DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit #23
Monroe
2020

BOUNDARY DESCRIPTION

Piute and Sevier counties - Boundary begins at I-70 and US-89 north of Sigurd; south on US-89 to SR-24; south on SR-24 to SR-62; south and west on SR-62 to US-89; north on US-89 to I-70 near Sevier; north on I-70 to US-89 north of Sigurd.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	Year-long range		Summer Range		Winter Range	
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0		112284	75%	43465	24%
Bureau of Land Management	0		8724	6%	99873	56%
Utah State Institutional Trust Lands	0		9942	7%	15034	9%
Native American Trust Lands	0		0	0%	640	0%
Private	0		18382	12%	15283	9%
Department of Defense	0		0	0%	0	0%
USFWS Refuge	0		0	0%	0	0%
National Parks	0		0	0%	0	0%
Utah State Parks	0		0	0%	0	0%
Utah Division of Wildlife Resources	0		0	0%	3753	2%
TOTAL	0		149332	100%	178048	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 with 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 target population size of 7,000 wintering deer (modeled number). Permit the population to exceed the objective only if habitat and depredation conditions allow. This is a decrease from the 2015 plan, which was 7,500. Monitoring of this herd has shown that when the population nears 7,500 animals that herd productivity, fawn/doe ratios, adult body condition, and survival decline. This indicates that to have a thriving and productive herd that we should manage for slightly fewer deer.

- Herd Composition – Maintain a unit three-year average postseason buck to doe ratio in accordance with the statewide plan. Currently this unit is being managed for an 18-20 buck/doe ratio and it is recommended be continue managing for that objective. Recent public input shows that the public prefers managing this unit for an 18-20 buck/doe ratio vs a 15-17 ratio.

	Objective from past plan (2015)	**Long-term Objective**	**2021-2025 Objective**	**Change**
Monroe	7,500	7,500	7,000	-7%

POPULATION MANAGEMENT STRATEGIES

Year	Buck Permits	Buck harvest	*Antlerless Harvest	Post-Season F/100 doe	Post-Season B/100 doe	**Post-Season Population Estimate	Objective
2010	1,500	252	150	38	12	5,600	7,500
2011	1,400	432	97	66	14	5,200	7,500
2012	1,000	519	81	69	18	6,800	7,500
2013	1,200	630	117	70	23	7,800	7,500
2014	1,400	711	219	66	22	7,200	7,500
2015	1,500	743	247	64	22	6,900	7,500
2016	1,550	793	282	50	19	6,700	7,500
2017	1,550	760	343	51.5	13.6	6,000	7,500
2018	1,200	592	134	51.5	17.4	6,300	7,500
2019	1,100	427	80	43.1	16.8	5,400	7,500
2020	900						
10 yr Avg	1,300	586	175	56.9	17.8	6,390	

*Antlerless harvest targets deer living on agricultural ground year-round.
**Population estimates are modeled population estimates.

Monitoring

- Population Size - Herd composition and population size will be monitored through post season and spring classification, hunter check stations, harvest surveys computer modeling and radio collar survival studies. The 2019 model estimates the population at 5,400 deer wintering deer with a decreasing trend. Monitor adult doe and fawn survival through radio collar research studies on the unit. Use survival estimates gained from this research on surrounding units.

- 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. 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. Closely monitor Sevier Valley and Grass Valley agricultural areas. Work with landowners to increase tolerance for deer. Where necessary antlerless deer removal may be used to control damage to agricultural crops.

- Habitat – Habitat is often the driving force in a deer population. Habitat will be monitored for excessive use by deer. If needed to protect critical range, removal of antlerless deer through localized hunts may be implemented. Excessive habitat utilization will be addressed. Please see detailed habitat section of this plan.

- Predation - Follow DWR predator management policy.

    - Assess need for control by species, geographic area and season of year.

    - Seek assistance from USDA/Wildlife Services when deer populations are depressed and where there is a reasonable chance of gaining some relief through a predator control effort. Concentrate USDA/Wildlife Services control efforts during and immediately prior to the fawning period.

    - Recommend cougar harvest to benefit deer while maintaining the cougar as a valued resource in its own right. In 2019 cougar hunting permits were significantly increased to address significant predation the deer herd.

- Highway Mortality - Cooperate with the Utah Department of Transportation in construction of highway fences, passage structures and warning signs, etc. Specifically, explore ways to reduce deer/vehicle collisions on Highway 24, north of Koosharem reservoir (deer proof fencing, guzzlers etc.).

- Illegal Harvest - Specific preventive measures will be implemented through Action Plans developed in cooperation with the Law Enforcement section should illegal kill become an identified and significant source of mortality.

- Interspecific competition - No limitation generated by elk/deer interactions has been documented.

UNIT HABITAT MANAGEMENT PLAN

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 through statewide and local partnerships to improve the quality and quantity of deer habitat.
- Provide improved habitat security and escapement opportunities for deer, keeping habitat restoration projects a priority for wildlife.

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. Continue working toward blocking up UDWR properties through land exchange.
- Manage vehicle access on Division of Wildlife Resources land to limit human 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 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 such as lop & scatter bullhog and chaining.

- Continue to monitor and collect data from browse transects and permanent range trend studies located throughout the seasonal ranges within the unit

- 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.

- Continue involvement with local Monroe Mountain Working Group allowing for involvement and guidance to enhance and support habitat restoration efforts through local partnerships.

- Restore the Elbow Ranch WMA to Agriculture production such that it benefits mule deer.

- Future habitat work should be concentrated to increase the following management priorities:

    - Increase browse species within critical winter range, and burned areas.
    - Address unhealthy sagebrush winter range on NW part of the unit.
    - Improve and enhance WMA winter carrying capacity for mule deer.
    - Enhance critical winter range throughout the unit.
    - Support enhancement and restoration efforts in Quaking Aspen forests unit wide.
    - Maintain summer fawning areas by increasing beneficial habitat work in summer and transitional habitat areas.
    - Continue to use the Watershed Restoration Initiative (WRI) to identify, implement, and fund critical habitat projects throughout the unit, while partnering with federal, state, and private landowners to achieve these goals.
    - When selecting and implementing habitat restoration projects, design and develop with important wildlife benefits for mule deer.

Completed WRI Projects 2015-2019, 22,507 total acres

Current projects are being implemented and significant future projects are being recommended for the unit.

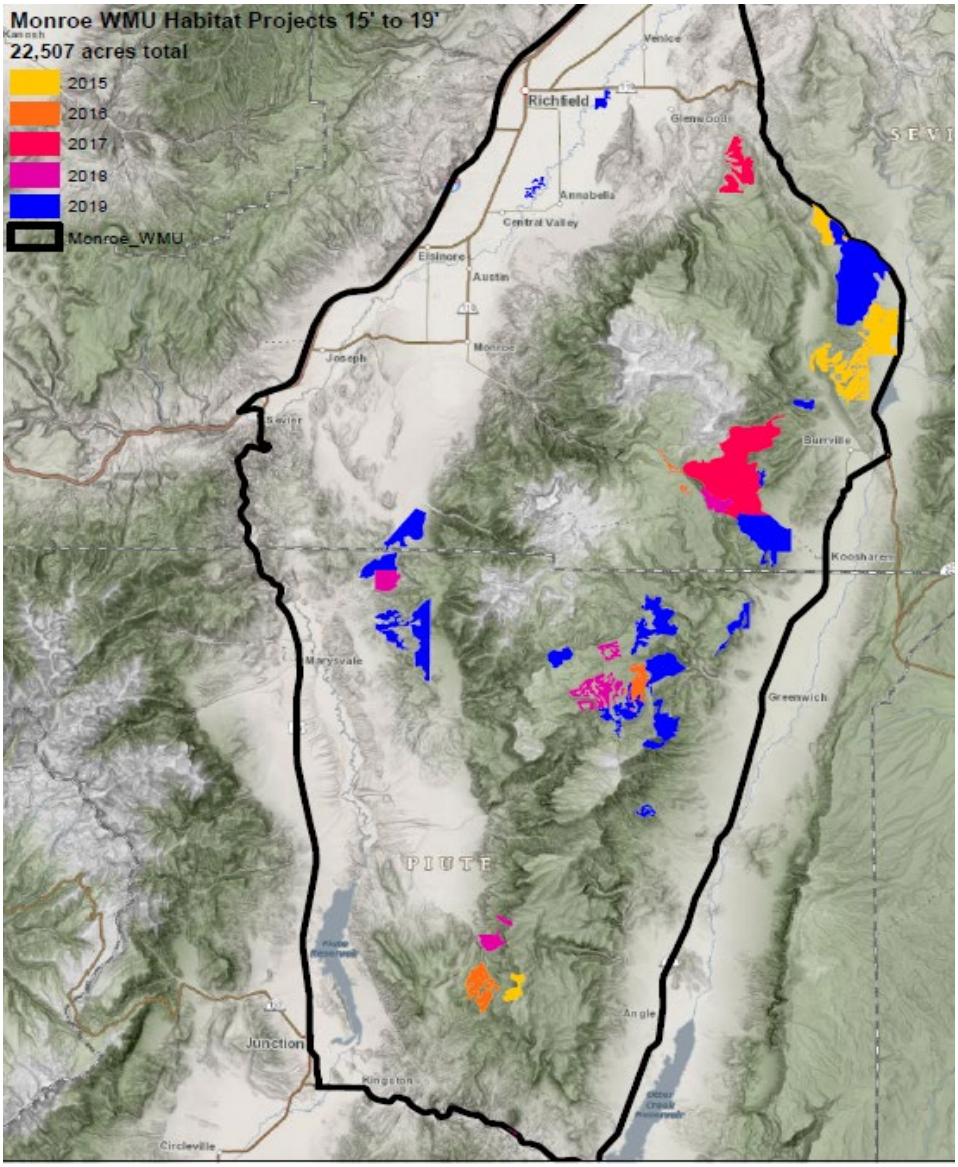

Figure 1

The following habitat information has been taken from the Utah Division of Wildlife Resources 2017 Range Trend Summary Report. Each management unit is examined on a 5-year rotation.

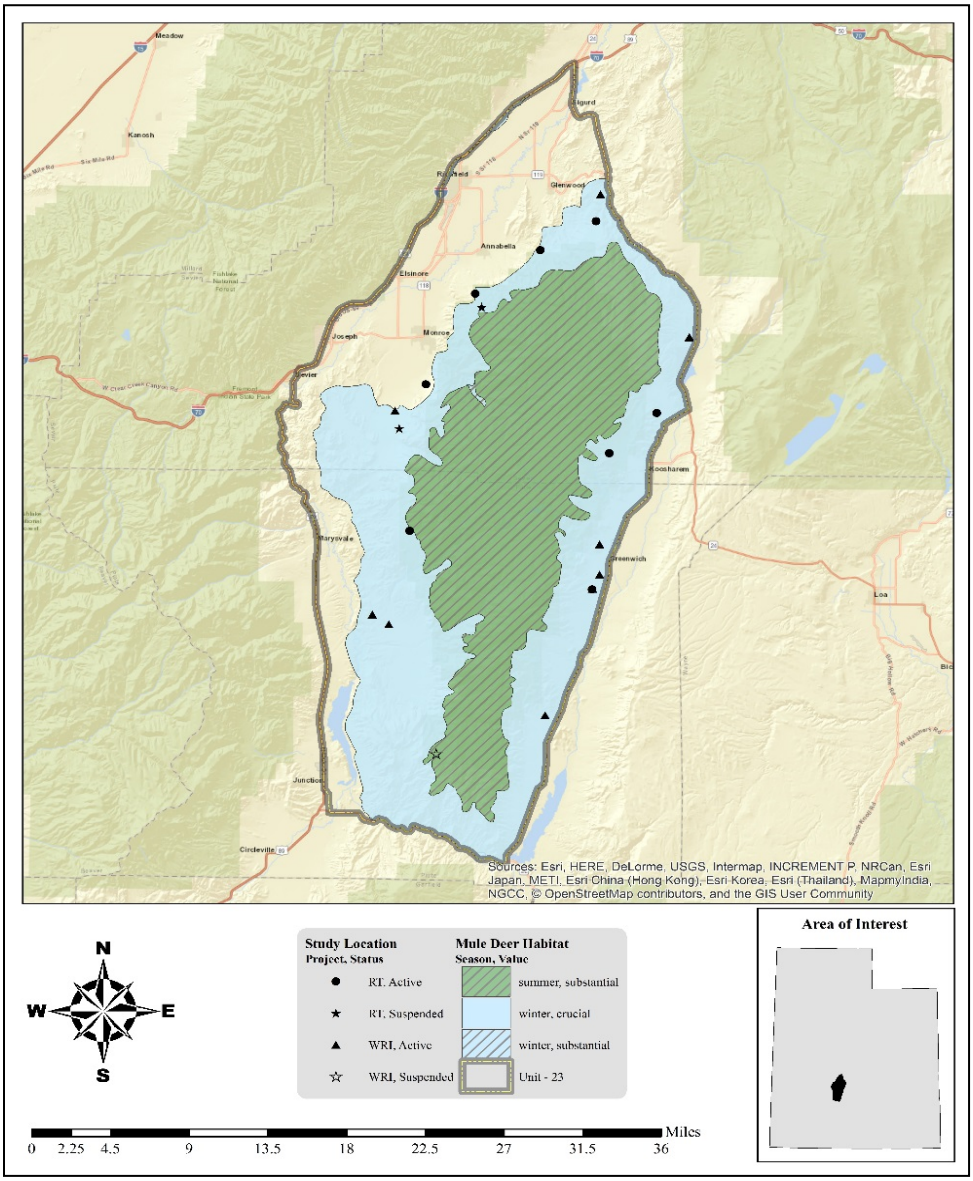

Figure 2

Management Unit Description

Geography

The Monroe Management Unit is almost entirely considered as big game habitat, with the exception of the desert areas and some of the incorporated townships. A majority of this unit is publicly managed on both winter and summer ranges. The permanent range trend studies have been established on both sides of the Sevier Plateau in both Central Valley and the areas between Otter Creek Reservoir and Koosharem. Significant amounts of the winter range occur on publicly managed lands. Towns within this unit include Richfield, Monroe, Glenwood, Annabella, Koosharem, and Marysvale.

The primary geographic feature on this unit is the Sevier Plateau, with the highest point being Glenwood Mountain at 11,208 feet. The lowest part of the unit is in the Central Valley near Richfield at around 5,300 feet. The mountains are not particularly rough, with the large plateau averaging between 9,000 to 10,000 feet; a majority of the summer habitat for this unit exists on the plateau.

Limiting Factors to Big Game Habitat

There are a few factors that limit big game habitat in the Monroe unit. Pinyon-Juniper woodlands account for 27.9% of the Monroe unit. Conifer encroachment into sagebrush communities has been shown to decrease sagebrush and herbaceous cover, therefore decreasing available wildlife forage (Miller, Svejcar, & Rose, 2000). An additional limiting factor is the encroachment of conifer into high elevation summer ranges; prescribed fires have been used to reduce conifer cover and to regenerate aspen stands in these ranges.

Other limiting factors to big game habitat include introduced exotic herbaceous species, such as cheatgrass (*Bromus tectorum*). According to the current Landfire Existing Vegetation Coverage model, 3.86% of the unit is comprised of exotic herbaceous species. Increased amounts of cheatgrass increase the risk for catastrophic wildfire (Balch, D'Antonio, & Gómez-Dans, 2013). The unit has had several wildfires, resulting in loss of big game habitat. The Poverty Flat area suffered from a wildfire in 1997, and recovery of browse species has been slow. Some of the drier portions of the unit have experienced sagebrush die-off from drought, which is often also in severe winter habitat.

Big Game Habitat

It is estimated that there are 326,742 acres that are classified as mule deer range on Unit 23. Of these acres, 46% is classified as summer range and 54% is classified as winter range. The Bureau of Land Management (BLM) manages 56% of the winter range, the United States Forest Service (USFS) manages 24% of the range, 8% is privately owned, School and Institutional Trust Lands Administration (SITLA) manages 8% of the winter range, Utah Division of Wildlife Resources (UDWR) manages 2%, Utah Department of Transportation manages <1%, and another <1% is tribally owned. The elk winter range has 44% managed by the BLM, 42% managed by the USFS, SITLA manages 7%, 6% is privately owned, 2% is managed by UDWR, and less than 1% is tribally owned. Most of the summer range for deer is on Forest Service land and provides good access for hunting.

Deer winter range is mostly located around the lower-elevation edges of the Sevier Plateau between 5,500 and 8,200 feet. The winter range is bounded on the lower edge by Highway 89 on the west and

Highways 24 and 62 on the east. On the northern portion of the mountains, the winter range is limited in size and there is potential for conflicts with animals using agricultural areas in the winter because of the proximity to traditional winter ranges.

Significant amounts of the winter range consists of sagebrush, with smaller amounts being host to mixed mountain brush communities. Many of the sagebrush communities are composed of mountain big sagebrush. There are some issues with excessive decadence and mortality in some portions of this unit, particularly low precipitation areas. Significant amounts of pinyon-juniper are present at the lower elevations, which can pose a threat to the integrity and productivity of the sagebrush ecosystems. At the higher elevations, some of the aspen stands are being encroached by conifer trees, which can lower quality of the summer habitat.

Deer Winter Range Condition Assessment

The condition of deer winter range within the Monroe management unit has continually changed on the sites sampled since 1998. 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 **(Figure 3).** Bear Ridge improved to good condition, and Koosharem Canyon improved to fair-good condition. The Burrville Cemetery study is considered to be in fair condition. Smith Canyon improved to poor condition. Thompson Creek was considered to be in very poor-poor condition. Saul Meadow and Corner Spring Canyon were considered as being in very poor condition.

High annual grass cover, low perennial grass cover and lack of browse were contributing factors to the lower quality sites. The treated sites have generally shown improvement as time since treatment has increased **(Figure 4)**. The exceptions to this are Elbow Ranch 1 and Glenwood Chaining which remained in very poor condition, Elbow Ranch 2 and Browns Canyon Drill which remained in good condition, and South Narrows which deteriorated from very poor-poor to very poor. It is possible given more time and continual monitoring that these sites will (continue to) improve.

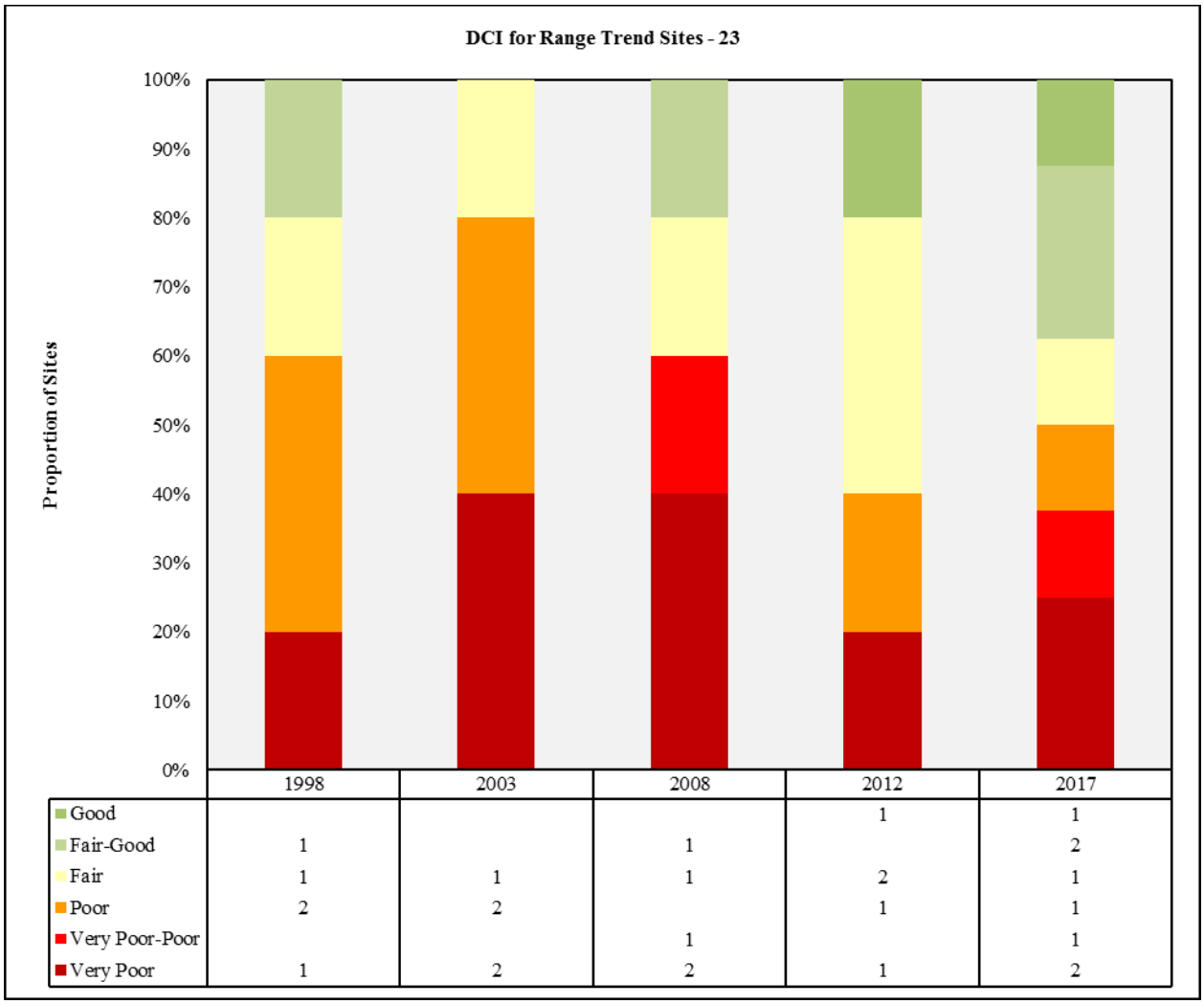

Figure 3: Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 23, Monroe.

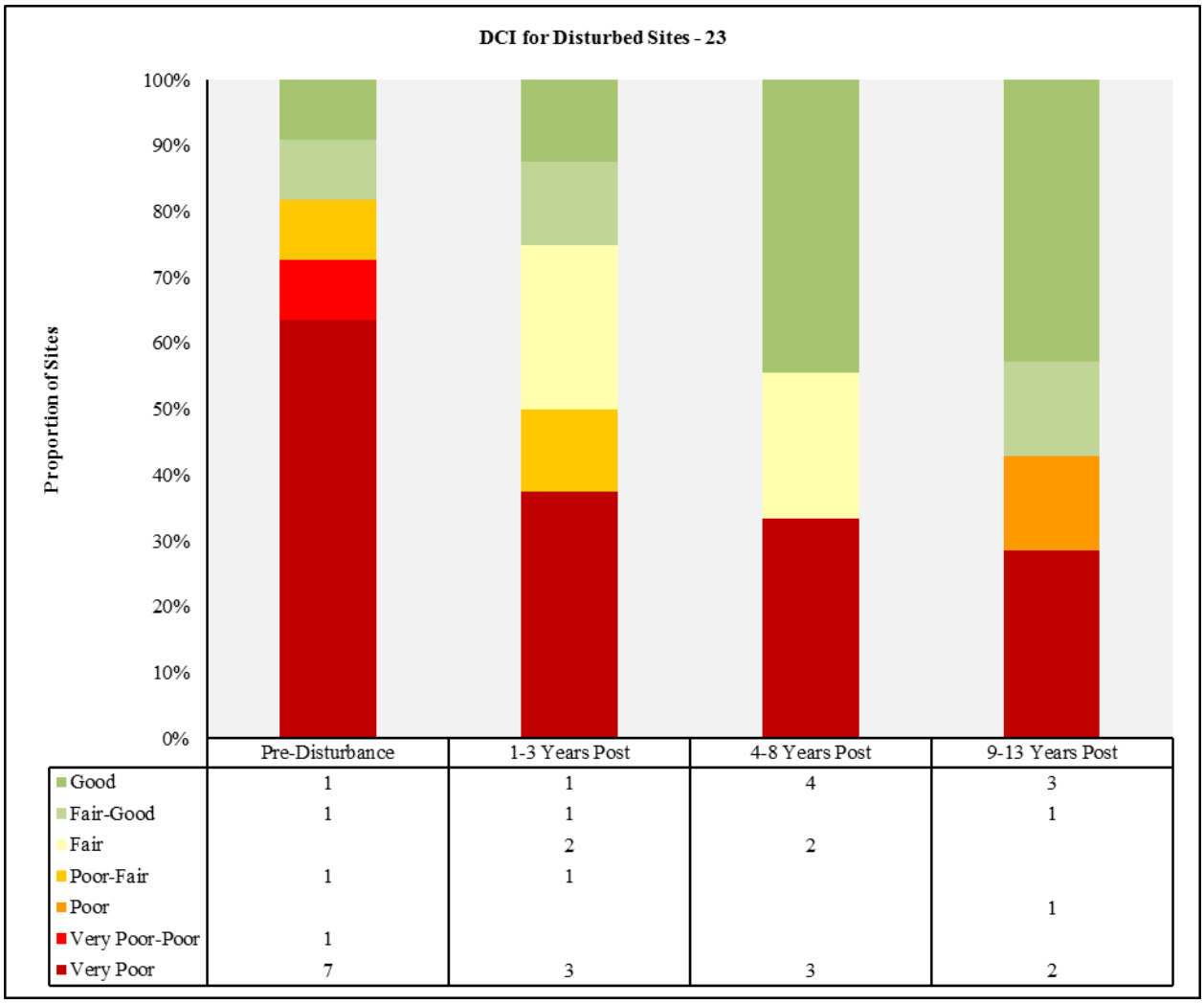

Figure 4: Deer winter range Desirable Components Index (DCI) summary by year of treated/disturbed sites for WMU 23, Monroe.