

MULE DEER HERD UNIT MANAGEMENT PLAN
Herd Unit #21A
Oak Creek, Limited Entry Unit
2020

BOUNDARY DESCRIPTION

Juab and Millard counties - Boundary begins at SR-50 and I-15 near Holden; north on I-15 to the Mills road; west on this road to the railroad tracks; west on these tracks to the Sevier River; north along this river to SR-132; west on SR-132 to SR-125 (300 East in Leamington); south on SR-125 to McCormick Road (CR-4549); south on this road to Whiskey Creek Road; southeast on this road to SR-50 in Holden; north on SR-50 to I-15. Excludes all CWMUs.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

OWNERSHIP	Year-Long Range		Summer Range		Winter Range	
	AREA (acres)	%	AREA (acres)	%	AREA (acres)	%
Forest Service	0	0%	111,072	86%	0	0%
Bureau of Land Management	3,106	50%	7,283	11%	10,931	25%
Utah State Institutional Trust Lands	42	1%	242	2%	10,839	25%
Native American Trust Lands	0	0%	0	0%	0	0%
Private	2,487	49%	867	2%	29,382	50%
Department of Defense	0	0%	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%
TOTALS	5,635	100%	119,462	100%	51,152	100%

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 – Manage for a 5-year target population of **2,000** wintering deer (modeled number) during the five-year planning period; unless range conditions become unsuitable as evaluated by DWR. This is a decrease from the 2015 plan which was 2,500. The 10-year average is 1,980. 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 – This is a Limited Entry unit and will be managed to maintain a three year average postseason buck to doe ratio of **25-35** according to the statewide plan.

Harvest – Limited Entry Buck Deer hunt regulations will be used to maintain and work towards objectives on this unit. Hunting strategies will include using Archery, Rifle, and Muzzleloader hunts. Antlerless removal will be implemented to achieve the target population size using a variety of harvest methods and seasons. It is recognized that buck harvest may fluctuate due to climatic and productivity variables. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives.

POPULATION MANAGEMENT STRATEGIES

Monitoring

- Population Size - Utilizing harvest data, postseason classification and mortality estimates, a computer model has been developed to estimate winter population size. The 2019 model estimates the population at 1,500 deer.
- Buck Age Structure - Monitor age class structure of the buck population through the use of, mandatory reporting requirements, checking stations, postseason classification, statewide harvest survey data and bag checks.
- Harvest - The primary means of monitoring harvest will be through the statewide harvest survey and the use of checking stations.

Limiting Factors (May prevent achieving management objectives)

- Crop Depredation – Strategies will be implemented to mitigate crop depredation as prescribed by state law and DWR policy.
- Habitat – The amount and condition of summer habitat on public lands, landowner acceptance and winter forage conditions will determine herd size. Excessive habitat utilization will be addressed through antlerless removal.
- Predation - If predation is determined to be a limiting factor, efforts to limit predation will be taken according to DWR predator management policy.
- Highway Mortality – DWR will cooperate with the Utah Dept. Of Transportation to construct highway fences, passage structures and warning signs etc if needed. Currently, highway mortality is not a limiting factor on this unit.
- Illegal Harvest - If illegal harvest is identified as a limiting factor, a unit specific action plan will be develop in cooperation with the Law Enforcement Section.

HABITAT MANAGEMENT OBJECTIVES

- Maintain or enhance forage production through direct range improvements on winter and summer deer range throughout the unit to achieve population management objectives.
- Maintain critical fawning habitat in good condition. Fawn recruitment is a major concern on this unit and may be the single greatest factor limiting the population.

- Work with federal and state partners in fire rehabilitation and prevention on crucial deer habitat through the WRI process

HABITAT MANAGEMENT STRATEGIES

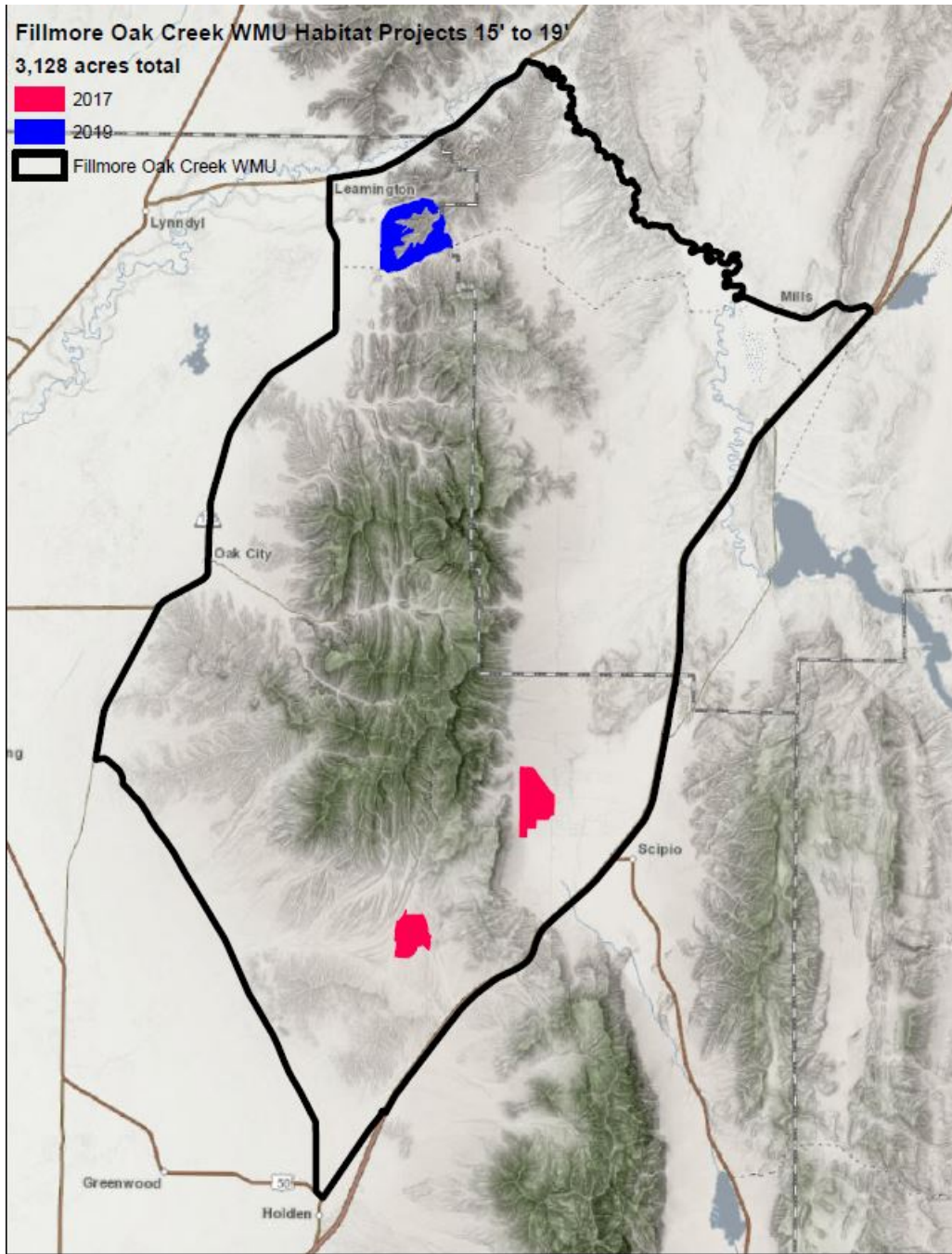
Monitoring

- 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. However, the relationship between DCI and the changes in deer carrying capacity is difficult to quantify.

Habitat Protection, Improvement 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 including but not limited to: oil and gas development, wind energy, solar energy, and transmission line construction.
- Coordinate with federal and state partners in designing projects that will improve fire resiliency and protect areas of crucial habitat.
- Work toward long-term habitat protection and preservation through agreements with land management agencies and local governments, the use of conservation easements, etc. on private lands and working toward blocking up UDWR properties through land exchanges with willing partners.
- Manage vehicle access on Division of Wildlife Resources land to limit disturbance critical times such as winter and fawning.
- Reduce expansion of Pinion-Juniper woodlands into sagebrush habitats and improve habitats dominated by Pinion-Juniper woodlands by completing habitat restoration projects.
- Cooperate with federal land management agencies and local governments in developing and administering access management plans for the purposes of habitat protection and to provide refuges.
- Future habitat work should be concentrated on the following areas.
 - Seek to increase browse in burned areas of critical winter range.
 - Summer range improvement and expansion.

Habitat Improvement Projects



PERMANENT RANGE TREND SUMMARIES

DWR Winter Range Trend Assessment

The condition of deer winter range within the Fillmore - Oak Creek management unit has continually changed on the sites sampled since 1997. The active Range Trend sites sampled within the unit are considered to be in very poor to good condition as of the 2017 sample year. It is possible given more time and continual monitoring that these sites will (continue to) improve.

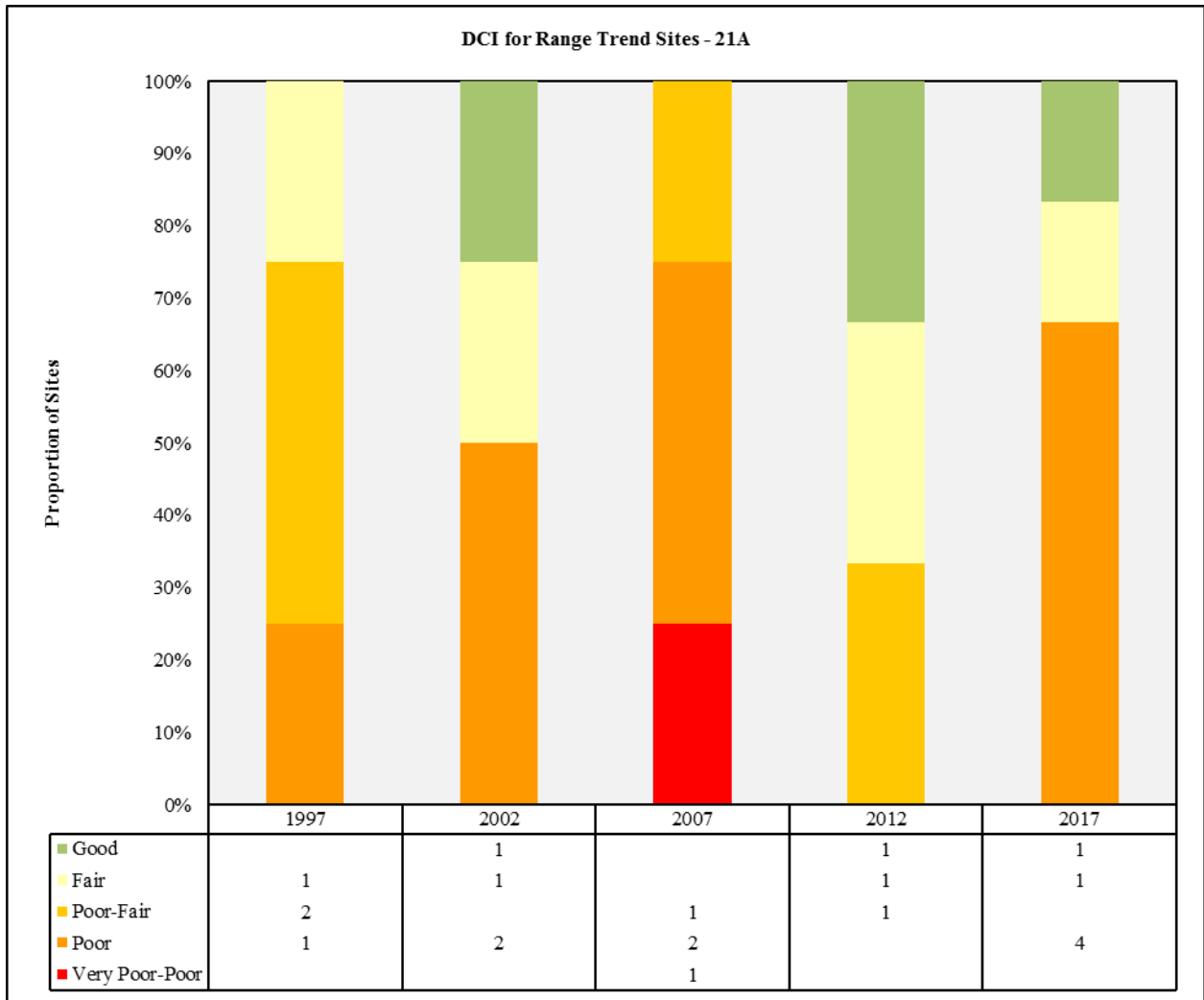


Figure 7.1: Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 21A, Fillmore - Oak Creek.

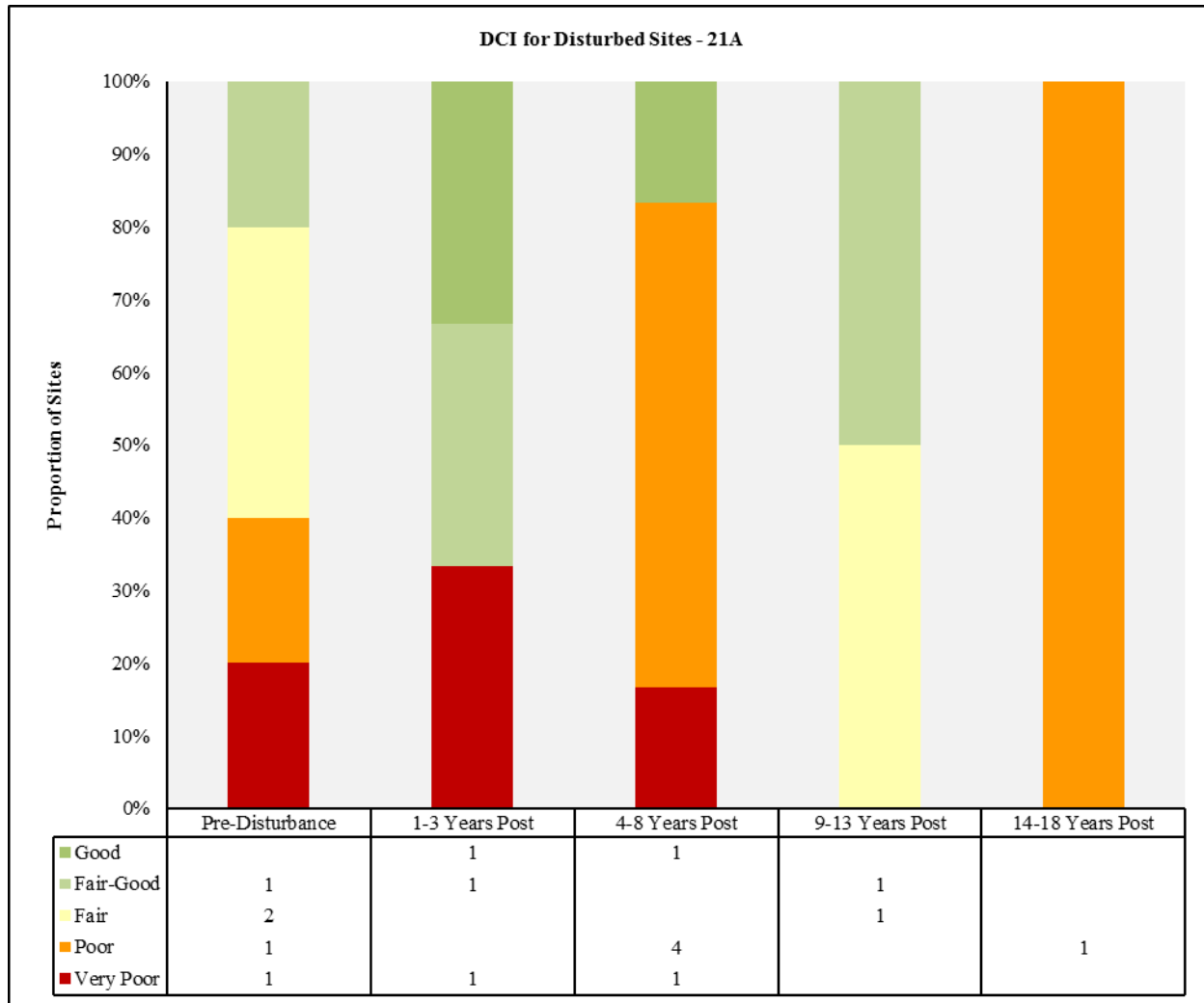


Figure 7.2: Deer winter range Desirable Components Index (DCI) summary by year of treated/disturbed sites for WMU 21A, Fillmore - Oak Creek.

Climate data

The 30-year (1981-2010) annual precipitation PRISM model shows precipitation ranges on the unit from 8 inches in the Sevier Desert near Delta to 25 inches on the peaks of Blue Mountain and Partridge Mountain. All of the Range Trend and WRI monitoring studies on the unit occur within 9-22 inches of precipitation (**Map 7.1**) (PRISM Climate Group, Oregon State University, 2013).

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Palmer Drought Severity Index (PDSI) data for the unit was compiled from the National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Division (PSD) as part of the Western, South Central and North Central Mountains divisions (Divisions 1, 3, and 4).

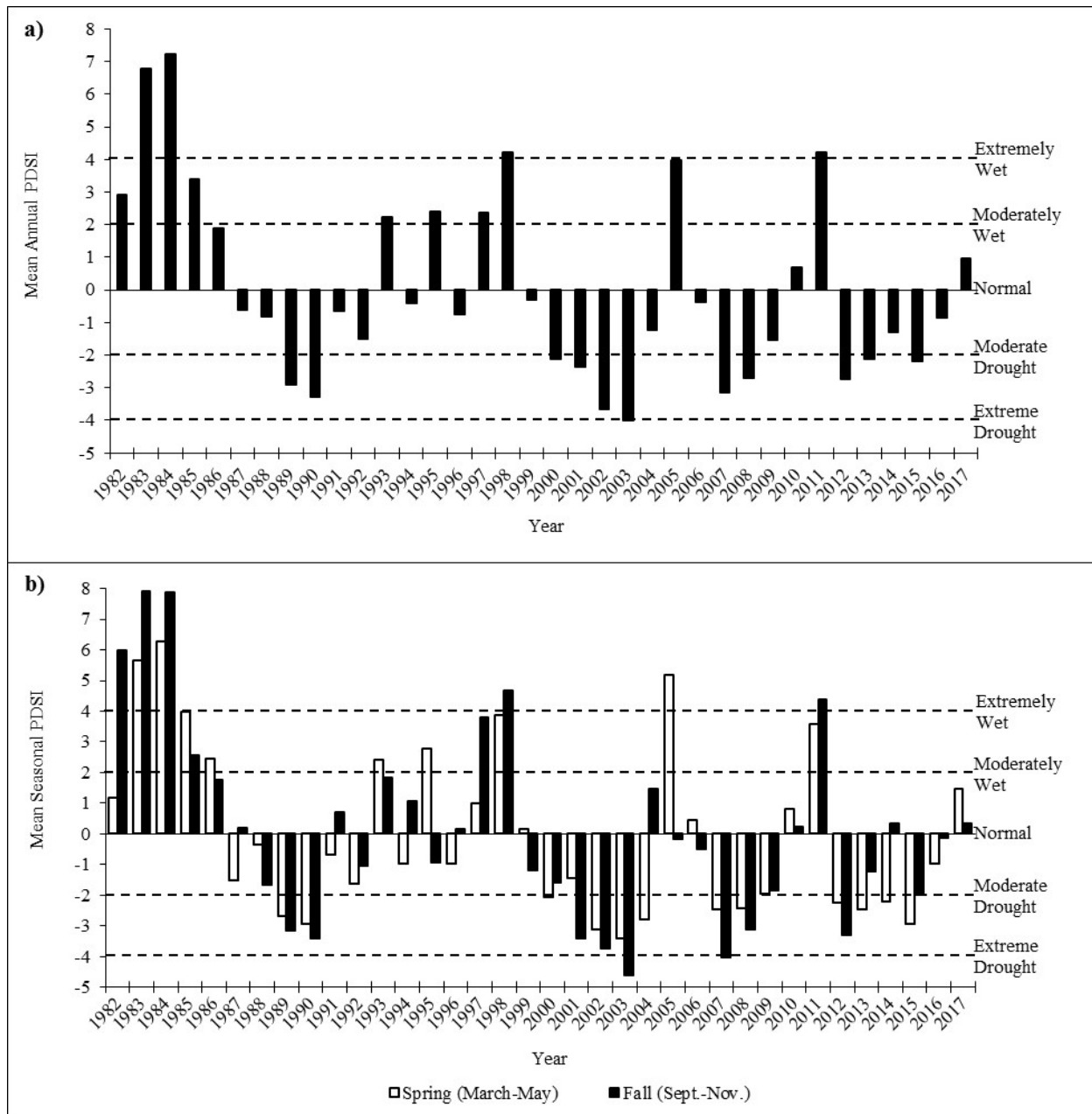
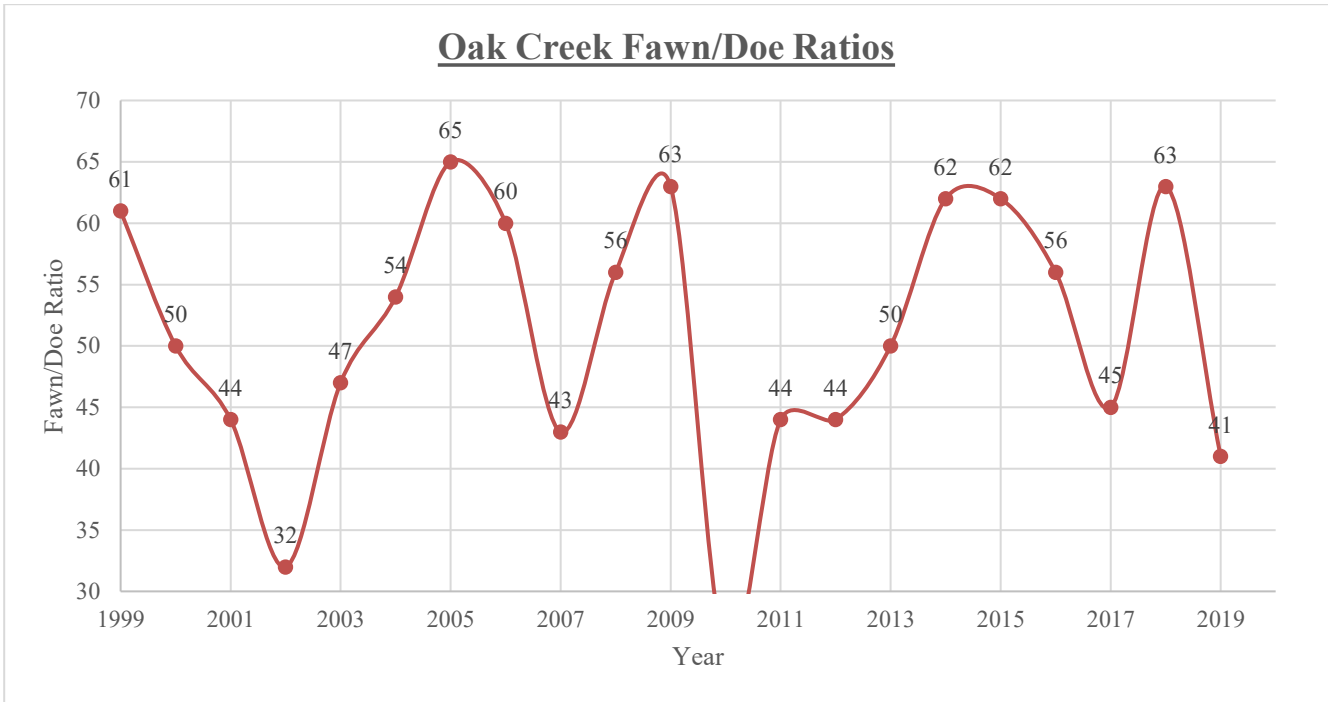
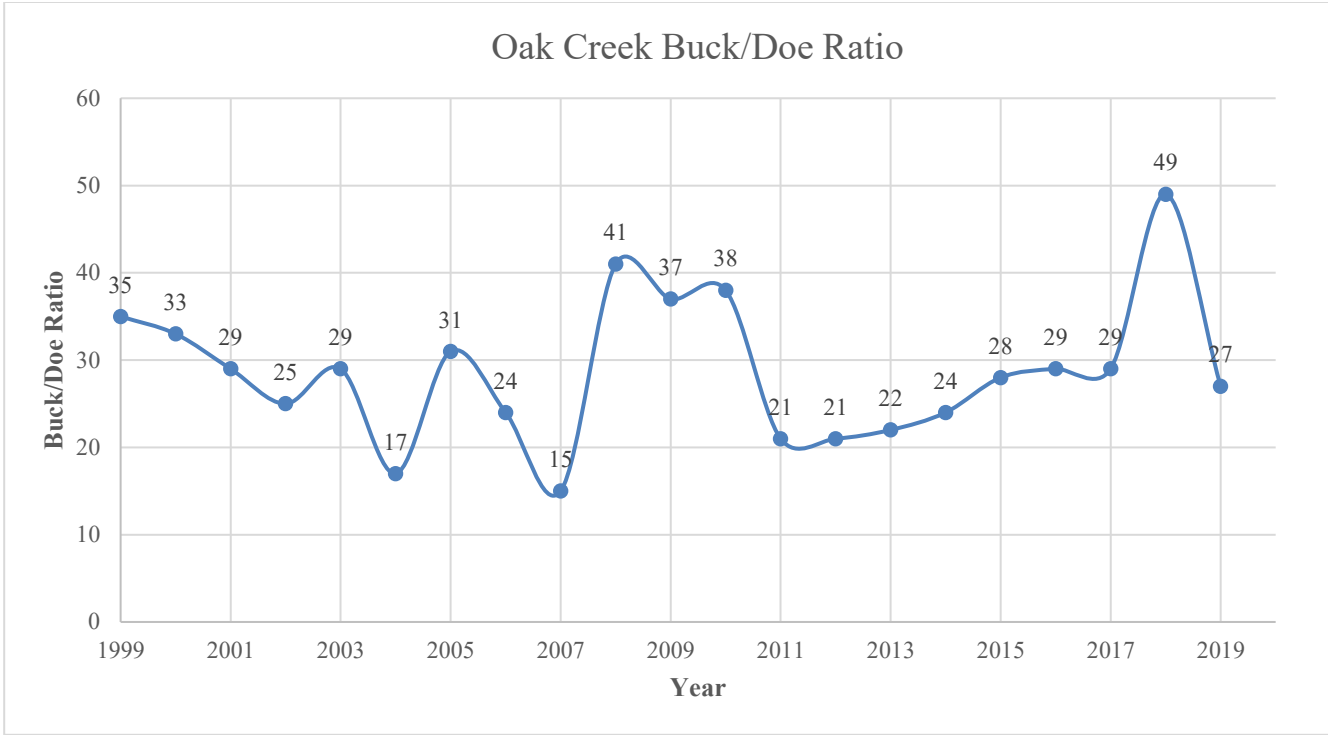


Figure 7.3: The 1982-2017 Palmer Drought Severity Index (PDSI) for the Western division (Division 1). The PDSI is based on climate data gathered from 1895 to 2017. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification 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, 2018).



Works Cited
 Time Series Data. (2015). *National Oceanic and Atmospheric Administration Earth System Research Laboratory Physical Science Division*. Retrieved January 2015, from <http://www.esrl.noaa.gov/psd/data/timeseries/>