DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 18
(Oquirrh-Stansbury)
December 2023

BOUNDARY DESCRIPTION

Salt Lake, Tooele and Utah counties - Boundary begins at I-15 and I-80 in Salt Lake City; south on I-15 to SR-73; west on SR-73 to Pony Express Road; west on this road to Faust Junction and SR-36; south on SR-36 to Pony Express Road; west on this road to the Skull Valley road; north on this road to I-80 at Rowley Junction; east on I-80 to I-15.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	SUMMER RANGE		WINTER RANGE		TOTAL RANGE
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)
Forest Service	48,386	28.8%	20,269	7.2%	68,655
Bureau of Land Management	45,888	27.3%	88,076	31.3%	133,964
Utah State Institutional Trust Lands	5,727	3.4%	20,319	7.2%	26,046
Native American Trust Lands	28	0%	28,777	10.2%	28,805
Private	64,177	38.2%	108,703	38.6%	172,880
Department of Defense	3,969	2.4%	15,263	5.4%	19,232
Utah State Parks	0	0%	0	0%	0
Utah Division of Wildlife Resources	0	0%	0	0%	0
TOTAL	168,175	100%	281,407	100%	449,582

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 deer population.
- Manage the deer population at a level capable of providing a broad range of recreational opportunities, including hunting and viewing.
- Balance deer herd objectives with impacts on human needs, such as private property rights, agricultural crops and local economies.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size - Achieve a target population size of 11,600 wintering deer during the five-year planning period.

Unit 18

2017 – 2022 Objective 11,600
2023 – 2027 Objective 11,600
Change no change

5-year Winter Herd Size – Manage for a 5-year target population of 11,600 wintering deer 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 deer is occurring due to inadequate habitat, actions will be taken to reduce the population to sustainable levels.

Herd Composition - Maintain a region-wide three-year average postseason buck to doe ratio according to the statewide deer plan (unit 18 is managed for 15-17 bucks per 100 does).

Harvest – General Buck Deer hunt regulations, using Archery, Rifle, and Muzzleloader.

Table 1 – Current Population Status

Year	Buck Harvest	Post-Season fawn/100 Does	Post-Season buck/100 Does	Post-Season Population Estimate	Population Objective	Percent of Objective
2020	748	48.7	22.3	10,000	11,600	86
2021	746	39.7	15.9	9,600	11,600	83
2022	780	52.2	23.7	9,900	11,600	85
3 year Avg.	*758*	*46.7*	*20.6*	*9,833*	*11,600*	*85*

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size - Utilizing harvest data, postseason sex and age classifications, and survival estimates in a population model to estimate winter population size. The 2022 post-season estimate of the population is 9,900 deer.

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

Research - Continue to collect annual adult and fawn survival rates, body condition scores, and cause-specific mortality on this unit from GPS collared deer as resources allow. Support continued research efforts to identify migration corridors and limiting factors for deer herd growth.

Limiting Factors (may prevent achieving management objectives)

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

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

Predation – Manage predators according to the predator management policy where habitat is not limiting and predators are demonstrated to have negative impacts on the population. Indices such as doe and fawn survival, population growth rate, body condition scores, ingesta-free body fat, fawn production, and cause-specific mortality will be used to determine if predator management is deemed necessary. Cougar harvest will be managed according to 2023 Utah House Bill 469.

Highway Mortality - Cooperate with the Utah Dept. Of Transportation in construction of highway fences, passage structures and warning signs etc. as needed.

Illegal Harvest - If illegal kill becomes an identified and 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.

Disease Management – Investigate and manage diseases that threaten mule deer populations and continue monitoring for chronic wasting disease (CWD) as stated in the Statewide Deer Plan. This unit is a CWD positive unit (<0.05% prevalence).

CWD Strategies

- Utilize rotational hunter harvest surveillance, targeting this unit once every several years.
- Consider compulsory testing of hunter-harvested deer to increase sample size.
- Consider managing the unit toward the lower end of the buck/doe objective to minimize increase of the disease.
- Consider late season buck hunts in focal hotspots on the unit to minimize disease transmission.
- Educate public and enforce rules regarding carcass importation and disposal from CWD positive areas.

Urban Deer Management – Continue working with municipalities on localized urban deer control management actions. Work cooperatively with municipalities in developing urban deer management plans, within the guidelines set by state law and agency rules and policy.

HABITAT MANAGEMENT OBJECTIVES

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

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 deer habitat health, trend, and carrying capacity using the deer 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 deer 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 deer carrying capacity is difficult to quantify and is not known.

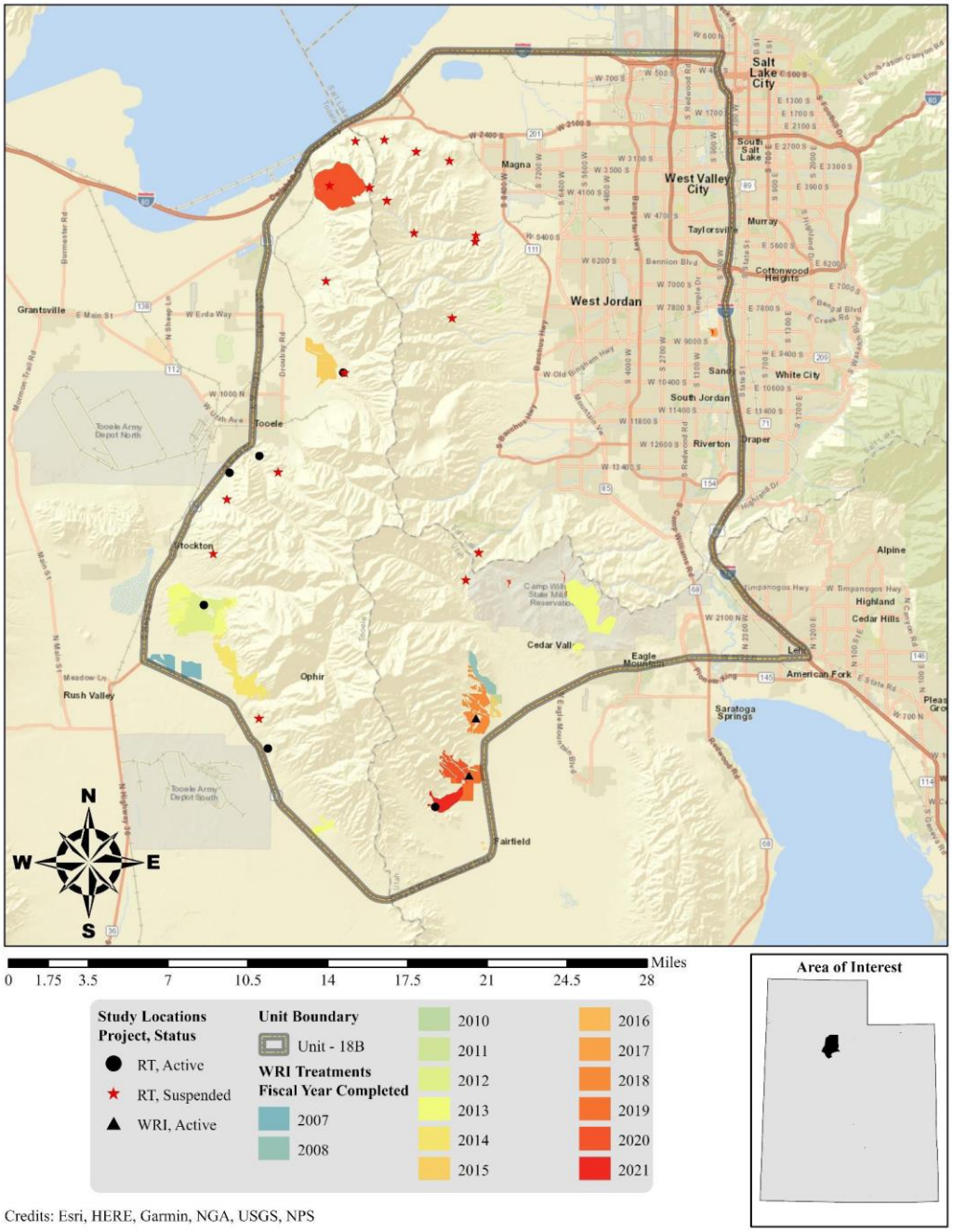
Habitat Protection and Maintenance

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

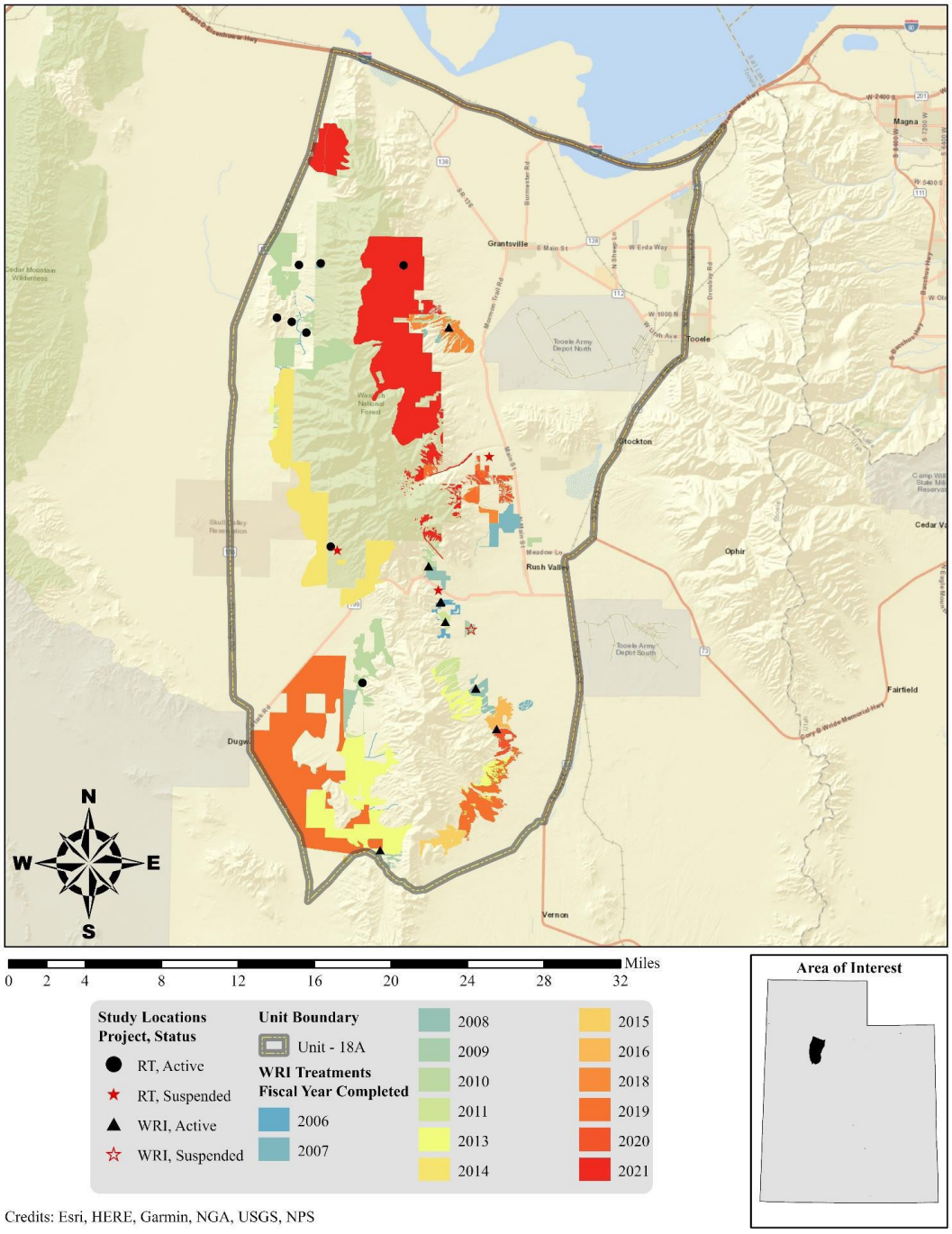
Habitat Improvement

- Cooperate with federal land management agencies and private landowners in carrying out habitat improvement projects. Protect deer winter 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.

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 Mountain.

PERMANENT RANGE TREND SUMMARIES

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

Oquirrh Mountain Range

The condition of deer winter 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 wintering deer: 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 deer winter 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.

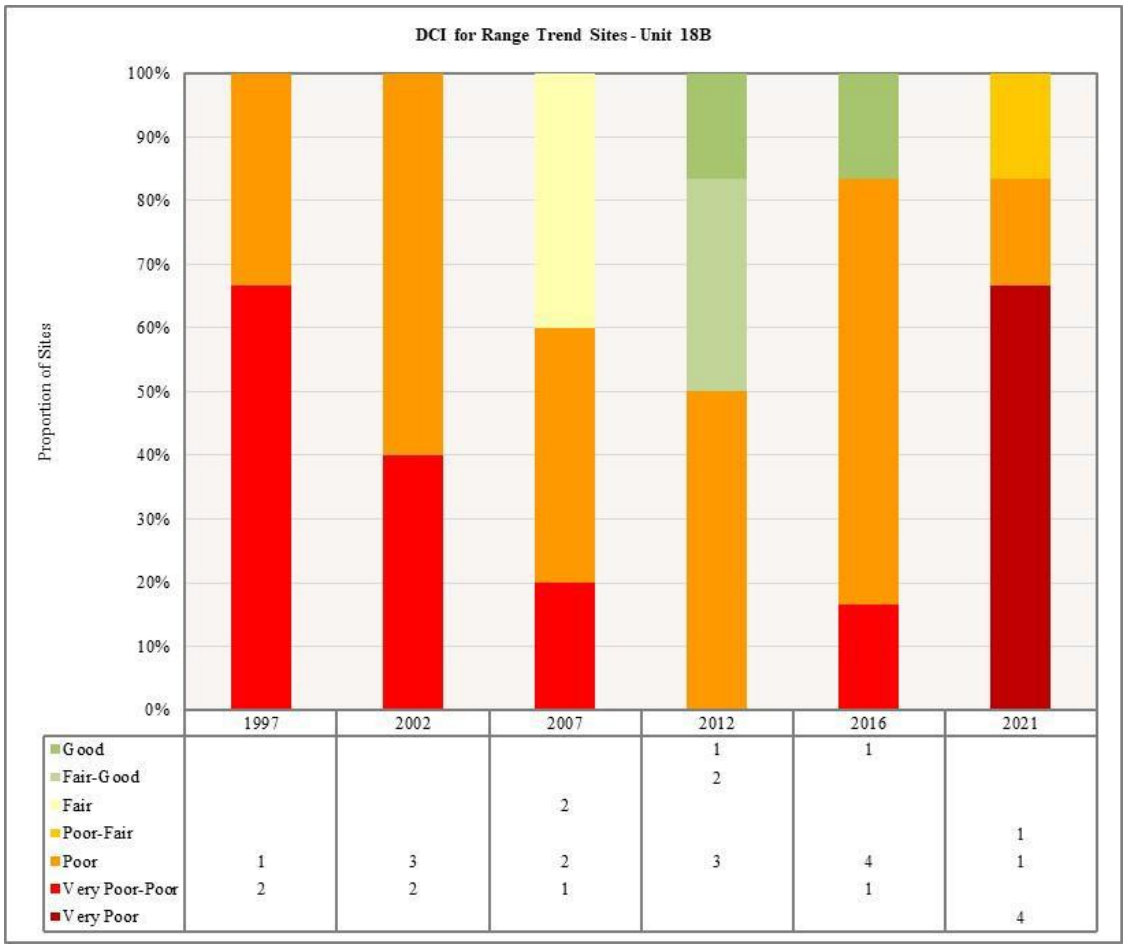


Figure 1: Oquirrh Mountains deer winter range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2021.

Drought Index – Oquirrh Mountains

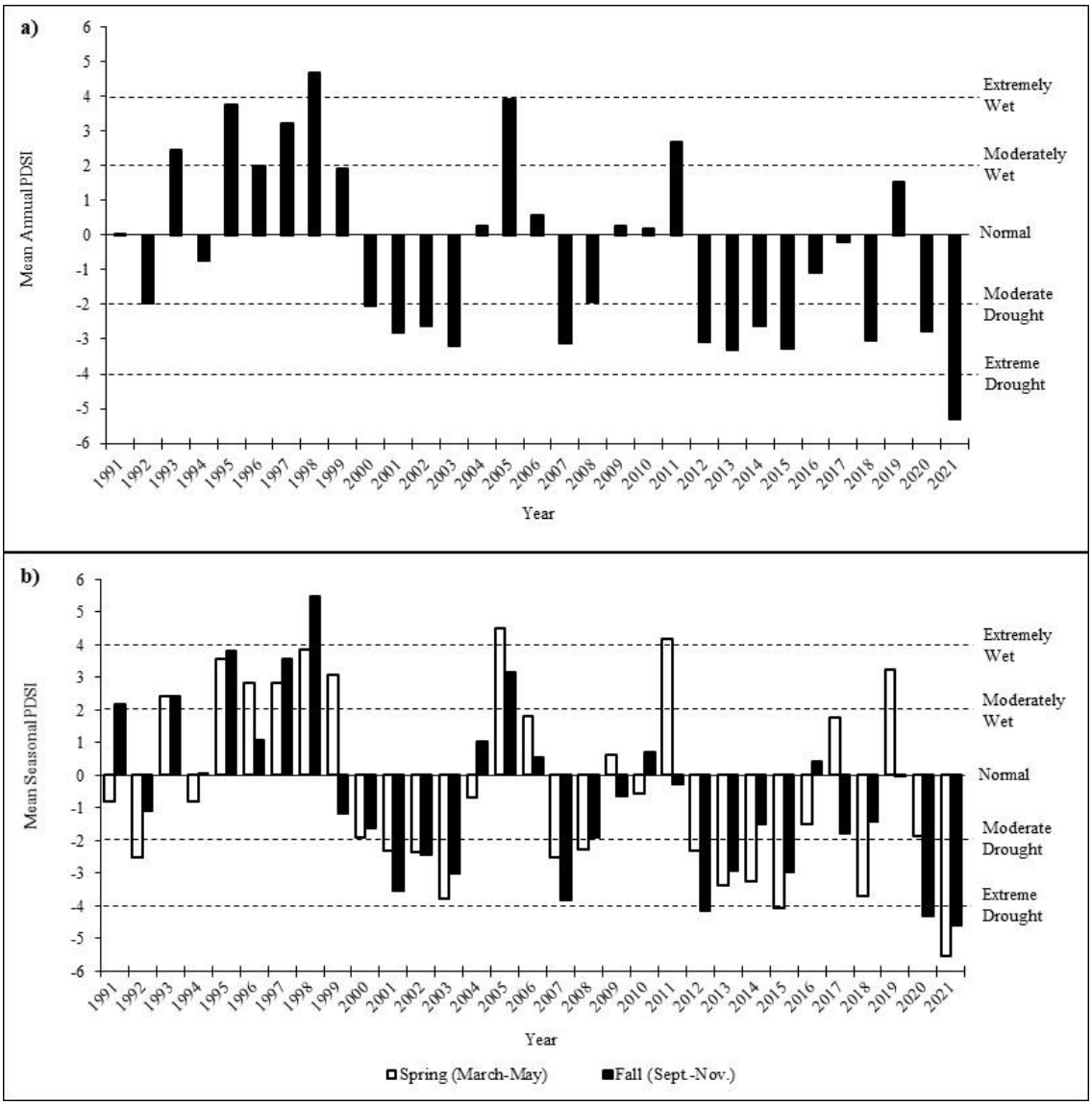


Figure 2: The 1991-2021 Palmer Drought Severity Index (PDSI) for the North Central division (Division 3). The PDSI is based on climate data gathered from 1895 to 2021. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification 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 deer winter range within the Stansbury management unit, as a whole, has decreased from fair in 1997 to very poor wintering 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. Deer winter 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 deer winter 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 deer winter range will come with the addition of preferred browse species to the community.

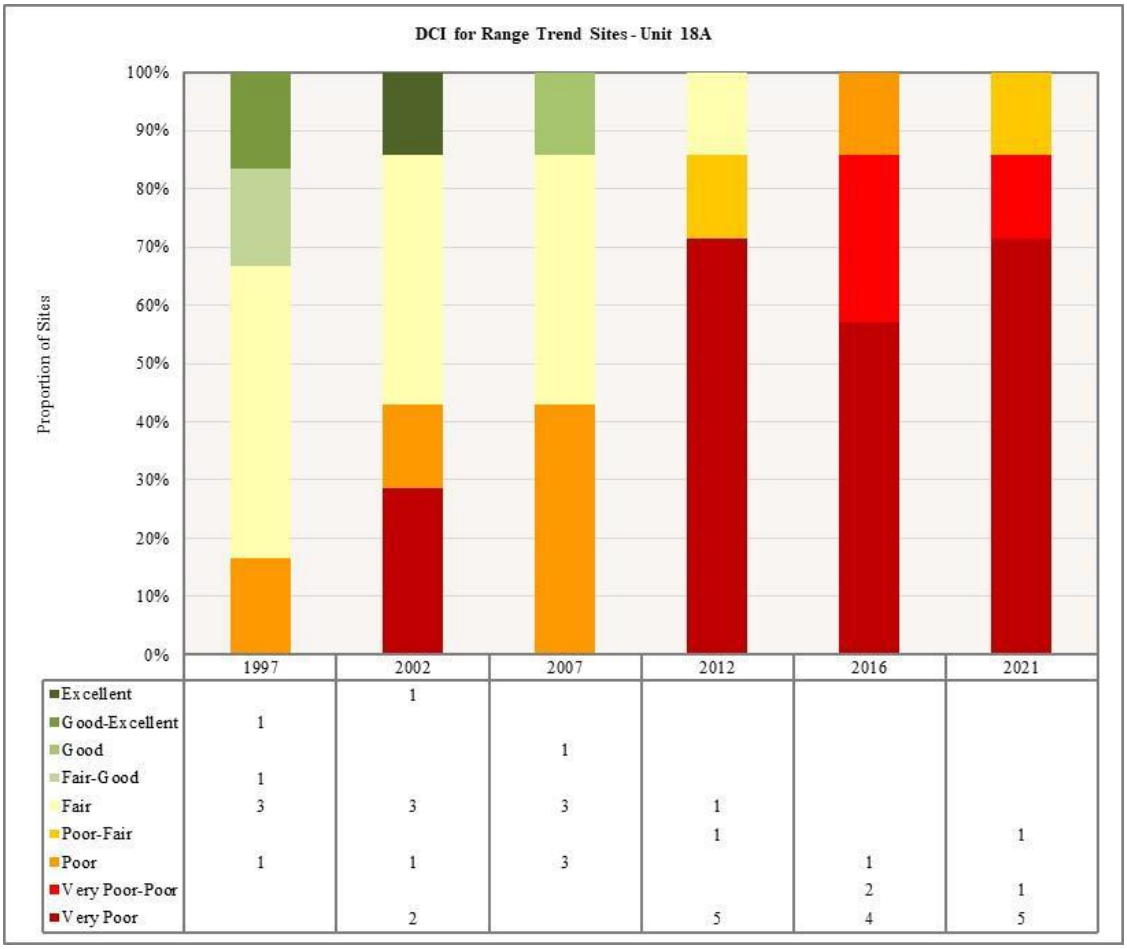


Figure 3: Stansbury Mountains deer winter range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2021.

Drought Index – Stansbury Mountains

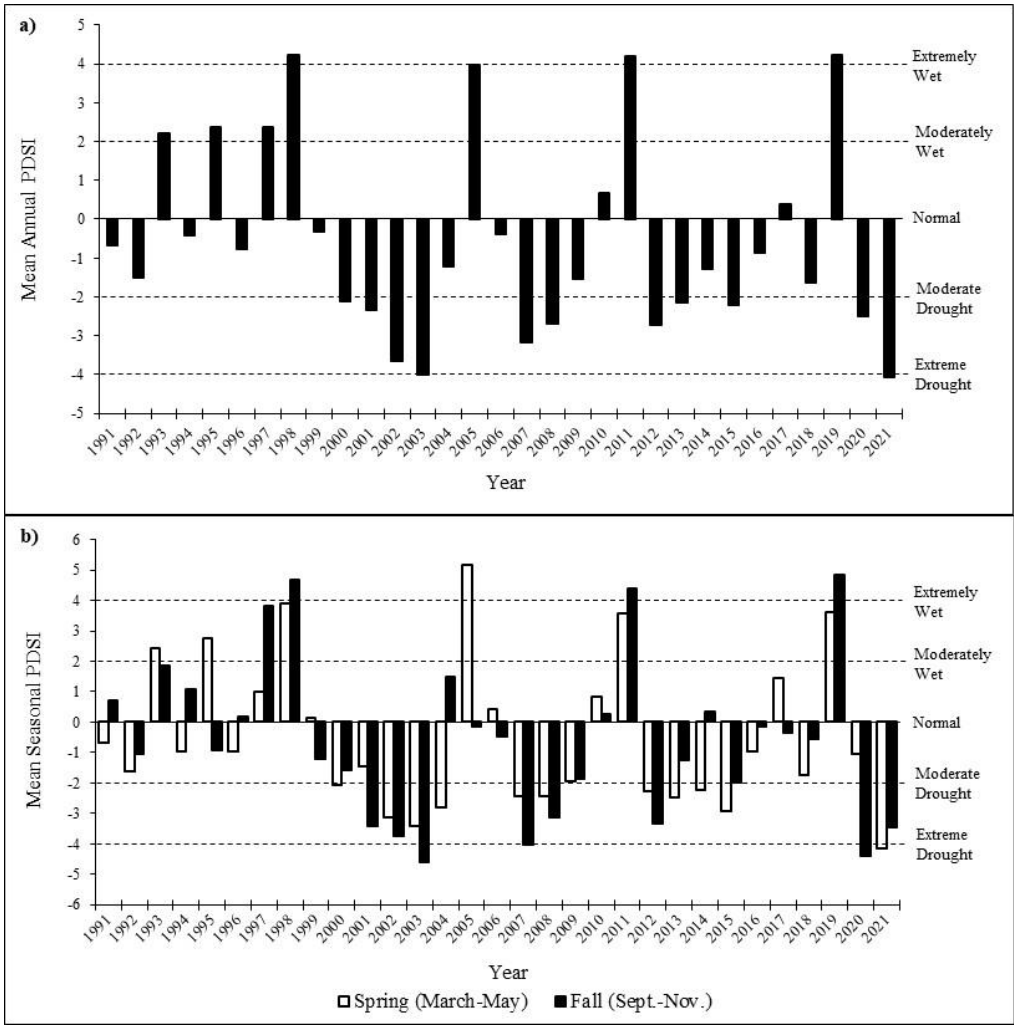


Figure 4: The 1991-2021 Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2021. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification 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 AND AUTHORITY OF PLAN

This unit management plan was approved by the Division Director in Dec. 2023 and will be in effect for five years, or until amended. Unit deer plan goals, objectives and strategies are constrained within the sideboards set in the statewide deer plan, which supersedes unit plans. It is possible that changes to the statewide deer plan may affect unit plans. Additionally, changes to Utah State Code and/or Administrative Rules may also affect deer unit plans.