

**DEER HERD UNIT MANAGEMENT PLAN**  
**Deer Herd Unit # 19**  
**(West Desert)**  
**May 2014**

**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 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.

**LAND OWNERSHIP**

**RANGE AREA AND APPROXIMATE OWNERSHIP**

Ownership	YEARLONG RANGE		SUMMER RANGE		WINTER RANGE		TOTAL ACRES
	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
<b>TOTAL</b>	<b>616,568</b>	<b>100%</b>	<b>211,614</b>	<b>100%</b>	<b>543114</b>	<b>100%</b>	<b>1,371,296</b>

## **UNIT MANAGEMENT GOALS**

- < Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing.
- < Balance deer herd impacts on human needs, such as private property rights, agricultural crops and local economies.
- < Maintain the population at a level that is within the long-term capability of the available habitat to support.

## **POPULATION MANAGEMENT OBJECTIVES**

- < Target Winter Herd Size - Achieve a long-term combined target population size of 11,200 wintering deer (modeled number)

### **Unit 19**

Target Objective 2014 – 2019: 11,200 (no change from last plan)

- < 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 DWR. Range Trend data coupled with annual 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.
- < Herd Composition (19a,c) – Maintain a three year average postseason buck to doe ratio according to the statewide plan (19a,c is managed for 15-17 bucks per 100 does).
- < Vernon (19b) – (limited entry portion of unit 19); maintain a three year average postseason buck to doe ratio ranging from 25-35:100.
- < Harvest – General Buck Deer hunt regulations, using archery, Rifle, and Muzzleloader hunts apply on the West Desert Mountain Ranges (19a,c). Limited Entry hunt regulation for Archery, Rifle and Muzzleloader apply to Vernon subunit 19b.

## **POPULATION MANAGEMENT STRATEGIES**

### **Monitoring**

- < Population Size - Utilizing harvest data, postseason and spring classifications and mortality estimates, a computer model has been developed to estimate winter population size. Because of low deer densities resulting in inadequate classification on (19a,c) 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,c). Based on harvest data the population for (19a,c) is approximately 9,000. The 2013 model estimates the 19b population at 2,000 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.

### **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. Although it may not be the primary limiting factor pinyon and juniper encroachment on the south slope of the Sheep Rock Range needs to be addressed moving forward to ensure abundance of high quality winter forage.
- < Predation - Refer to DWR predator management policy.
  - < If the population estimate is less than 90% of objective and postseason fawn to doe ratio drops below 55 for 2 of the last 3 years or if the fawn survival rate drops below 40% for one year, then a Predator Management Plan targeting coyotes will be implemented on that subunit.
  - < If the population estimate is less than 90% of objective and the doe survival rate drops below 85% for 2 of the last 3 years or below 80% for one year, then a Predator Management Plan targeting cougar could be implemented on that subunit.
- < Highway Mortality - Cooperate with the Utah Dept. Of Transportation in construction of highway fences, passage structures and warning signs etc.
- < Illegal Harvest - If illegal harvest is identified as a significant source of mortality, an attempt to develop specific preventive measures within the context of an action plan will be 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, spring 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. 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.
- < 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.
- < Future pinyon juniper work should be concentrated on the following areas.
  - < The south slope of the Sheep Rock Mountains.
  - < The north and west slope of The Deep Creek Mountains.
- < Future summer range work should be concentrated on the Deep Creek Mountains.

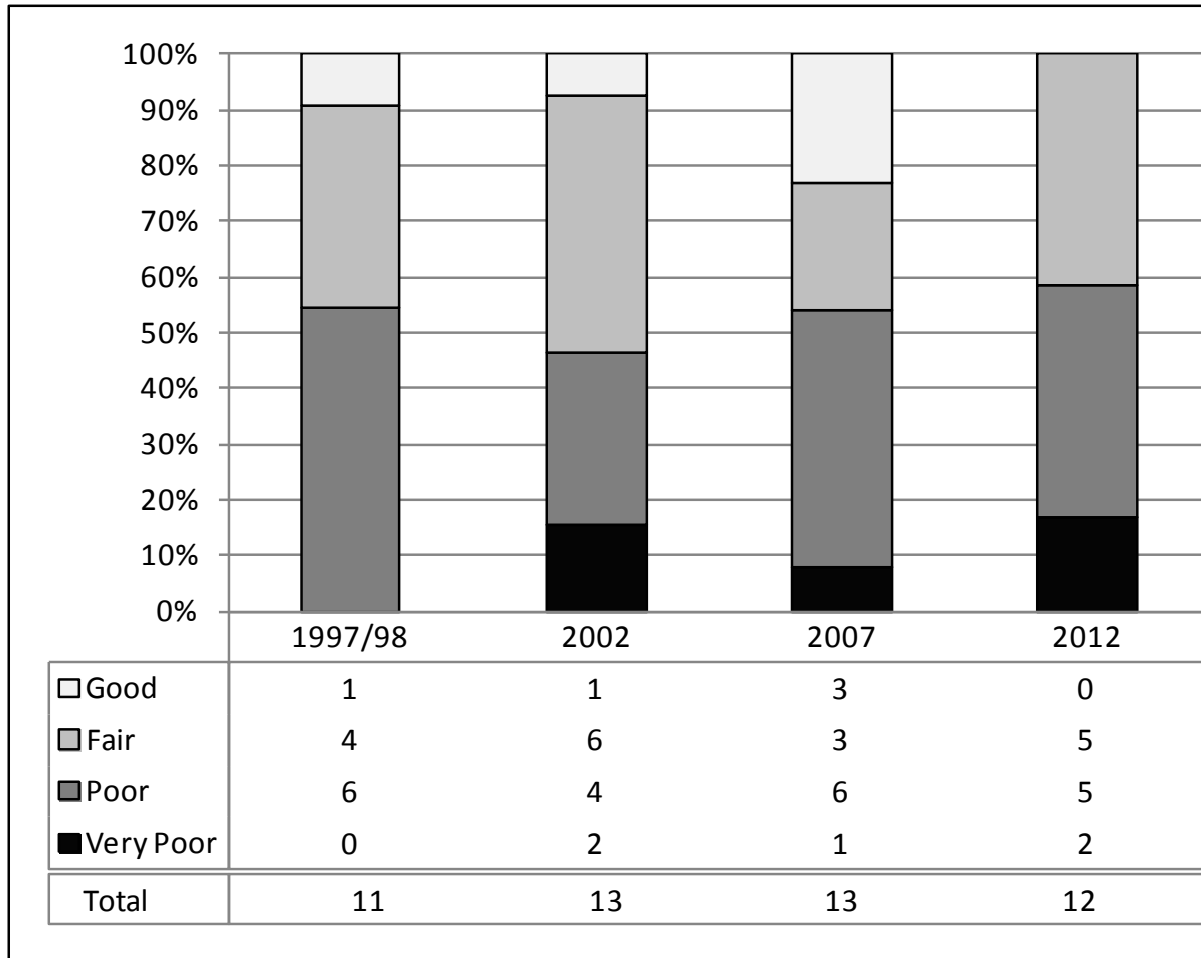
Projects Unit 19 2006-2014	# Projects	Acres
Pinyon-Juniper Projects	19	18,194
Sagebrush Improvement Projects	11	5,957
Fire Rehabilitation Projects	11	11,807
Weed Eradication Projects	7	1,847
Total	48	37,805

#### **Total Habitat Projects and Acres by Project Type**

\*see appendix for specific projects

**PERMANENT RANGE TREND SUMMARIES** (Added 2001)

**Units 19a & 19c, West Desert/Deep Creek/Tintic Subunits (2012)**



**Deer winter range condition trend summary for subunit 19a & 19c, West Desert/Deep Creek/Tintic subunits, as indicated by the deer winter range Desirable Components Index (DCI).**

**DWR Winter Range Trend Assessment**

There were 14 range trend study sites sampled on the Deep Creek mountain range and Tintic Subunit in 2012. There are 12 studies that are considered to be deer winter range and two studies considered to be deer summer range.

There are seven range trend study sites on the Deep Creek mountain range. Browse species are typically common on the higher elevation winter ranges, but are generally more limited at the lower elevation deer winter range sites. The primary concern on the studies within the subunit is the abundance of weedy annual grass species (cheatgrass), particularly on the lower elevation sites.

There are seven range trend study sites in the Tintic subunit, five of which are deer winter range and two that are summer range. Browse species are typically common on the higher elevation winter ranges, but are generally much more limited at the lower elevation deer winter range sites. The Leamington Burn Complex in 1996 burned a large portion of the southern part of subunit 19c, and browse species remain

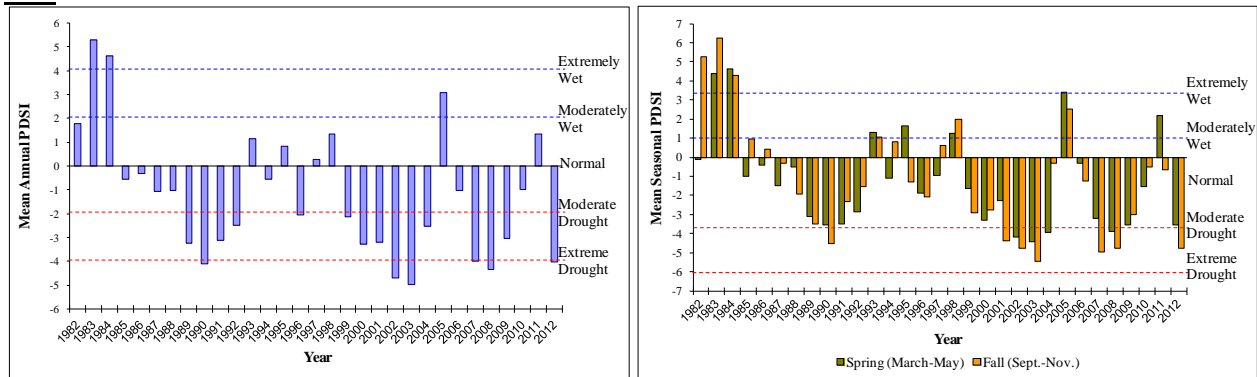
rare in these areas. The abundance of weedy annual grass species (cheatgrass) is a particular concern on this subunit.

Apart from the areas impacted by wildfire, the winter range within the subunits appears suitable to support planned deer population objectives. The abundance of cheatgrass on the subunits is a concern because this annual species can increase fuel loads and increases the chance of a catastrophic fire event. Encroachment of pinyon and juniper trees into shrub winter ranges is also a concern in areas across the subunit. Encroachment of pinyon and juniper can reduce desirable shrub and herbaceous cover.

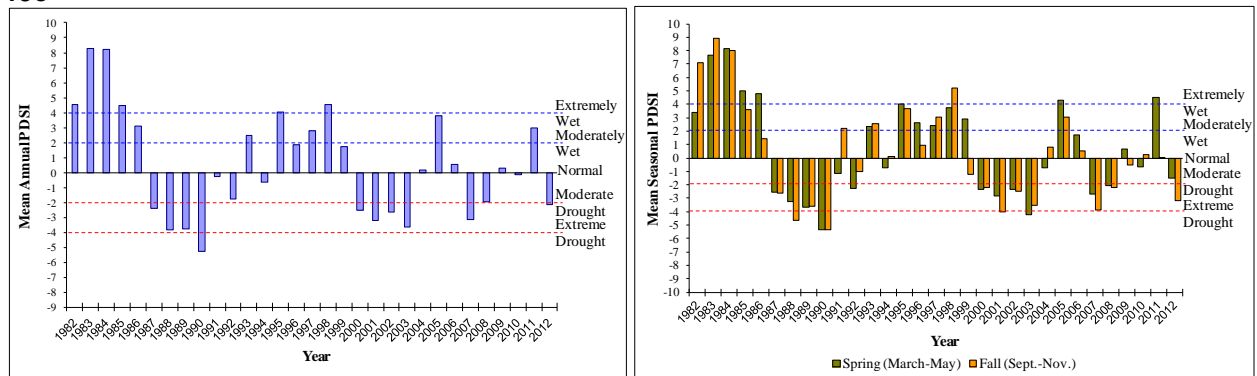
### Precipitation 19a & 19c

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Precipitation and Palmer Drought Severity Index (PDSI) data for the unit were compiled from the National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Division (PSD) as part of the Western division (Division 3). The Western division had a historic annual mean precipitation of 8.66 inches from 1895 to 2012. The mean annual PDSI of the Western division displays a pattern of drought years with a few periods of wet years over the course of study years (Figure 1 and Figure 2) (Time Series Data 2013).

#### 19a.

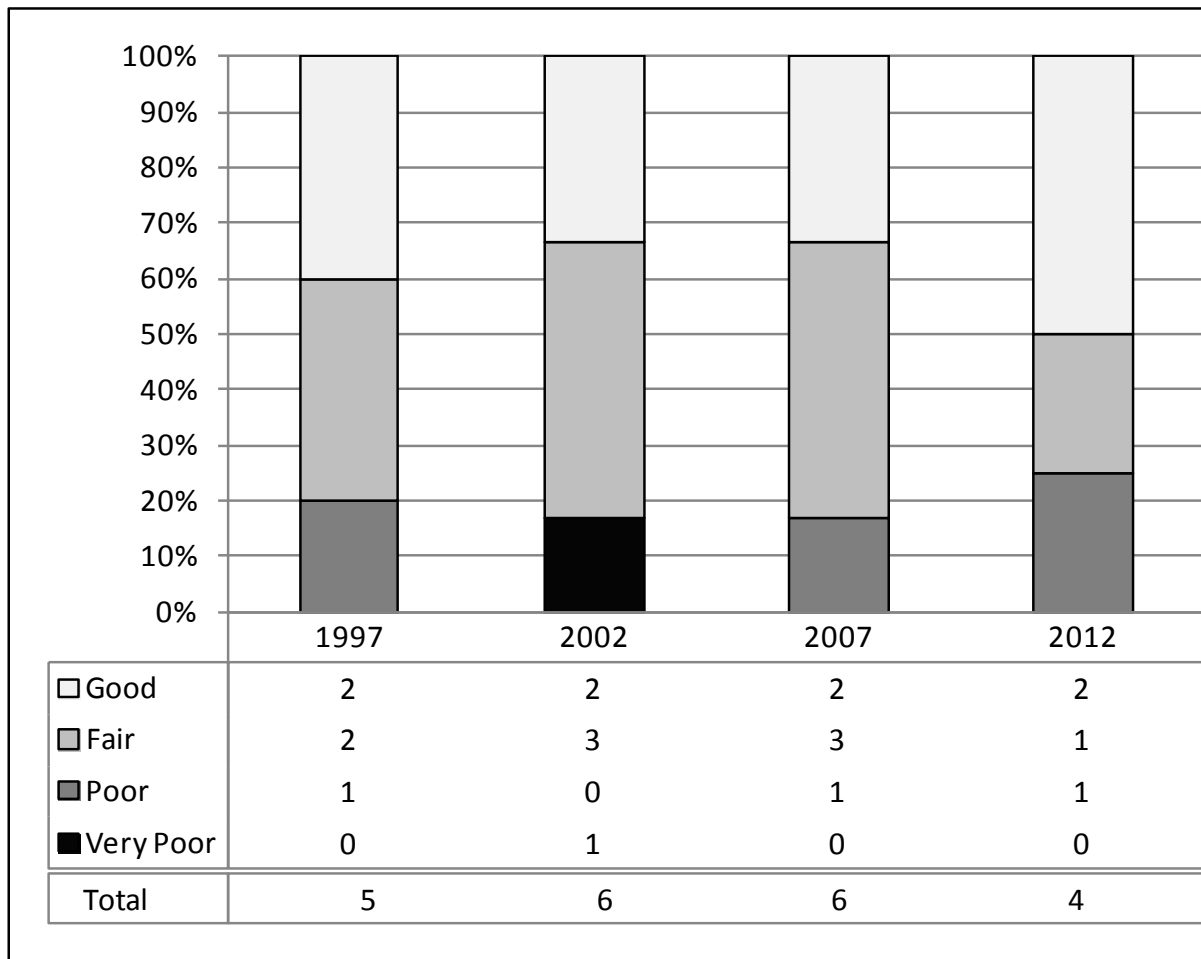


#### 19c



**Figure 1.** The 31 year mean annual Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2012. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is  $\geq 4.0$  = 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  $\leq -4.0$  = Extreme Drought (Time Series Data 2013).

**Figure 2.** The 31 year mean spring (March-May) and fall (Sept.-Nov.) Palmer Drought Severity Index (PDSI) for the North Central division (Division 3). The PDSI is based on climate data gathered from 1895 to 2012. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is  $\geq 4.0$  = 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  $\leq -4.0$  = Extreme Drought (Time Series Data 2013).



**Deer winter range condition trend summary for subunit 19b, West Desert/Vernon subunit, as indicated by the deer winter range Desirable Components Index (DCI).**

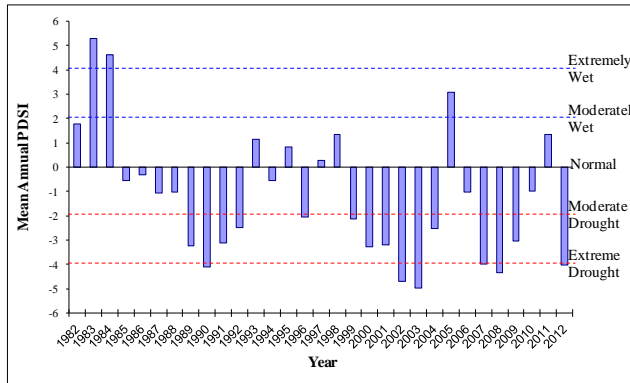
There were eight range trend study sites sampled on the Vernon subunit in 2012. Four of the sites are considered to be deer summer range and four are considered to be deer winter range. The summer range study sites appear to be doing well; however, with the presence of the weedy species bulbous bluegrass on most of these sites there is a concern that this weedy species may increase throughout the area. On deer winter range sites, the mean density of Wyoming big sagebrush has generally decreased over the duration of the sample years. However, mean cover of Wyoming big sagebrush has slightly increased over the same duration. Mean decadence of Wyoming big sagebrush has also generally increased. All sagebrush trends imply that on these low-level potential studies sagebrush populations are self-thinning and senescing, and at the same time individual plants within the populations are becoming larger.

The summer and winter range within this subunit appears suitable to support planned deer population objectives. Cheatgrass and bulbous bluegrass are not primary problems within the study sites on the subunit, but could become a more substantial threat in the future. Decreases in sagebrush on the lower elevation winter range study sites may become more pronounced with further maturation of stands. Encroachment of pinyon and juniper trees into shrub winter ranges is also a concern in areas across the subunits. Encroachment of pinyon and juniper can reduce desirable shrub and herbaceous cover.

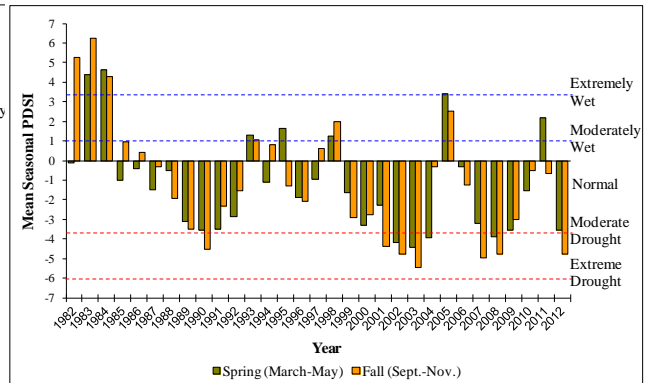
## Precipitation 19b

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Precipitation and Palmer Drought Severity Index (PDSI) data for the unit were compiled from the National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Division (PSD) as part of both the Western (Division 1) and North Central (Division 3) divisions. Studies that are located in the Western division include the Upper Little Canyon, Bennion Creek, Harker Canyon, West Government Creek, Lee's Creek,

### 19b



**Figure 1.** The 31 year mean annual Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2012. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is  $\geq 4.0$  = 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  $\leq -4.0$  = Extreme Drought (Time Series Data 2013).



**Figure 2.** The 31 year mean spring (March-May) and fall (Sept.-Nov.) Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2012. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is  $\geq 4.0$  = 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  $\leq -4.0$  = Extreme Drought (Time Series Data 2013).



## **Duration of Plan**

This unit management plan was approved by the Wildlife Board on \_\_\_\_\_ and will be in effect for five years from that date, or until amended.

## **APPENDIX**

### **Unit 19a, West Desert Mountain Ranges Subunit**

**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. Excludes all CWMUs. USGS 1:100,000 Maps: Bonneville Salt Flat, Currie, Delta, Ely, Fish Springs, Kern Mountains, Lynndyl, Rush Valley, Tooele, Tule Valley, Wildcat Mountain. Boundary questions? Call the Springville office, 801-491-5678 or the Cedar City office, 435-865-6100.

### **Unit 19b, West Desert/Vernon/ Subunit**

**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. USGS 1:100,000 Maps: Lynndyl, Delta, Fish Springs, Rush Valley. Boundary questions? Call the Springville office, 801-491-5678.

### **Unit 19c, West desert, Tintic**

**Tooele, Juab, Utah and Millard counties** – Boundary begins at I-15 and SR-73 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 SR-132; west on SR-132 to US-6; north on US-6 to SR-36; north on SR-36 to SR-73; east on SR-73 to I-15 in Lehi. Excludes all CWMUs USGS maps: Delta Lynndyl, Manti, Nephi, Provo, Rush Valley. Boundary questions? Call DWR Springville office, (801) 491-5678.