	412	6.6	455
2022	11700	451	418	6.6	534

### **BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES**

#### **Habitat -**

- Loss of winter range due to 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
- Conifer encroachment on essential aspen communities
- 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 -**

- Elk / Livestock Competition - Elevated concern about depredation on crops and competition with domestic livestock on rangelands occur when elk are near or above the population objective.
- Harvest Age Objective - Public resistance to increasing numbers of bull hunting permits to reduce average age of harvest to meet the plan objective.

#### **Other Barriers -**

- Agricultural Depredation - Elk on privately owned crops and rangelands may decrease public support for elk on this unit. 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, predation, etc.

### **STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES**

#### **Habitat -**

- 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
- Continue to cooperate with federal agencies to establish natural fire policies that will allow wildfires to burn in beneficial and non-threatening areas to recover lost elk habitat
- Continue to improve forage production on winter range and other shrublands by aggressive pinion-juniper removal
- Support and coordinate with land management agencies on projects that maintain 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
- Continue to cooperate with land management agencies and development interests to attempt to protect key areas and minimize or mitigate 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.

#### **Population -**

- Population Size - The population is monitored using harvest data, aerial trend counts and classification, pre-season classification, and survival estimates
- Bull Age Structure - Monitor age class structure of the bull population through the use of annual pre-season ground classification and winter aerial classification. Average age of harvest will be determined by tooth age data from limited entry 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. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons
- Utilize tools outlined in statewide plan to address elk herds that habitually move into agricultural areas
- Utilize Private-Lands Only permits to achieve adequate harvest on private lands
- Cooperate with private landowners to fence 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 if needed to address depredation and public safety issues by bulls according to DWR depredation policy
- Cooperate with UDOT to pursue funding to reduce vehicle mortalities

**Duration of This Management Plan** - This Unit Management Plan was revised in 2023 following the revision of the Statewide Elk Management Plan. This Unit Management Plan will be revised after the next Statewide Elk Management Plan revision to ensure all current management tools are being used. CWMU operators and landowners requested a mid-plan review and revisions may take place when improved

data or management tools become available, or to address future issues. Unit elk plan goals, objectives, and strategies are constrained within the sideboards set in the Statewide Elk Plan, which supersedes unit plans. It is possible that changes to the Statewide Elk Plan may affect unit plans. Additionally, changes to Utah State Code and/or Administrative Rule may also affect elk unit plans.

Appendix I. Completed and Proposed Habitat Treatment Projects on the Manti Unit, 2016 – 2023.

<b>Habitat Projects</b>		
<b>Completed Projects Fall 2016-Spring 2023</b>		
<i>Project Name</i>	<i>Acres*</i>	<i>Treatment Type</i>
North Springs PJ Removal Phase II	1531	Lop and Scatter
Birdseye WMA Bullhog Project	230	Bullhog
Swasey Wildlife Habitat Improvement and Hazardous Fuels Reduction Project Phase VII	621	Bullhog
Gordon Creek Tamarisk and Russian Olive Removal	427	Herbicide
Spring City Fuels Reduction and Habitat Improvement	533	Lop and Scatter, Bullhog
Willow creek Habitat Improvement and Fuels Reduction	447	Pile and Burn, Bullhog
LeeKay Phase III Land Exchange	5523	Land Acquisition
Swasey Wildlife Habitat Improvement and Hazardous Fuels Reduction Project Phase 8	353	Bullhog
South Horn Wildlife Habitat Improvement Project	609	Bullhog
Grimes Wash Phase 2	111	Bullhog, Seeding
Ephraim Foothills PJ Removal	254	Bullhog
Trail Mountain Wildlife Habitat Enhancement and Aspen Regeneration Project	985	Prescribed Fire
Miller Creek Watershed Restoration	1098	Lop and Scatter, Bullhog, Pile and Burn, BDA, Pond Cleaning
Muddy Creek riparian, wetland, and upland restoration Ph. 1	208	Invasive Species Removal
Willow Fuels Project-Phase 1	801	Bullhog, Herbicide
White Hill WMA Plateau Project	296	Herbicide
Trail Mountain Fire	1500	Seeding
Coal Hollow Fire Rehabilitation Project	4823	Seeding, Chaining
Hilltop Fire Rehabilitation Project	1732	Seeding, Chaining
Pole Creek/Bald Mountain Fire Rehabilitation	5075	Seeding
Dairy Fork Bullhog	505	Bullhog
Six Mile WMA In-House Bullhog Project- Phase 1	447	Bullhog
Grimes Wash Phase 3	465	Seeding
Dry Wash Units 4, 5, 9	117	Lop and Scatter

Willow Fuels Project-Phase 2	892	Lop, Pile, and Burn
Willow-New Canyon Phase 1	303	Lop, Pile, and Burn
Lake Fork Allotment Water System Repair-Helicopter Lift Project		Spring Development, Water Troughs
Jolly Mill Solar Pump and Pipeline		Pipeline, Trough, Solar Pump, Storage Tank
Gordon Creek WMA Livestock Water Improvement		New Pond Construction (8)
Thistle Creek Watershed Restoration and Fire Rehab Project	3497	Bullhog, Seeding
New Canyon Watershed Restoration Phase 2	107	Lop, Pile, and Burn
Swasey/Dry Wash/Grimes Wildlife Habitat Improvement and Hazardous Fuels Reduction	2092	Bullhog, Prescribed Fire, Lop and Scatter
Miller Creek 3.0	269	Lop and Scatter, Planting
Muddy Creek riparian, wetland, and upland maintenance	207	Spot Treatment
Salina Creek Ecosystem Restoration Project Phase 3	9994	Bullhog, Prescribed Fire, Lop, Chaining
Trail Mountain Ignition Slash Lines	843	Lop and Scatter
Cowboy Fire Seeding Project	150	Seeding
Ephraim Watershed Restoration Phase 3	1679	Bullhog, Prescribed Burn, Lop and Chip, Herbicide, Planting, BDA
Thistle Creek Watershed Restoration Phase 2	748	Bullhog, BDA
Manti-La Sal Healthy Forest Restoration	14938	Prescribed Fire, Bullhog, BDA
Mount Pleasant Twin Creek Habitat Improvement Project	30	Chaining, BDA
Lower Fish Creek Forest Health Restoration	178	Lop, Pile, and Burn, Herbicide
Price Slashing	790	Lop and Scatter
Bear Fire	3553	Seeding
Bennion Fire Rehabilitation Project	2547	Seeding
Mahogany Point Sage Grouse Habitat Improvement Phase 2	1492	Lop and Pile, Bullhog, Prescribed Fire

Twelve Mile Watershed Restoration Project FY 23	2047	Bullhog, Lop and Scatter, BDA, Spring Development, Pond Construction
Salina Creek Ecosystem Restoration Phase 4	7194	Prescribed Fire, Bullhog, Lop
Spanish Fork River Watershed Post Fire Restoration Phase III	32	BDA
Bear Fire Weed/Herbicide Treatment	2252	Herbicide
Upper Price River Watershed	2885	Lop and Scatter, Pile Burn, Wet Meadow Enhancement

<b>Habitat Projects</b>		
<b>Projects in Progress</b>		
<i>Project Name</i>	<i>Acres *</i>	<i>Treatment Type</i>
Central Utah Habitat Maintenance Project Phase III	627	Lop and Scatter
Salina Creek Phase 5	9732	Prescribed Fire, Bullhog
Upper Price River Watershed FY24	5312	Lop, Pile, and Burn, Lop and Chip, Prescribed Fire, Herbicide, Planting
Twelve Mile Watershed Restoration Project FY 24	2793	Lop, Pile, and Burn, Thinning, BDA, Pond Construction, Pipeline
Thistle Creek Watershed Restoration - Phase 3	58	BDA, Check Dam, Fence
Central Region Riparian Restoration FY24	3	BDA
Southern Region Riparian Restoration FY24		Beaver Relocation
Ephraim Watershed Restoration Phase 4 (FY24)	2903	Prescribed Fire, Lop, Pile, and Burn, Buck and Pole Fence
West Emery County Watershed Restoration	9638	Bullhog, Prescribed Fire, Herbicide, Guzzler Construction (3)
East Mountain Boreal Toad Fence Improvement		Buck and Pole Fence
Carbon and Emery County Habitat Restoration and Maintenance	195	Lop and Scatter