ELK HERD MANAGEMENT PLAN
Elk Herd Unit #18
OQUIRRH/STANSBURY
December 2023

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 Pony Express Trail road; west on Pony Express Trail road to SR-36; south on SR-36 to the Pony Express road located just south of Faust; west on this road to the Government Creek/SR-196 road; north on this road to I-80 at Rowley Junction; east on I-80 to I-15. **EXCLUDES ALL NATIVE AMERICAN TRUST LANDS.**

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

- Manage for a realistic and attainable population level that is at or below biological carrying capacity to maintain a robust and productive elk population.
- Manage the elk population at a level 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.
- Strive for consistency and simplicity in elk management programs.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size – Maintain a wintering elk population of 1,650 elk, based on aerial counts. Elk will be distributed among the following sub-populations:

Wintering Area (counting unit)	Target Population
North Oquirrh Mountains (CWMU)	350
South Oquirrh Mountains	300
Stansbury Mountains	1,000
TOTAL	1,650

5-year Winter Herd Size – Manage for a 5-year target population of 1,650 wintering elk during the five-year planning period, unless range conditions become unsuitable as evaluated by the Utah Division of Wildlife Resources (DWR). Range Trend data coupled with browse monitoring will be used to assess habitat condition. If habitat damage by elk is occurring due to inadequate habitat, actions will be taken to reduce the population to sustainable levels. The elk population objective will be evaluated each time the unit management plan is up for renewal.

Herd Composition – Utilize General Season Any Bull hunting strategy for this Unit. This unit will not be managed to an age objective.

Harvest – General season any bull hunt regulations, using Archery, Rifle, and Muzzleloader, and youth hunting opportunities as described in the Statewide Plan. Utilize antlerless harvest strategies to maintain elk populations at or below population objectives.

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size - Utilizing aerial counts every 3-years, supplemented with available harvest data, preseason sex and age classifications, and survival estimates to estimate winter population size. The 2023 winter estimate of the population is 1,100 elk.

Harvest - The primary means of monitoring harvest will be statewide mandatory harvest reporting. Achieve the target population size by use of antlerless harvest using a variety of harvest methods and seasons, as needed. Whenever possible, harvest recommendations will be crafted to simultaneously manage overall population size and address concerns in specific areas such as depredation problems or localized range overuse by elk.

Translocation – Translocate elk to locations where population densities are low. A list of sites for translocation includes Muskrat Canyon and Mack Canyon (Appendix 1)

Research - Continue research efforts to identify migration corridors and limiting factors for elk herd growth, as funding and personnel allow.

Limiting Factors (May prevent achieving management objectives)

Crop Depredation - Take all steps necessary to minimize depredation as prescribed by state law and DWR policy.

Drought - Drought is the primary factor that influences elk populations. Forage production and vigor is severely limited during drought years.

Habitat - At present, the availability of high quality summer range may be more limiting to this elk

population than winter range. Condition of winter ranges is a long-term problem. Fire and encroachment by pinyon and juniper trees results in the loss of forage production, diversity and quality.

Urban Expansion - Current and future urban expansion will continue to fragment existing elk habitat and displace elk to less productive areas.

HABITAT MANAGEMENT OBJECTIVES

- Maintain and protect existing critical elk ranges sufficient to support the population objectives.
- Seek cooperative projects to improve the quality and quantity of elk habitat.
- Promote enhancement of habitat security and escapement areas for elk.

HABITAT MANAGEMENT STRATEGIES

Monitoring

Determine trends in habitat condition through permanent range trend studies, range assessments, 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 be conducted by DWR to evaluate elk habitat health, trend, and carrying capacity using the elk winter range Desirable Component Index (DCI) and other vegetation data. Range trend studies will be evaluated for the Oquirrh and Stansbury Mountains independently. The DCI was created as an indicator of the general health of winter ranges. The index incorporates shrub cover, density and age composition as well as other key vegetation variables. Changes in DCI suggest changes in winter range capacity. The relationship between DCI and the changes in elk carrying capacity is difficult to quantify and is not known.

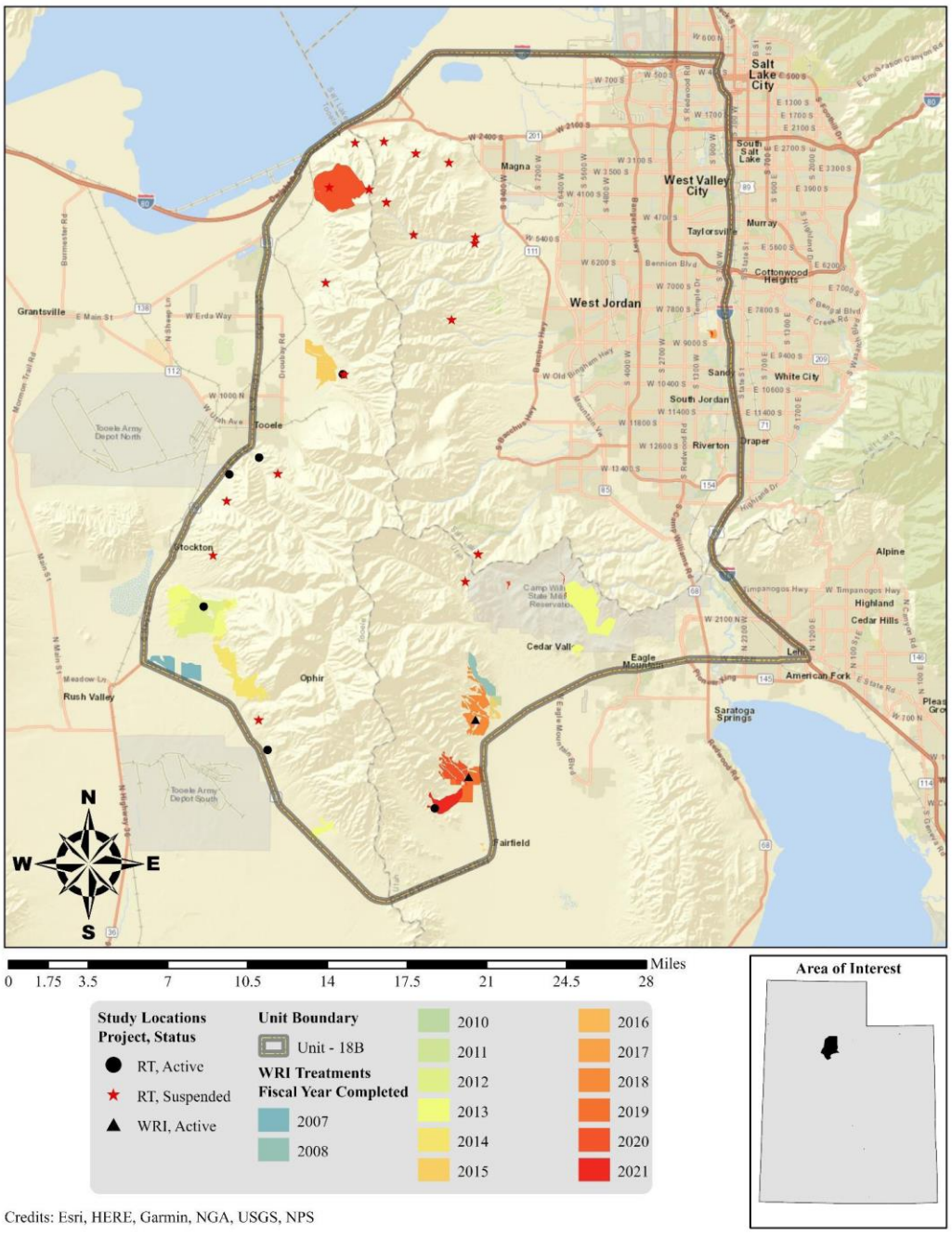
Habitat Protection and Maintenance

- Work with public land management agencies to develop specific vegetative objectives to maintain the quality of important elk use areas.
- Continue to coordinate with land management agencies in planning and evaluating resource uses and developments that could influence habitat quality.
- Work toward long-term habitat protection and preservation using agreements with land management agencies and local governments, and with conservation easements, etc. on private lands.

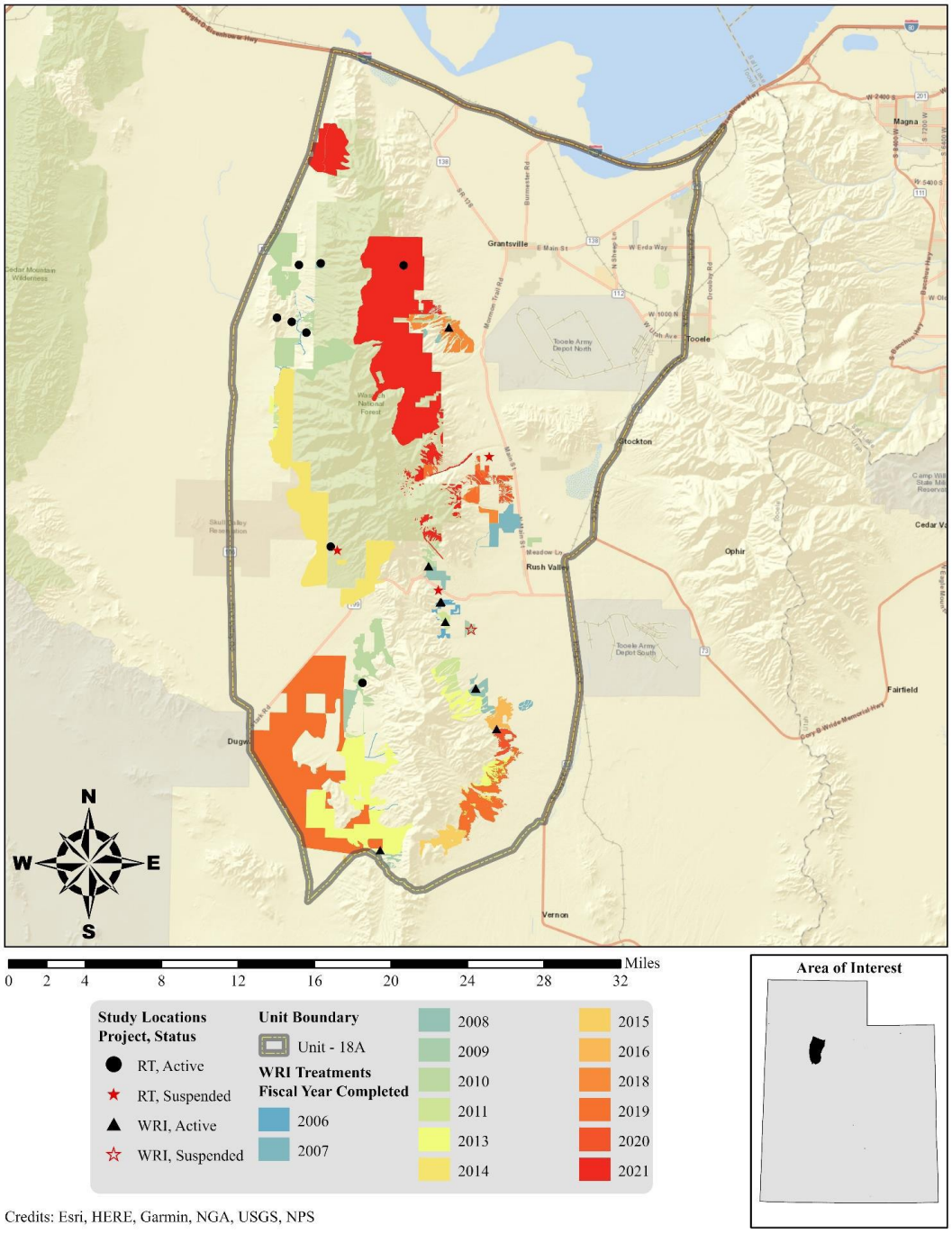
Habitat Improvement

- Cooperate with federal land management agencies and private landowners in carrying out habitat improvement projects. Protect elk ranges from wildfire by reseeding burned areas, creating fuel breaks and vegetated green strips and reseed areas dominated by cheatgrass with desirable perennial vegetation.
- Reduce expansion of Pinyon-Juniper woodlands into sagebrush habitats and improve habitats dominated by Pinyon-Juniper woodlands by completing habitat restoration projects like lop & scatter, bullhog and chaining.
- Work with partners to increase the amount of available water resources (e.g. guzzlers).
- Cooperate with federal land management agencies and local governments in developing and administering access management plans for the purposes of habitat protection and escape or security areas.
- Cooperate with federal agencies to assure a diverse age structure of aspen communities on summer habitats.

Habitat Projects within Unit 18



Map 1: Watershed Restoration Initiative (WRI) treatments by fiscal year completed for Wildlife Management Unit (WMU) 18B, Oquirrh Mountains.



Map 2: WRI treatments by fiscal year completed for WMU 18A, Stansbury Mountains.

PERMANENT RANGE TREND SUMMARIES

DWR Winter Range Trend Assessment - Unit 18, Oquirrh-Stansbury 2021

Oquirrh Mountain Range

The condition of elk range within the Oquirrh Mountains management unit has generally remained poor in most sample years, except in 2012, where average conditions were considered to be fair. Most Range Trend sites in WMU 18B, Manning Canyon, Big Dip Gulch, South of Soldier Canyon, Three O'Clock, and Settlement Canyon Reservoir have generally remained in poor condition and are considered to be the main drivers for the unit's overall winter condition. Contributing to the poor condition of these sites are deficient browse, and perennial grass and forb populations. Carr Fork 2 is a more recent study that was added to the sampling rotation in 2012, and has a tendency to be in states that are between fair and good condition for elk: much of this favorable condition is due to a notable presence of antelope bitterbrush (*Purshia tridentata*), though cover has steadily decreased. Efforts to improve winter range on Carr Fork 2 should begin by preserving the browse community. Most sites show a proclivity to remain in poor condition and may not be the best candidates for rehabilitation.

The overall elk range assessment in 2021 for WMU 18B was very poor. Much of the poor condition can be attributed to a lack of preferred browse, perennial grasses, and forbs.

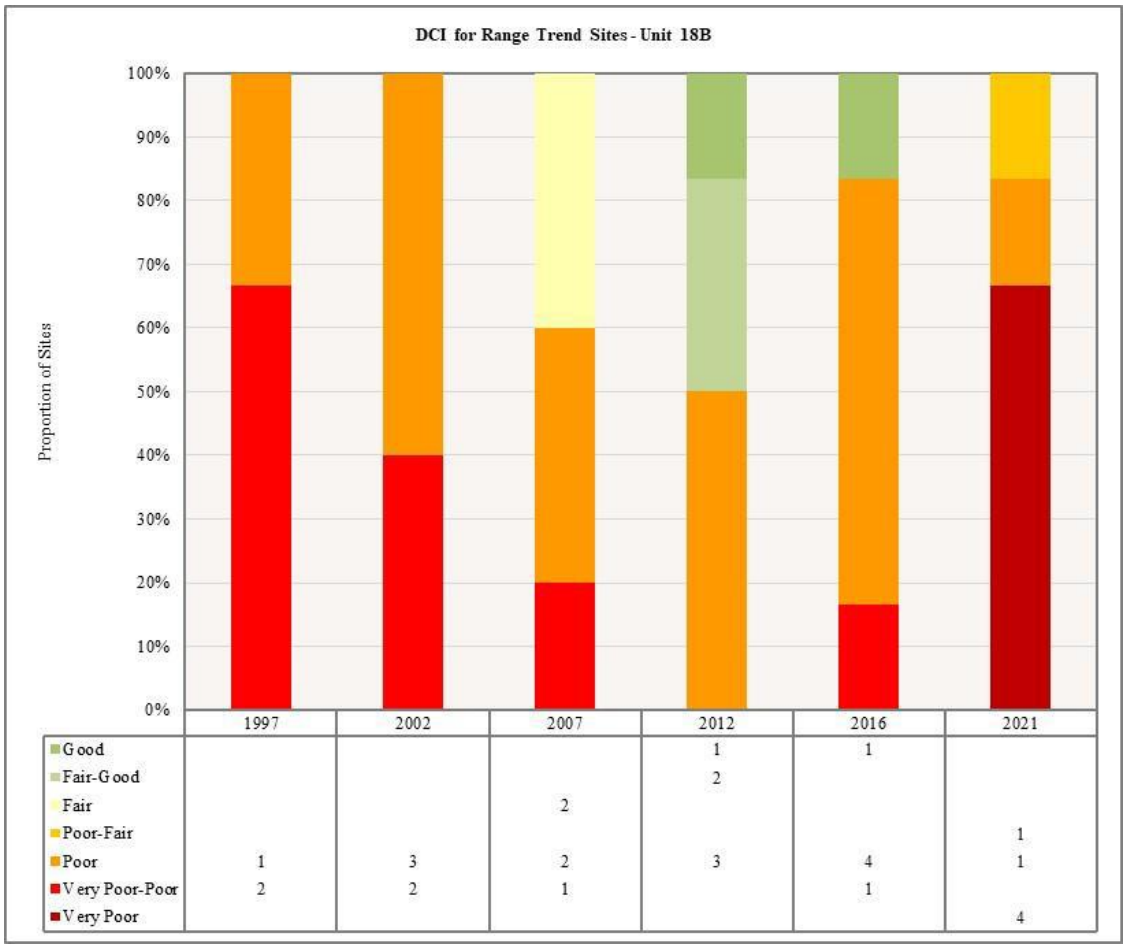


Figure 1: Oquirrh Mountains elk range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2021.

Drought Index – Oquirrh Mountains

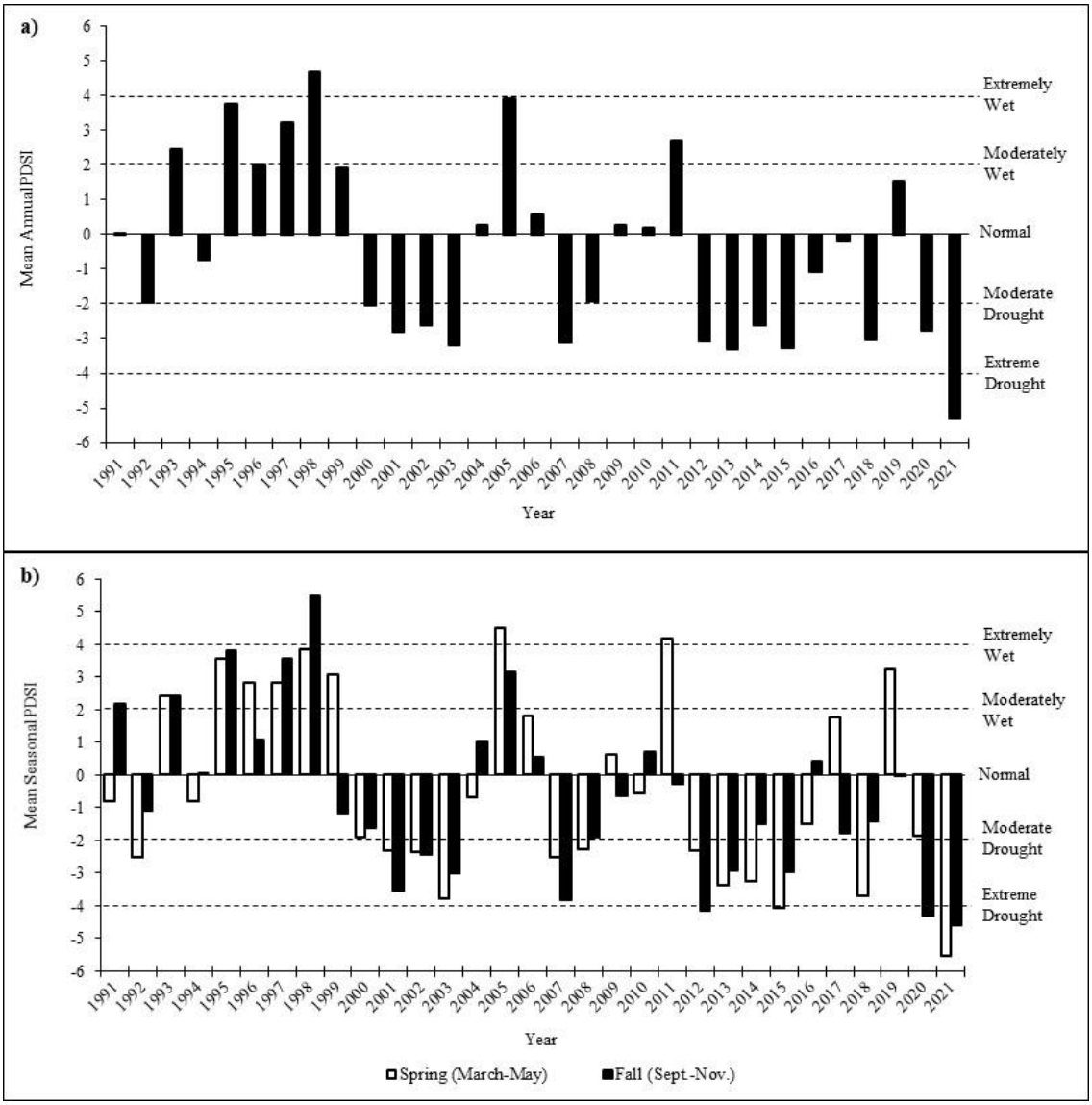


Figure 2: The 1991-2021 Palmer Drought Severity Index (PDSI) for the North Central division (Division 3). The PDSI is based on climate data gathered from 1895 to 2021. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification of the scale is >4.0 = Extremely Wet, 3.0 to 3.9 = Very Wet, 2.0 to 2.9 = Moderately Wet, 1.0 to 1.9 = Slightly Wet, 0.5 to 0.9 = Incipient Wet Spell, 0.4 to -0.4 = Normal, -0.5 to -0.9 = Incipient Dry Spell, -1.0 to -1.9 = Mild Drought, -2.0 to -2.9 = Moderate Drought, -3.0 to -3.9 = Severe Drought and <-4.0 = Extreme Drought. a) Mean annual PDSI. b) Mean spring (March-May) and fall (Sept.-Nov.) (Time Series Data, 2022).

Stansbury Mountain Range

The condition of elk range within the Stansbury management unit, as a whole, has decreased from fair in 1997 to very poor habitat in 2021. This decreasing trend was driven by the 2009 Big Pole wildfire with South Palmer Point, Salt Mountain Stock Pond, Below Chokecherry Spring, Salt Mountain, and South of Broons Canyon all being affected by the burn. Deadman Canyon was affected by the Patch Springs wildfire in 2013. Elk range on the east aspect of the Stansbury Mountains was negatively affected by the removal of much of the preferred browse populations. Some augmentation has been beneficial with the seeding of perennial grasses, but most sites have been negatively impacted by invasive annual grass.

The overall elk range assessment in 2021 for WMU 18A was very poor. Much of this can be attributed to the lack of preferred browse across the unit, with most of the sites sampling the west aspect of the Stansbury Mountains. Improvement to elk range will come with the addition of preferred browse species to the community.

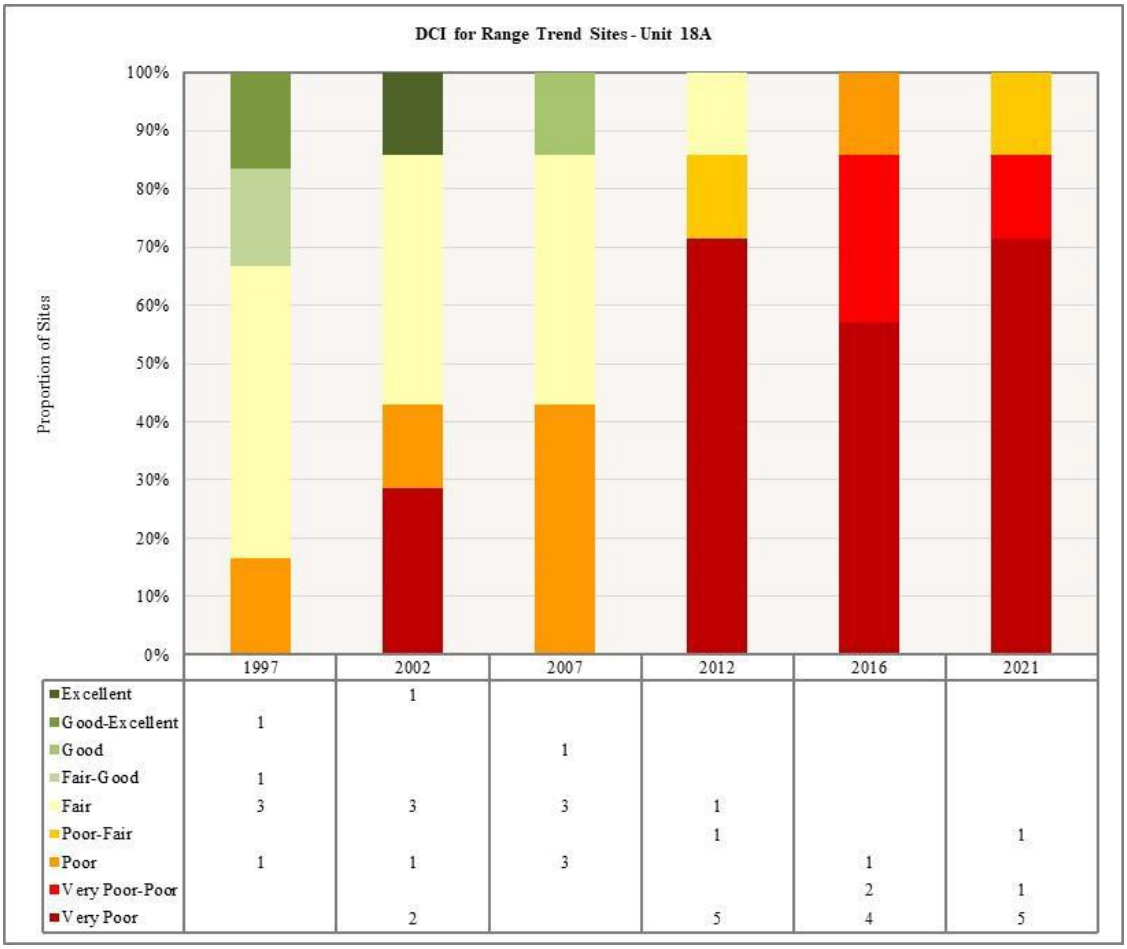


Figure 3: Stansbury Mountains elk range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2021.

Drought Index – Stansbury Mountains

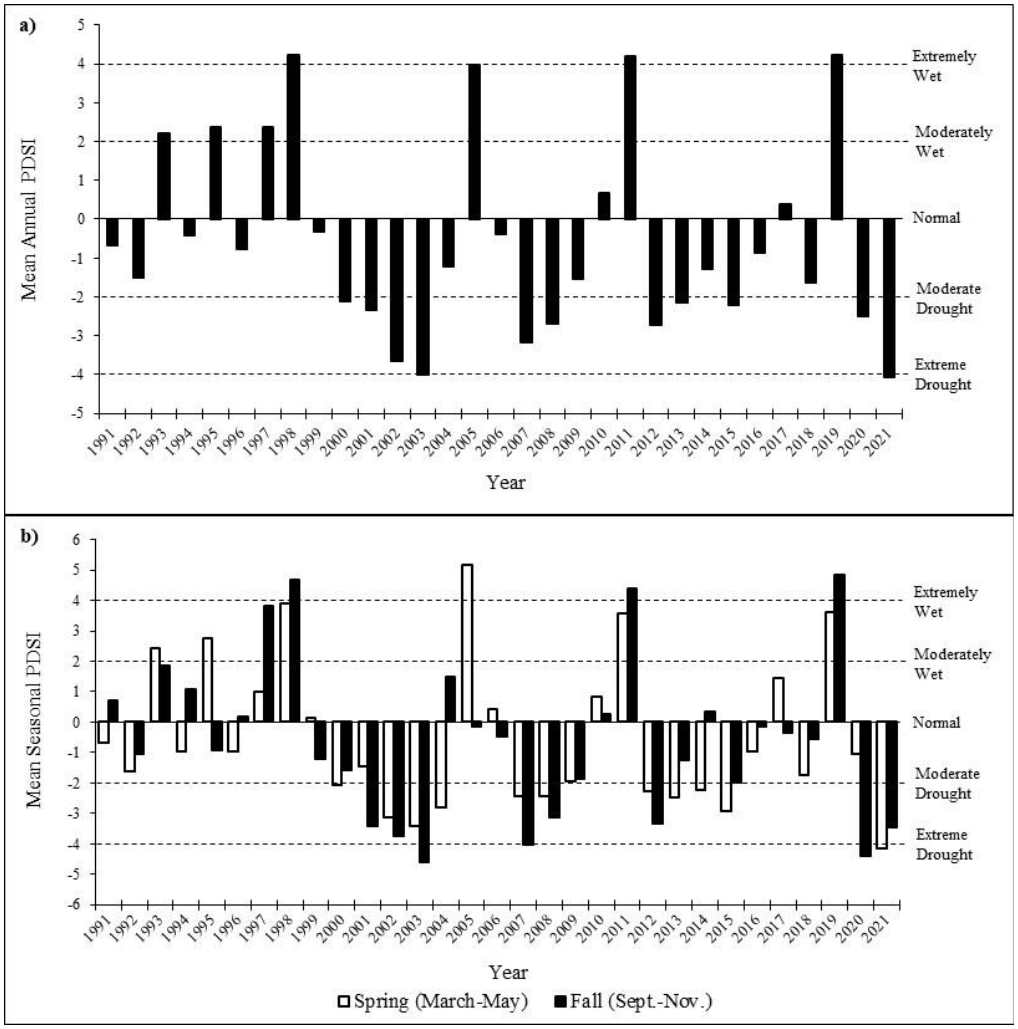


Figure 4: The 1991-2021 Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2021. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification of the scale is >4.0 = Extremely Wet, 3.0 to 3.9 = Very Wet, 2.0 to 2.9 = Moderately Wet, 1.0 to 1.9 = Slightly Wet, 0.5 to 0.9 = Incipient Wet Spell, 0.4 to -0.4 = Normal, -0.5 to -0.9 = Incipient Dry Spell, -1.0 to -1.9 = Mild Drought, -2.0 to -2.9 = Moderate Drought, -3.0 to -3.9 = Severe Drought and <-4.0 = Extreme Drought. a) Mean annual PDSI. b) Mean spring (March-May) and fall (Sept.-Nov.) (Time Series Data, 2022).

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. Revision of this plan may also take place as needed to address future issues or incorporate new management strategies. Unit elk plan goals, objectives, recommendations 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 plans.

Appendix 1. Elk transplant sites on the Stansbury Mountains. Release sites include Muskrat Canyon and Mack Canyon.