DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 24
Mt. Dutton
2020

BOUNDARY DESCRIPTION

Garfield and Piute counties - Boundary begins at US-89 and SR-62; south on US-89 to SR-12; east on SR-12 to the Widtsoe-Antimony road; north on the Widtsoe-Antimony road to SR-22; north on SR-22 to SR-62;west on SR-62 to US-89.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	YEARLONG RANGE		SUMMER RANGE		WINTER RANGE		TOTAL ACRES
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%	
Forest Service	8,374	34%	131,391	100%	106,357	42%	246,122
Bureau of Land Management	1,166	5%	0	0%	76,366	30%	77,532
Utah State Institutional Trust Lands	623	2%	20	1%	35,768	14%	36,411
Native American Trust Lands	0	0%	0	0%	0	0%	0
Private	14,450	59%	30	0%	28,772	11%	43,252
Bankhead Jones	0	0%	0	0%	7,225	3%	7225
USFWS Refuge	0	0%	0	0%	0	0%	0
National Parks	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%	244	0%	244
TOTAL	24,663	100%	131,440	100%	254,733	100%	410,786

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.
- Continue to review habitat boundaries and look for ways to improve boundaries that provide for better social and biological needs on the unit.

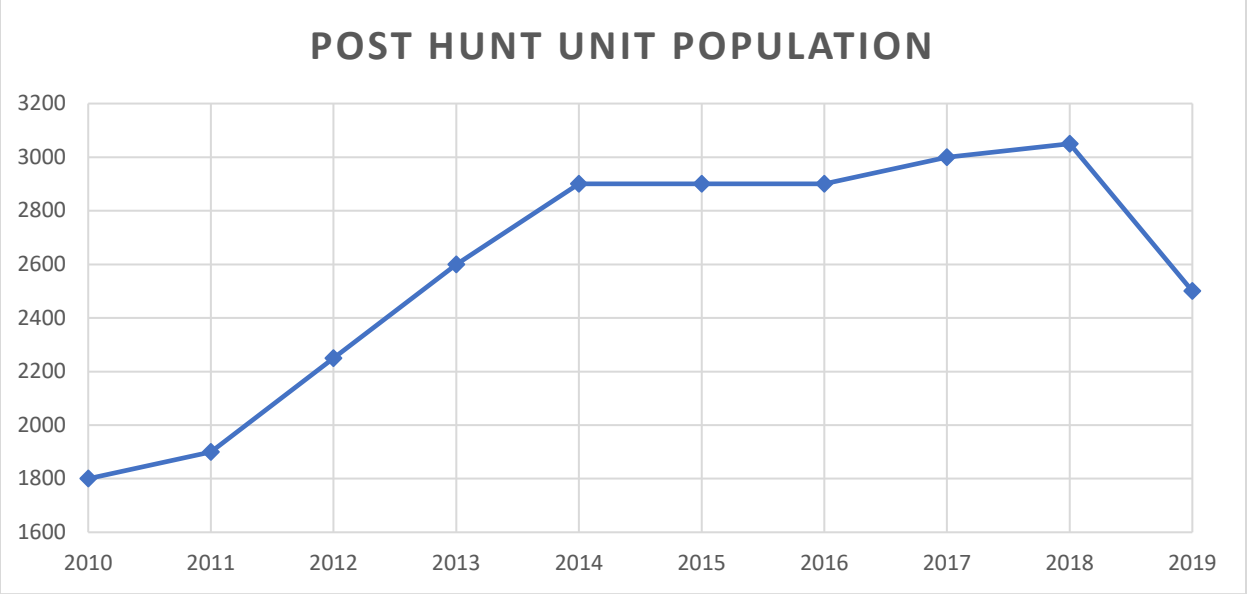
POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size - Manage for a 5-year target population of **3,200** wintering deer (modeled number) during the five-year planning period; unless range conditions become unsuitable as evaluated by DWR. This in an increase from the 2015 plan, which was 2,700. The 10-year average population estimate is 2,570. 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 General Season unit and will be managed to maintain a three year average postseason buck to doe ratio of **18-20** according to the statewide plan.

Harvest – General season hunting 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.

A Limited Entry muzzleloader hunt will also be offered on this unit in early November. Permits will be recommended up to 0.5% of the general-season draw permit total with a minimum of 5 permits on the unit.



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. The 2019 model estimates the population at 2,500 deer.

- Buck Age Structure - Monitor age class structure of the buck population through the use of checking stations, postseason classification, uniform harvest surveys and field bag checks.

- Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey, checking stations, and field bag checks. Achieve the target population size by use of antlerless harvest using a variety of harvest methods and seasons. Recognize

that buck harvest will be above or below what is expected due to climatic and productivity variables. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives for buck:doe ratios.

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 - Public land winter range availability, landowner acceptance and winter range forage conditions will determine herd size. Excessive habitat utilization will be addressed with hunting.

- Predation - Follow DWR predator management policy.

- Highway Mortality - Cooperate with the Utah Department Of Transportation (UDOT) in construction of highway fences, passage structures and warning signs etc. Highway mortality occurs on U.S. 89 and SR 62, but is not a serious problem and in concentrated in only a few locations on this unit. Concentrated highway mortality occurs on US 89 south of Circleville. Illuminated warning signs are installed in this area.

- 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 mule deer habitat throughout the unit by protecting and enhancing existing crucial habitats and mitigating for losses due to natural and human impacts.

- Seek cooperative projects to improve the quality and quantity of deer habitat.

- Provide improved habitat security and escapement opportunities 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.

- Work with land management agencies to evaluate and develop motorized travel plans to reduce disturbance during times of high stress, such as winter and fawning.

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 wildfire 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 habitat work should be concentrated on the following areas.

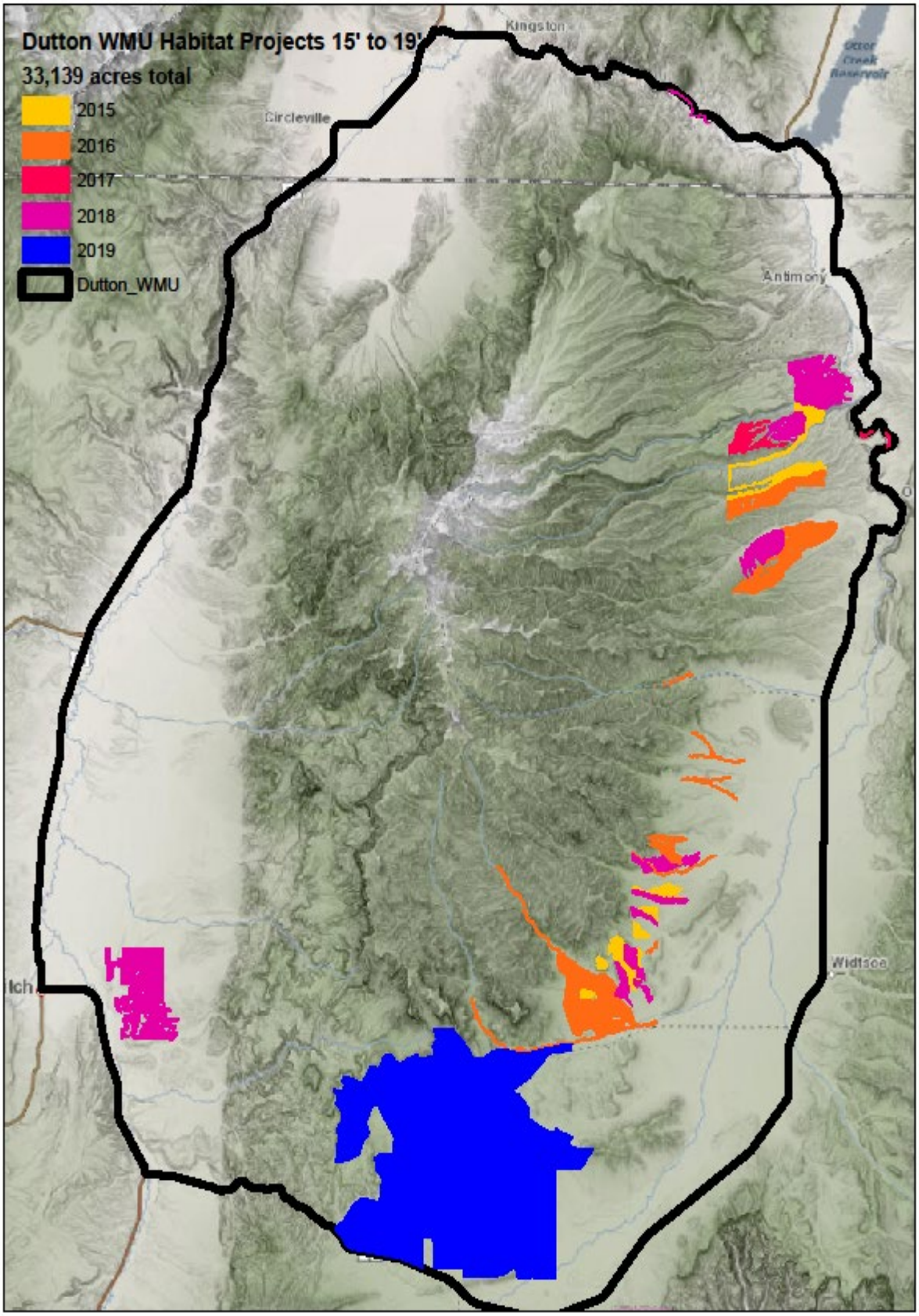
    - Continue to reduce Pinyon and Juniper encroaching into shrubland, specifically in John's Valley, Pole Canyon north into Kingston Canyon, and south of Circeville into Horse Valley and other areas in critical winter range.
    - Seek opportunities on Panguitch East bench to reduce Sagebrush age class homomogenization and increase species diversity.
    - Seek opportunities to increase browse and perennial forbs in areas of critical winter range through mechanical treatment and reseeding

Treatments and Restoration Work

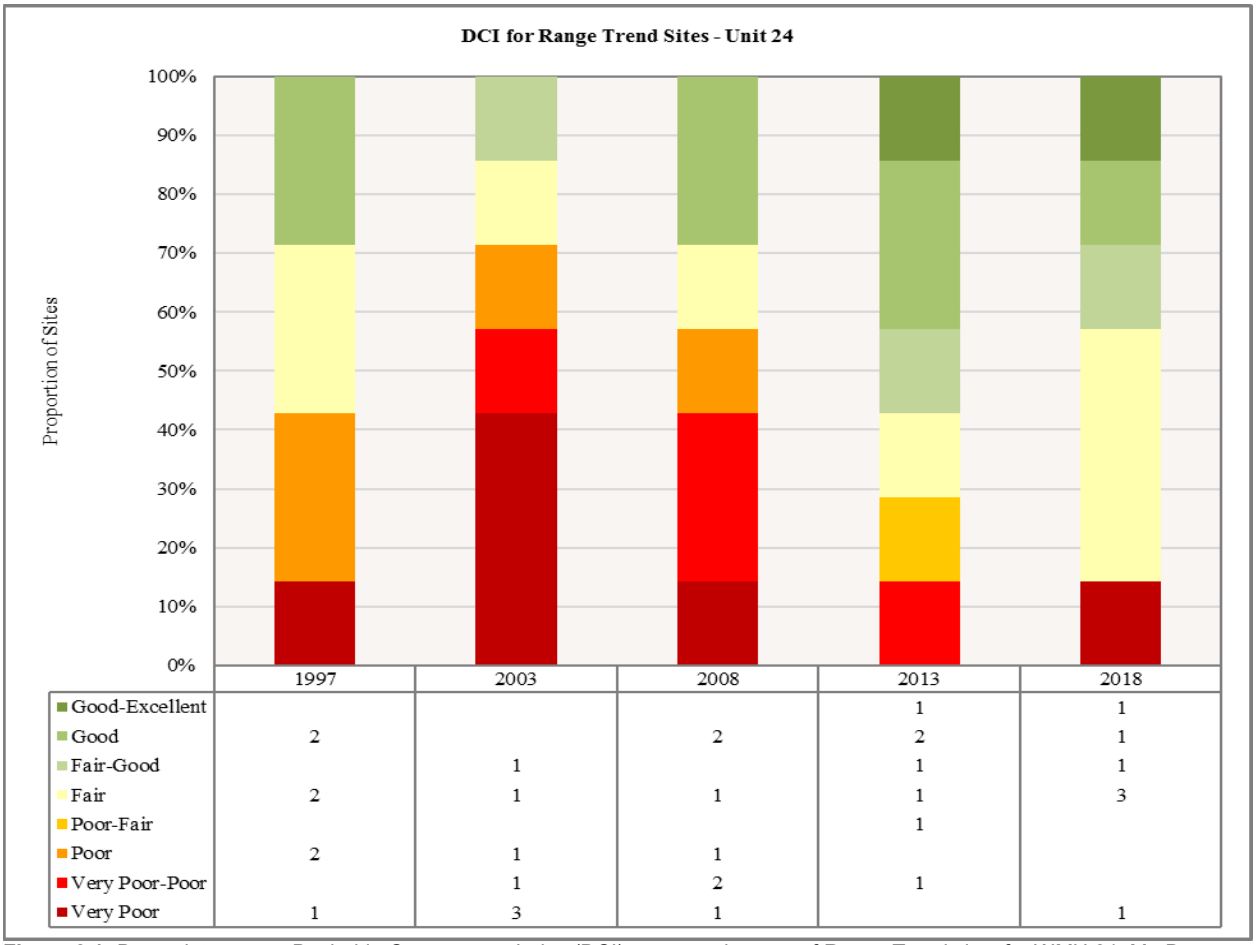
- There has been an active effort to address many of the limitations on this unit through the Watershed Restoration Initiative (WRI). A total of 27,070 acres have been treated within the Mt. Dutton unit since the WRI was implemented in 2004 (Map 2.6). Other treatments have occurred outside of the WRI through independent agencies and landowners, but the WRI comprises the majority of work done on deer winter ranges throughout the state of Utah.The majority of treatment acreage, especially bullhog, chaining, lop and-scatter and seeding, was done to reduce pinyon and juniper woodlands. Other common management treatments are those to rejuvenate sagebrush stands such as chaining, mowing and harrow treatments. Herbicide treatments within the unit are primarily used to control cheatgrass and restore other more desirable species.

Type	Completed Acreage	Current Acreage	Pending Completed Acreage	Proposed Acreage	Total Acreage
Anchor Chain	**6,255**	**0**	**586**	**0**	**6,841**
Ely (One-Way)	596	0	586	0	1,182
Ely (Two-Way)	5,659	0	0	0	5,659
Bullhog	**5,993**	**1,049**	**0**	**895**	**7,937**
Full size	4,730	1,049	0	895	5,779
Skid steer	1,264	0	0	0	1,264
Chain Harrow	**990**	**0**	**0**	**0**	**990**
≤15 ft. (One-Way)	990	0	0	0	990
Disc	**193**	**0**	**0**	**0**	**193**
Plow (One-Way)	193	0	0	0	193
Harrow	**1,423**	**0**	**150**	**0**	**1,573**
≤15 ft. (One-Way)	732	0	150	0	882
>15 ft. (One-Way)	692	0	0	0	692
Mowing	**24**	**0**	**0**	**0**	**24**
Other	24	0	0	0	24
Seeding (Primary)	**4,178**	**0**	**0**	**0**	**4,178**
Broadcast (Aerial-Fixed Wing)	220	0	0	0	220
Drill (Rangeland)	63	0	0	0	63
Ground (Mechanical Application)	3,895	0	0	0	3,895
Vegetation Removal/Hand Crew	**4,634**	**2,462**	**0**	**6,569**	**13,665**
Lop & Scatter	4,634	2,462	0	6,569	13,665
Other	**482**	**0**	**0**	**0**	**482**
Road Decommissioning	482	0	0	0	482
Grand Total	**24,172**	**3,511**	**736**	**7,464**	**35,883**
*** Total Land Area Treated**	**21,496**	**3,511**	**736**	**1,327**	**27,070**

- **Table 2.1:** WRI treatment action size (acres) for completed, current, and proposed projects for WMU 24, Mt. Dutton. Data accessed on 02/18/2019. *Does not include overlapping treatments.


Dutton WMU Habitat Projects 15' to 19'
33,139 acres total
2015
2016
2017
2018
2019
Dutton_WMU
Kingston
Circleville
Antimony
Widtsoe

PERMANENT RANGE TREND SUMMARIES



	1997	2003	2008	2013	2018
Good-Excellent				1	1
Good	2		2	2	1
Fair-Good		1		1	1
Fair	2	1	1	1	3
Poor-Fair				1	
Poor	2	1	1		
Very Poor-Poor		1	2	1	
Very Poor	1	3	1		1

Figure 2.1: Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 24, Mt. Dutton.

Unit 24 Mount Dutton

The condition of deer winter range within the Mt. Dutton management unit has generally improved on the study sites sampled since 1997. The majority of sites sampled within the unit are considered to be in fair to good condition based on the most current sample data, and the proportion of sites classified, as being in very poor condition has remained consistent.

The only undisturbed study during the report period that has consistently remained in very poor condition is the Marshall Basin study, which has maintained a depleted browse component, and an herbaceous understory lacking in perennial forbs

The condition of disturbed and treated sites typically improves with increased time after disturbance on this unit. Mud Spring Chaining, Panguitch East Bench Harrow, and Cow Creek are the three studies that fit within this generalization. Mud Spring Chaining did not show immediate improvement in condition following treatment, and only reaching fair condition 11-15 years following treatment. Panguitch East Bench Harrow attained good condition 6-5 years following treatment, and Cow Creek's condition improved to good 1-5 years following treatment. All other remaining studies within the unit are within the pre-treatment sampling status. These study sites generally are still lacking in available browse and perennial forb species

The higher elevation upland and mountain sites that support Wyoming big sagebrush and mountain big sagebrush communities are generally considered to be in poor condition for deer winter range habitat on the Mt. Dutton management unit. These communities should have the potential to support robust shrub

populations that provide valuable browse in mild and moderate winters; however, drought conditions have limited browse suitability as valuable winter range.

The low elevation semidesert black sagebrush communities are generally considered to be in good condition for deer winter range habitat on the unit. These communities support robust shrub populations that provide valuable browse in moderate to severe winters.

The lower elevation semidesert Wyoming big sagebrush communities that have not been disturbed are generally considered to be in good condition for deer winter range habitat on the unit. These communities support robust shrub populations that provide valuable browse in moderate to severe winters. However, these communities are prone to wildfire. Similarly to semidesert black sagebrush communities, the Wyoming big sagebrush communities respond slowly to wildfire, pinyon-juniper encroachment, and cheatgrass invasion and this should be taken into consideration when performing habitat rehabilitation projects.

Precipitation

Vegetation trends are dependent upon annual and seasonal precipitation patterns. 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 South Central division (Division 4). The mean annual PDSI of the South Central division displayed years of moderate to extreme drought from 1989-1990, 2002-2003, and 2012-2013. The mean annual PDSI displayed years of moderate to extreme wet years from 1982-1985, 1997-1998, 2005, and 2011 (Figure 2.1a). The mean spring (March-May) PDSI displayed years of moderate to extreme drought in 1989-1990, 1996, 2002-2004, and 2013; and displayed years of moderate to extreme wet years in 1982-1985, 1993, 1995, 1999, 2001, 2005, and 2011. The mean fall (Sept.-Nov.) PDSI displayed years of moderate to extreme drought in 1989-1990, 2002-2003, 2007, 2009 and 2012; and displayed years of moderate to extreme wet years in 1982-1985, 1997-1998, 2008 and 2011 (Figure 2.1b) (Time Series Data, 2018).

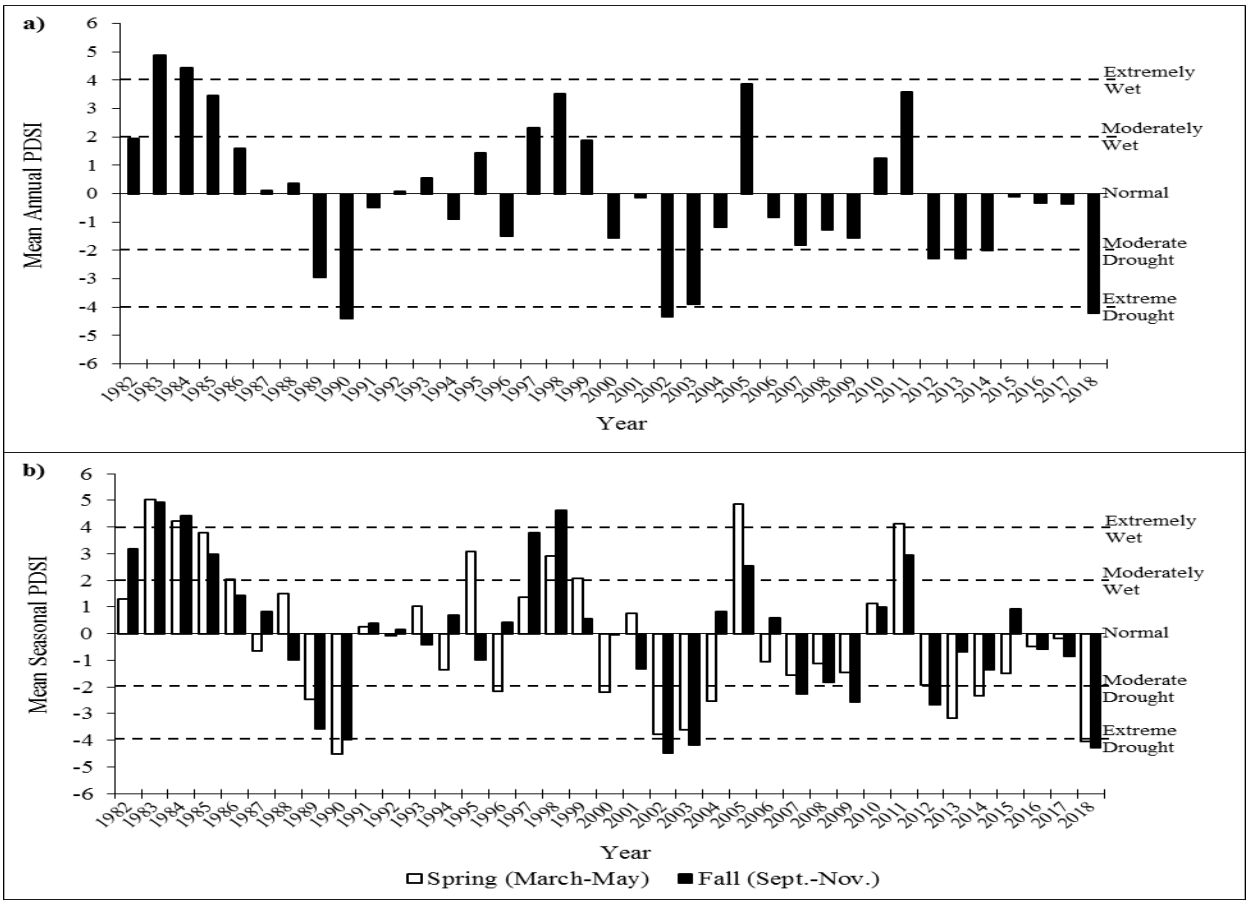
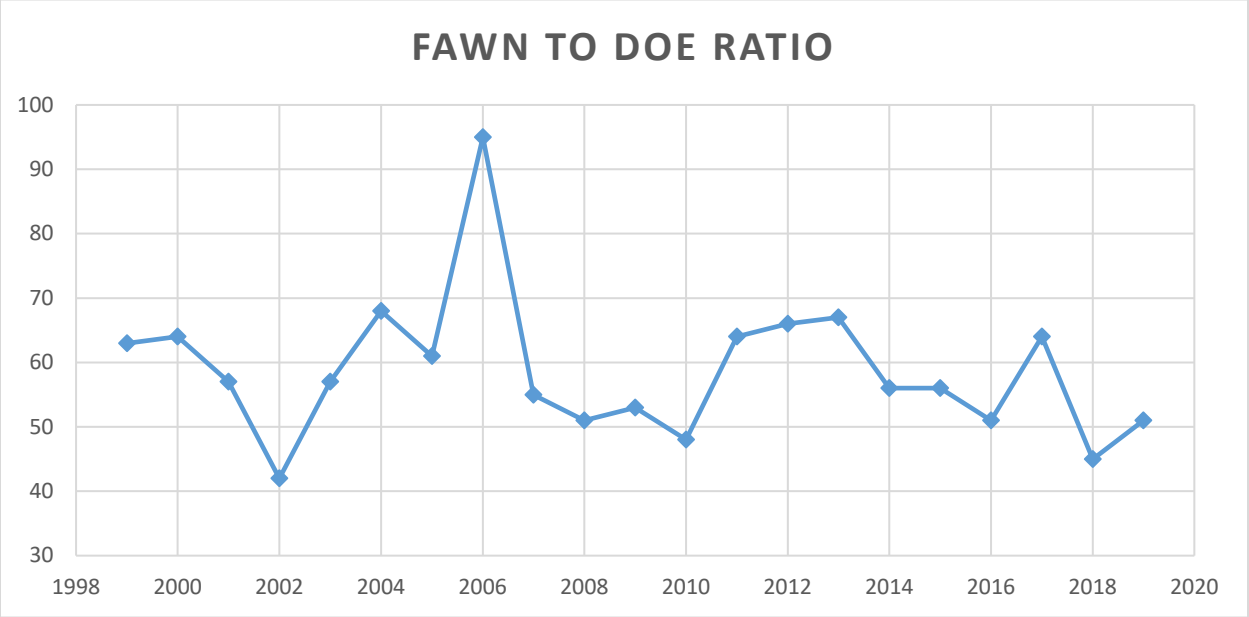
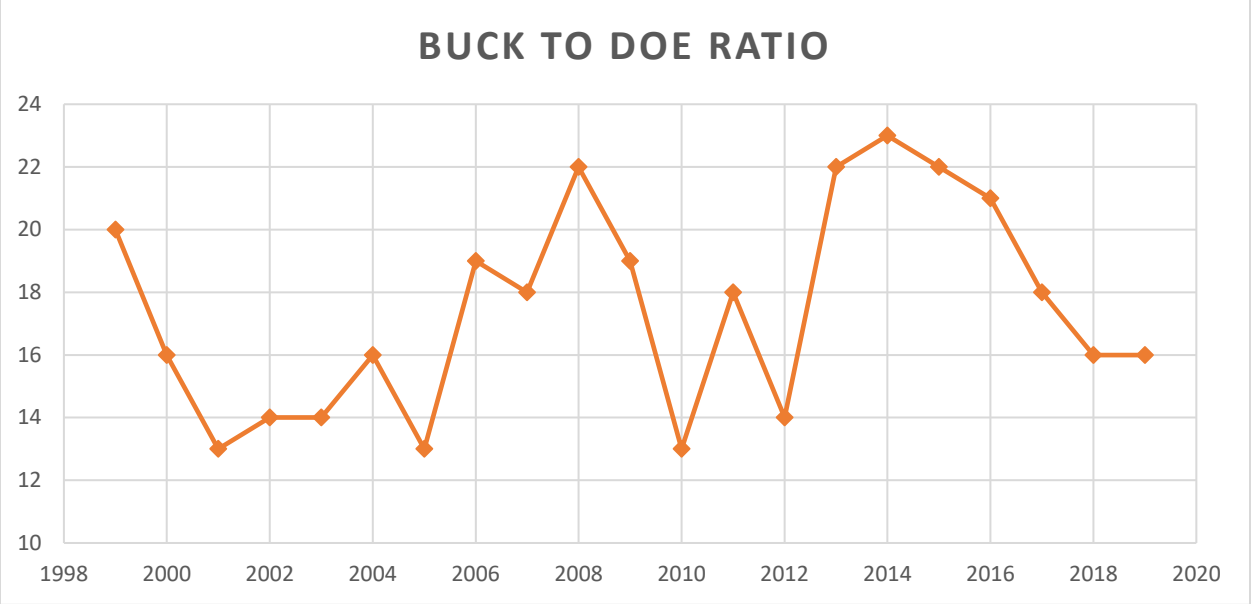


Figure 2.2: The 1982-2018 Palmer Drought Severity Index (PDSI) for the South Central division (Division 4). The PDSI is based on climate data gathered from 1895 to 2018. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification 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 -.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, 2019).





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.