DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 19
(West Desert)
December 2023

BOUNDARY DESCRIPTION

Tooele, Utah, Juab and Millard counties - Boundary begins at the Utah-Nevada state line and I-80 in Wendover; east on I-80 to the Dugway road at exit 77, Rowley Junction; south on this road to 14-mile road (Dugway Valley road); south on 14-mile road to the Pony Express Road: east on this road to SR-36; north on SR-36 to Pony Express Trail road. East on this road to SR-73; east on SR-73 to I-15 in Lehi; south on I-15 to Exit 207 and Mills Road; west on this road to the Sevier River; north along this river to SR132; west on 132 to US-6; south on US-6 to its junction with US-50 near Delta; west on US-50 & 6 to the Utah-Nevada state line; north along this state line to I-80 at Wendover. EXCLUDING ALL NATIVE AMERICAN TRUST LAND WITHIN THIS BOUNDARY.

This boundary has three subunits including:

Unit 19a – West Desert, West – Juab, Millard and Tooele counties—Boundary begins at the Utah-Nevada state line and I-80 in Wendover; east on I-80 to Exit 77 and SR-196; south on SR-196 to Government Creek Road near Dugway; south on this road to the Pony Express Road: southwest on this road to 14-mile road (Dugway Valley road); south on this road to SR-174; east on SR-174 to US-6; south on US-6 to US-6/50; west on US-6/50 to the Utah Nevada state line; north on this state line to I-80 in Wendover. EXCLUDES ALL NATIVE AMERICAN TRUST LANDS WITHIN THIS BOUNDARY.

Unit 19b – West Desert, Vernon –Juab, Millard and Tooele counties—Boundary begins at SR-36 and the Pony Express road; south on SR-36 to US-6; southwest on US-6 to SR-174 (the IPP road); northwest on SR-174 to the Dugway Valley road; north on this road to the Pony Express road; northeast on this road to SR-36.

Unit 19c – West Desert, Tintic –Juab, Millard,Tooele and Utah counties—Boundary begins at I-15 to SR-73 in Lehi; south on I-15 to Exit 207 and the Mills road; west on this road to the Sevier River; north along this river to SR-132; west on SR-132 to US-6; north on US-6 to SR-36; north on SR-36 to the Faust Junction and Pony Express Trail Road; east on the this road to SR-73; east on SR-73 to I-15 in Lehi.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	YEARLONG RANGE		SUMMER RANGE		WINTER RANGE		TOTAL ACRES
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%	
Forest Service		0%	48,468	22.2%	21,282	3.9%	69,750
Bureau of Land Management	541,579	87.8 %	115,988	54.8%	412,392	75.9 %	1,069,959
Utah State Institutional Trust Lands	46,914	7.6%	8,486	4%	32,716	6%	88,116
Native American Trust Lands	0	0%	10,711	5.1%	9,877	1.8%	20,588
Private	5,776	.9%	27,961	13.2%	64,159	11.8 %	97,896

Department of Defense	22,299	3.6%	0	0%	2,688	.5%	24,987
USFWS Refuge	0	0%	0	0%	0	0%	0
Bankhead Jones	0	0%	0	0%	0	0%	0
Utah State Parks	0	0%	0	0%	0	0%	0
Utah Division of Wildlife Resources	0	0%	0	0%	0	0%	0
TOTAL	616,568	100%	211,614	100%	543,114	100 %	1,371,296

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 11,200 wintering deer during the five-year planning period.

Unit 19

2017 – 2022 Objective 11,200
2023 – 2027 Objective 11,200
Change no change

5-year Winter Herd Size – Manage for a 5-year target population of 11,200 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, measures will be taken to reduce the population to sustainable levels.

Subunit Target Winter Herd Size
West (19a): 7,200 deer
Vernon (19b): 2,200 deer
Tintic (19c): 1,800 deer

Herd Composition

West Desert, West & Tintic (19a, 19c) - Maintain a subunit three-year average postseason buck to doe ratio according to the statewide deer plan. Subunits 19a and 19c are managed for 15-17 bucks per 100 does, or a three-year average hunter success rate between 15 - 35%.

Vernon (19b) – (limited entry portion of unit 19); maintain a subunit three-year average postseason buck to doe ratio ranging from 25-35:100.

Harvest – General Buck Deer hunt regulations, using Archery, Rifle, and Muzzleloader on the West and Tintic subunits (19a & 19c). Limited Entry hunt regulation for Archery, Rifle and Muzzleloader on the Vernon subunit (19b).

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. Because of low deer densities resulting in inadequate classification on two subunits (19a & 19c), harvest data will play a more significant role in characterization of that part of this population. If harvest data proves inadequate, the region could request helicopter time for 19a & 19c. Based on harvest data and available habitat, the 2022 population estimate for the West subunit (19a) is approximately 6,800 deer. The 2022 population model estimates the Vernon (19b) population at 2,100 deer. Based on harvest data and available habitat, the 2022 population estimate for the Tintic subunit (19c) is approximately 1,700 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 - Collect annual adult and fawn survival rates, body condition scores, and cause specific mortality on this unit from GPS collared deer, and efforts to identify migration corridors and limiting factors for deer herd growth, as funding and personnel availability 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.

Habitat - Deer numbers on unit 19 are primarily limited by the amount and quality of summer range and water distribution. Preservation and even enhancement of the very limited areas of higher altitude good quality summer range is very important. At present, only the Deep Creek range offers any significant expanse of this type of habitat. 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 predator management strategies. 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, warning signs, etc.

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.

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, 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. 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.

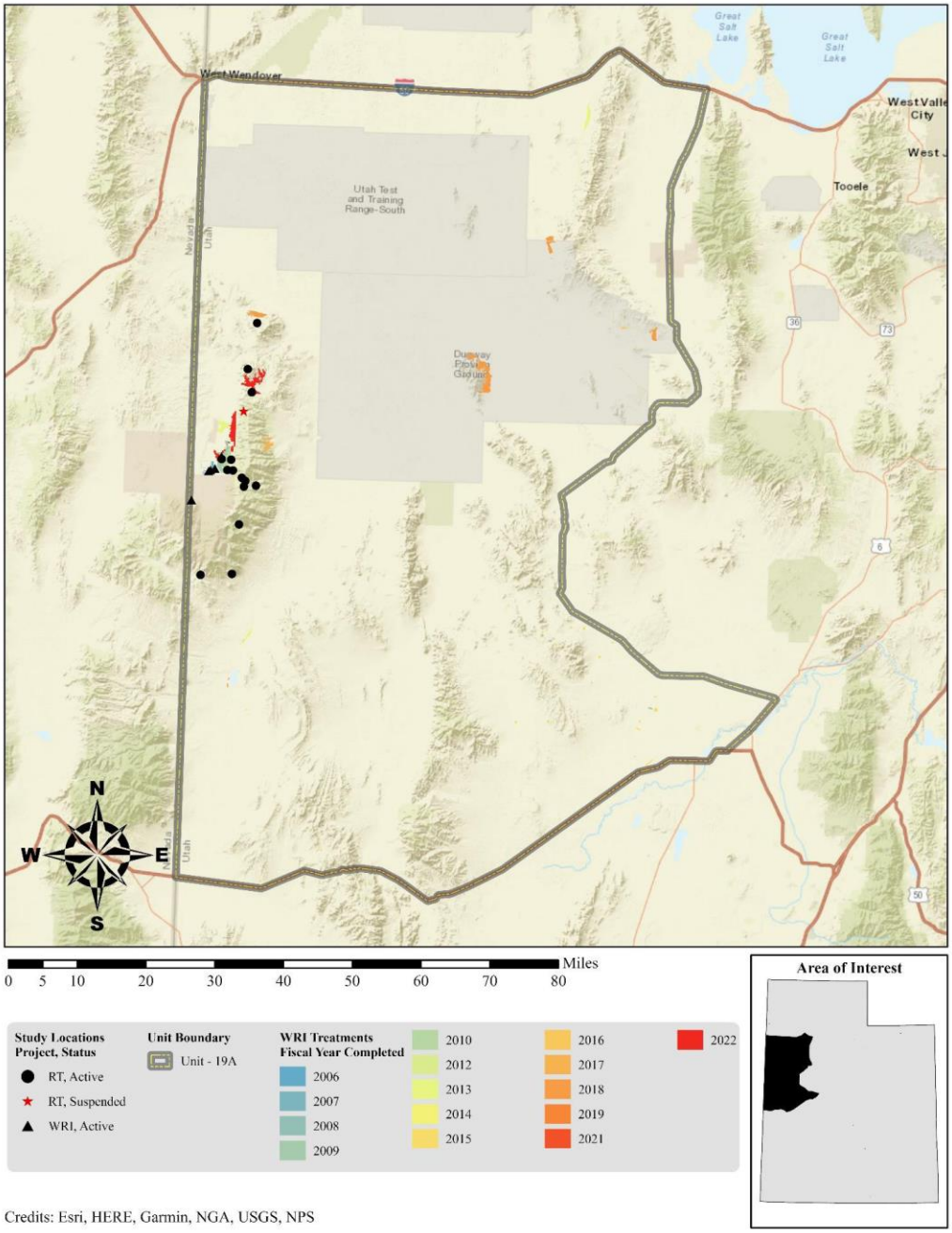
Habitat Protection and Maintenance

- 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.

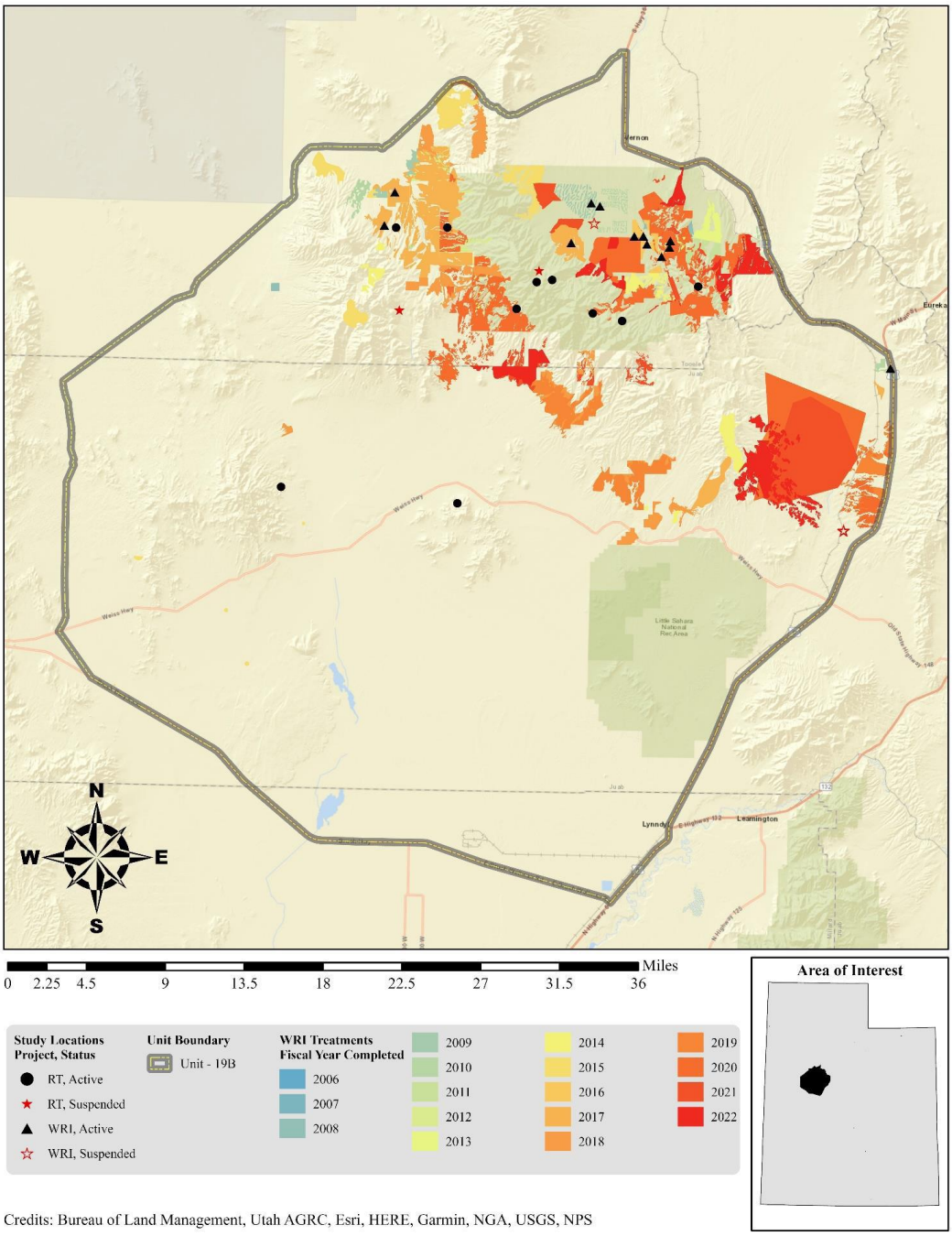
Habitat Improvement

- 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.

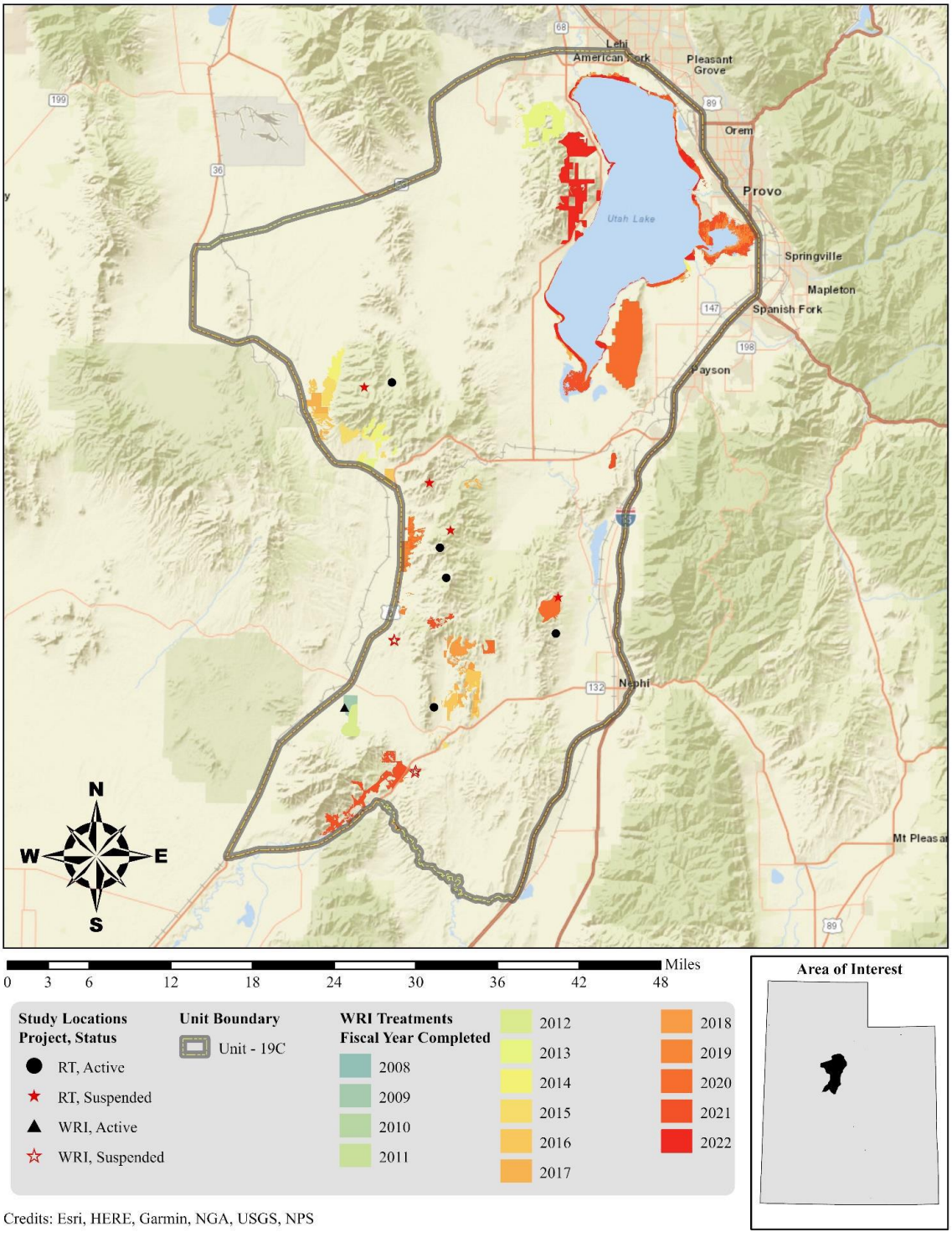
Habitat Projects within Unit 19



Map 1: Watershed Restoration Initiative (WRI) treatments by fiscal year completed for Wildlife Management Unit (WMU) 19a, West Desert, West.



Map 2: WRI treatments by fiscal year completed for WMU 19b, West Desert, Vernon



Map 3: WRI treatments by fiscal year completed for WMU 19c, West Desert, Tintic

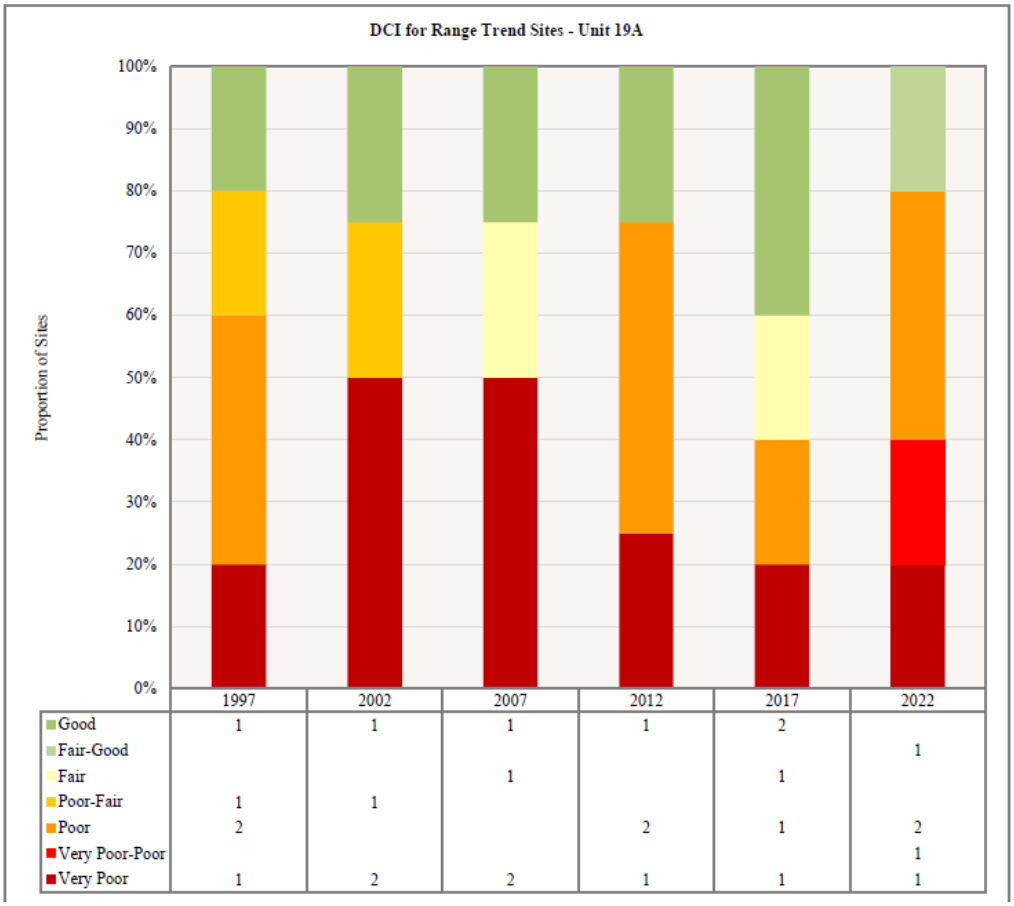
PERMANENT RANGE TREND SUMMARIES

DWR Winter Range Trend Assessment - Unit 19, West Desert 2022

West Desert, West (19a)

The averaged condition of deer winter range within the West management unit has generally remained poor since the 1997 sampling. The Range Trend sites in WMU 19A that have generally remained in good condition are The Basin and Rocky Canyon, and are the main drivers for the unit's stability as good deer winter range. Trail Gulch, Ochre Mountain, Sevy Mountain, Wood Canyon, and Clifton Flat all have a proclivity to remain as very poor to poor deer winter range. Of these sites, Ochre Mountain and Wood Canyon have more variability in deer winter range condition: this variability may be an indicator that these sites may respond well to future habitat improvement projects.

The overall deer winter range assessment in 2022 for WMU 19A was that the unit was in poor condition; all sites except for The Basin were ranked as poor or worse. These conditions are mainly driven by an abundance of annual grass and a lack of preferred browse and/or a lack of diversity in preferred shrub age classes. Ochre Mountain and its surroundings would benefit the most from habit improvements made in these areas.



	1997	2002	2007	2012	2017	2022
Good	1	1	1	1	2	
Fair-Good						1
Fair			1		1	
Poor-Fair	1	1				
Poor	2			2	1	2
Very Poor-Poor						1
Very Poor	1	2	2	1	1	1

Figure 1: West Desert, West deer winter range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2022.

Drought Index – West Desert, West

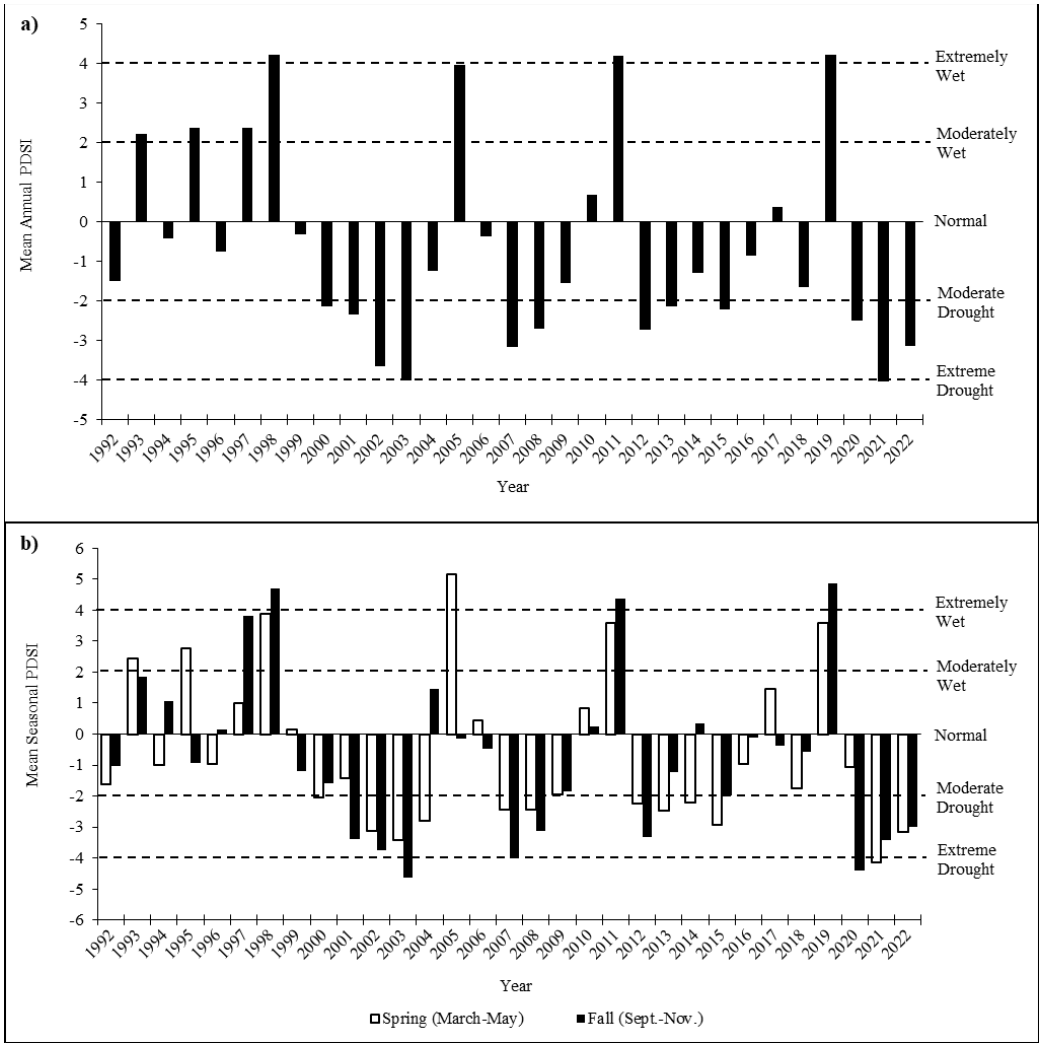


Figure 2: The 1992-2022 Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2022. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification 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.) PDSI (Time Series Data, 2023).

West Desert, Vernon (19b)

The condition of deer winter range within the Vernon management unit has generally remained stable since the 1997 sampling. Mean wintering conditions on WMU 19B have remained between poor-fair to fair condition from 1997 to 2022. West Government Creek and Lee's Creek are the main drivers for the unit's stability and average within good and fair deer winter range conditions, respectively. Range Trend sites in this WMU tend to have low variability in deer winter habitat, meaning that sites experience little change in their respective habitat qualities from year to year.

The overall deer winter range assessment in 2022 for WMU 19B was that sites were in poor-fair condition. However, West Government Creek was considered to be in good condition due to an abundance of perennial grasses, forbs, and preferred browse cover. A suggested habitat improvement that would address deer winter range condition on this site would be diversifying the age class component for preferred shrubs by decreasing decadence and increasing young populations. South Pine Canyon and the newly added Keg Mountain site are rated, respectively, as poor and fair winter range in 2022. Concerns identified are reduced perennial grass and forb abundance, and preferred browse, but annual grass is an additional issue. Addressing these areas as a focus for habitat rehabilitation would improve winter conditions for deer.

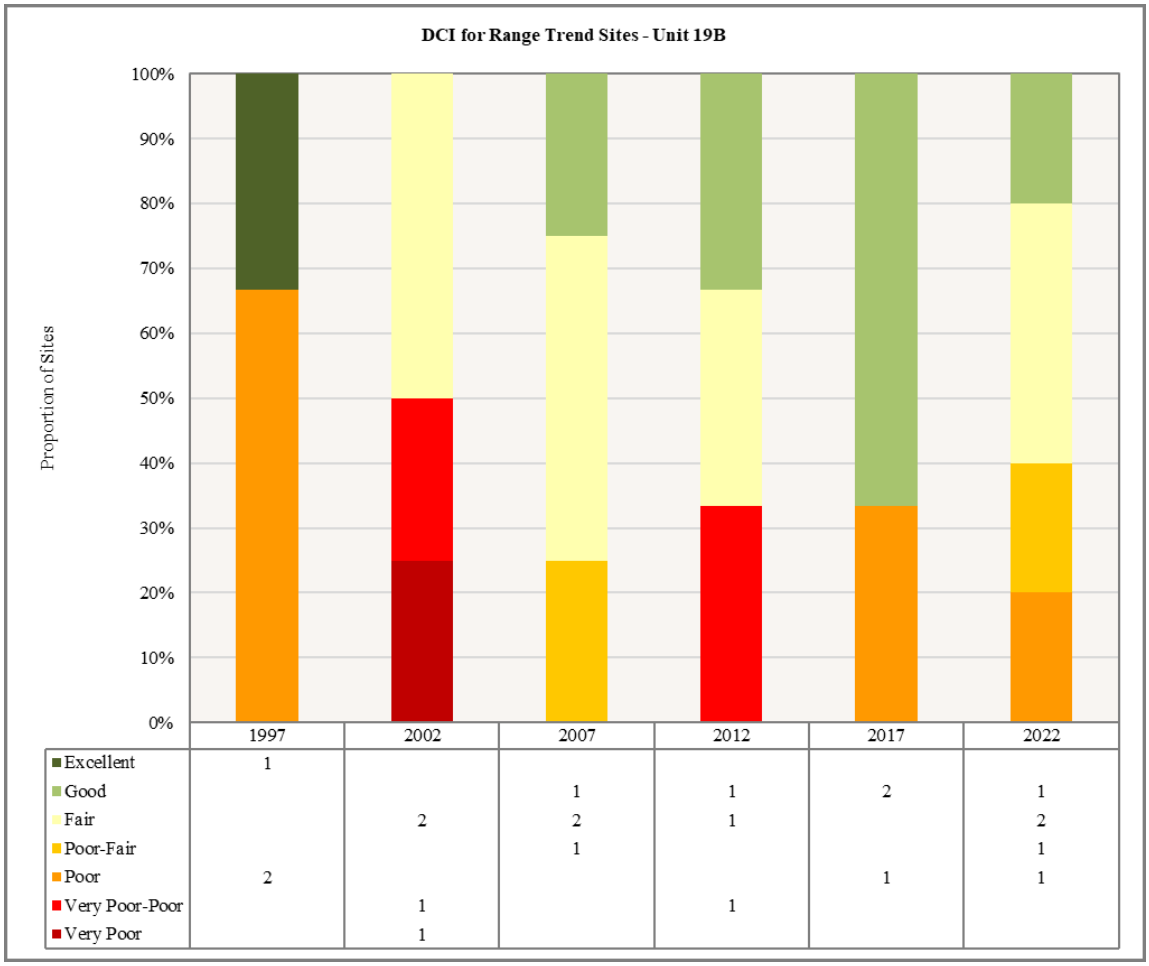


Figure 3: West Desert, Vernon deer winter range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2022.

Drought Index – West Desert, Vernon

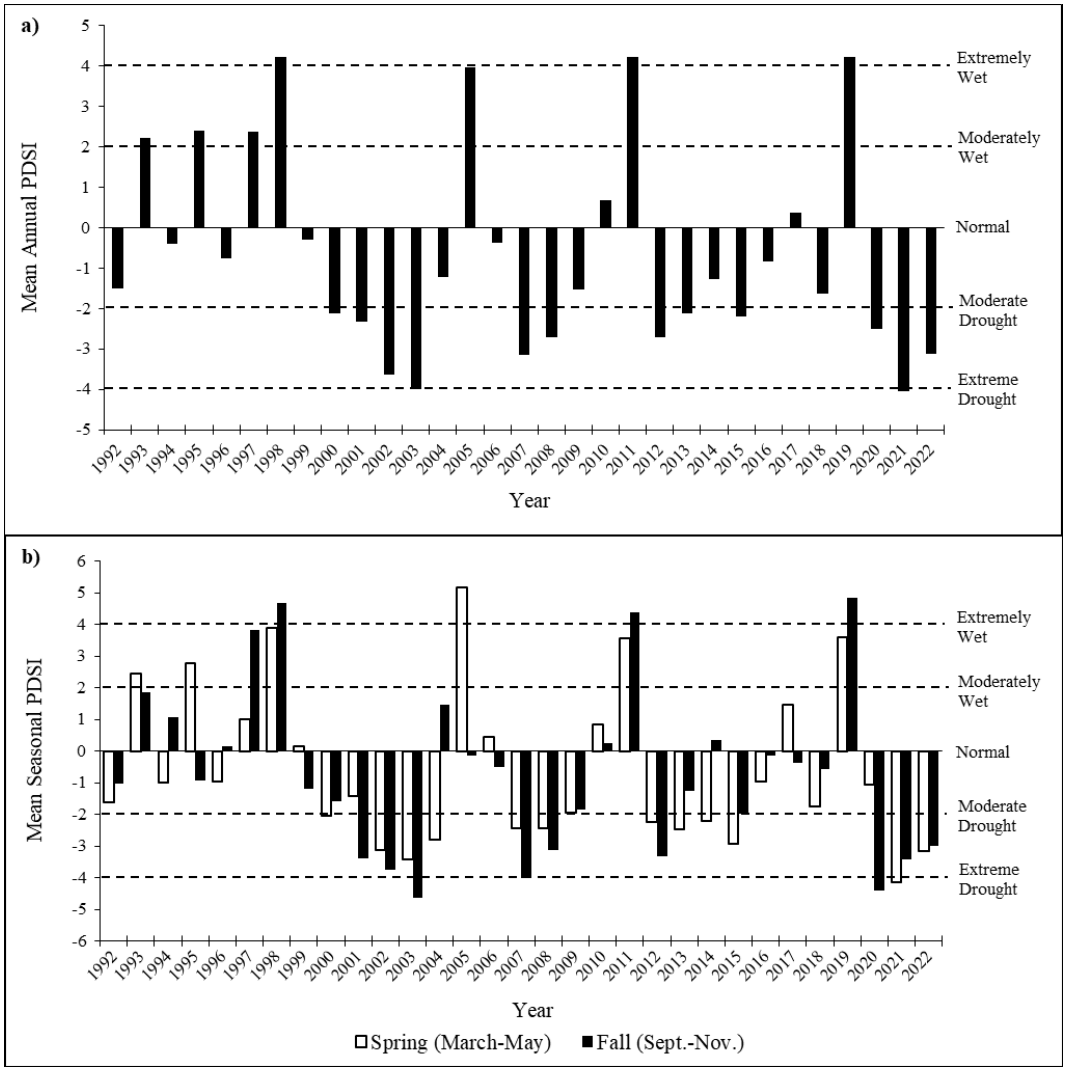


Figure 4: The 1992-2022 Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2022. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification 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.) PDSI (Time Series Data, 2023).

West Desert, Tintic (19c)

The condition of deer winter range within the Tintic management unit has modestly improved overall from very poor-fair averaged conditions in 1997 to fair averaged conditions in 2022. Sunrise Canyon is the main driver for the unit's wintering habitat stability and quality, and averages between fair and good for deer winter range conditions. Sioux Pass, Nephi Dump, and Furner Valley are considered to have poor conditions consistently from year to year, which suppresses the unit's overall quality of winter habitat; as of 2007, however, Sioux Pass has not influenced the winter range conditional trend. Furner Valley tends to have higher variability in deer winter habitat, and appears to have the highest degree of potential winter range improvement: the immediate area may benefit and respond the most to improvement projects. Areas of improvement may include a reduction in pinyon and juniper tree cover, and/or cheatgrass.

The overall deer winter range assessment in 2022 for WMU 19C was in fair condition. Factors contributing to fair conditions are the presence of annual grass, low abundance of perennial grasses and forbs, and a lack of preferred shrub recruitment. However, Nephi Dump has a notable perennial grass community present.

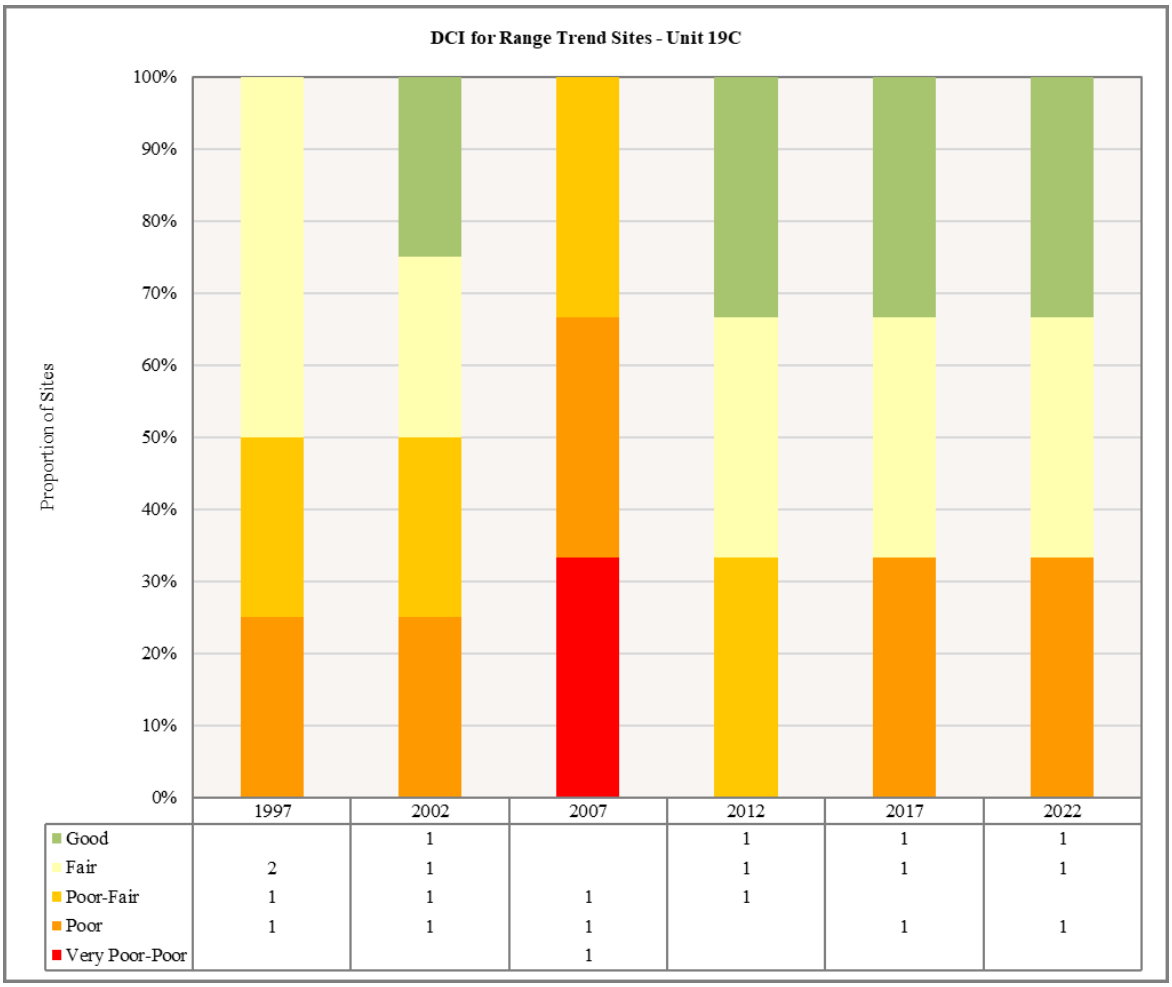


Figure 5: West Desert, Tintic deer winter range Desirable Components Index (DCI) showing proportions of range sites in each condition class (Poor, Fair, Good, etc.), 1997-2022.

Drought Index – West Desert, Tintic

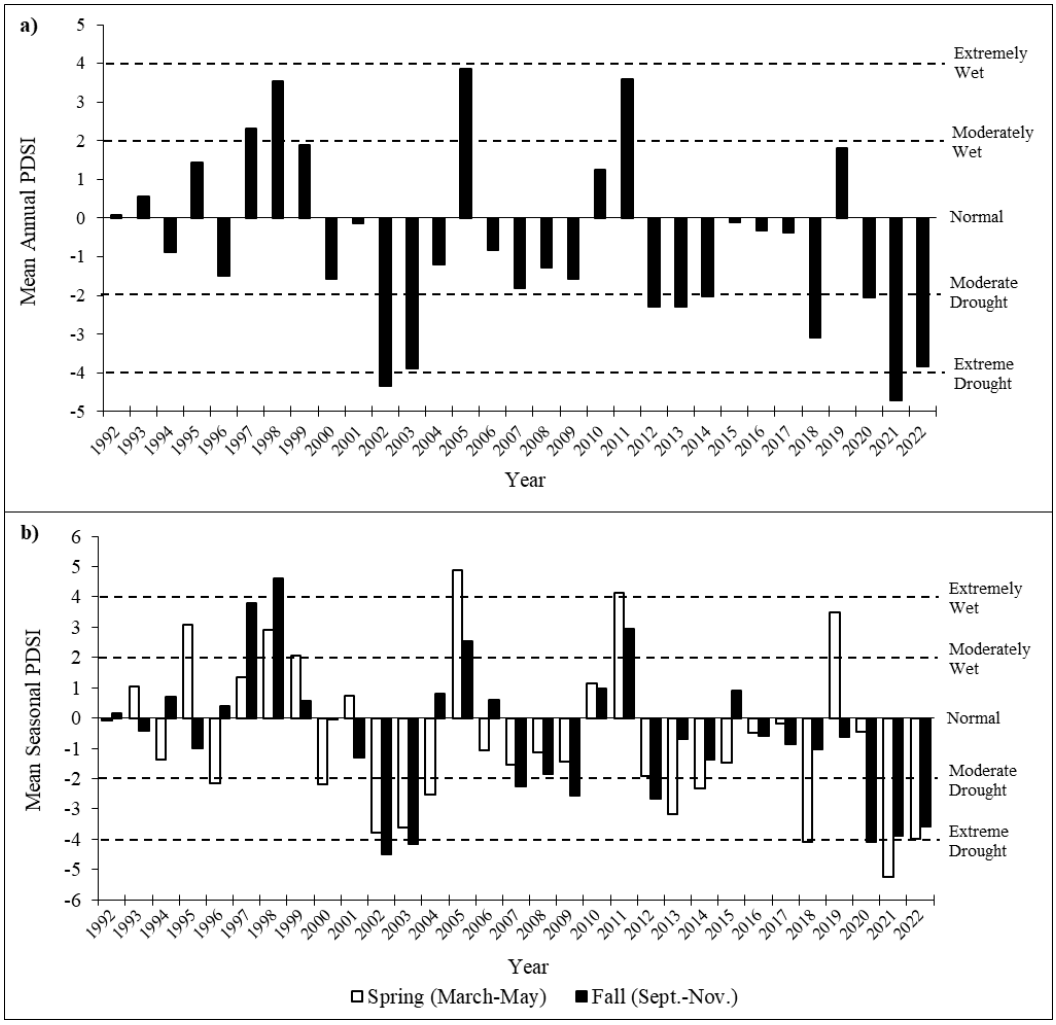


Figure 6: The 1992-2022 Palmer Drought Severity Index (PDSI) for the South Central division (Division 4). The PDSI is based on climate data gathered from 1895 to 2022. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet, and negative deviations indicate drought. Classification 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.) PDSI Time Series Data, 2023).

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.