DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 15
Henry Mountains
September 2025

BOUNDARY DESCRIPTION

Garfield, Kane and Wayne counties—Boundary begins on SR-95 at a point two miles south of Hanksville; south on SR-95 to Lake Powell; south along the west shore of Lake Powell to SR-276 at Bullfrog; north on SR-276 to the Burr Trail-Notom road; north on this road to the Capitol Reef National Park boundary; north on this boundary to the Burr Trail-Notom road at The Narrows and Divide Canyon; north on this road to a point two miles south of SR-24; east along a line that is two miles south of SR-24 to SR-95. EXCLUDES ALL NATIONAL PARKS.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

Ownership	Area (acres)	Percentage (%)
Bureau of Land Management	316,507	87.20%
National Parks Service	945	0.26%
Private	7,723	2.13%
Utah State Institutional Trust Lands	37,782	10.41%
Utah Department of Transportation	27	0.01%
TOTAL	362,984	100.0%

UNIT MANAGEMENT GOALS

Expand and improve the Henry Mountain (HM) mule deer population within the available habitat while considering other land uses. Set a realistic and attainable population objective that is below biological carrying capacity.

Manage the deer population in a Premium Limited Entry (PLE) unit capable of providing a broad range of recreational opportunities, including hunting and viewing.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size - Population objective of 2700 wintering deer. This objective may be raised or lowered in future years depending on habitat and climate conditions, deer body condition, herd productivity, and overall survival.

Data from 10 years previous to 2015 indicated an increasing population trend, and the population objective was raised by 500 deer in 2015 to 2700. Since 2015 there has been a decreasing population trend until recently in 2024, when the population has shown signs of increasing (Table 1).

Deer survival inputs in the HM model are based on research from the adjacent San Juan unit. Research to obtain deer survival data is expensive. Therefore, representative units are selected that have similar characteristics to surrounding units. Depending on available funding, future efforts to conduct deer survival research on the HM would help understand how this deer herd performs under high buck-doe ratios.

New model parameters were used beginning in model year 2025. It was decided that it would be beneficial to use as much of the valuable data collected as possible (annual doe survival, annual fawn survival, and classification data) in developing population estimates. As a result of changing model parameters, population estimates for the past decade increased over previous estimates. Improvements in computer population modeling has provided better estimates of current deer numbers which will aid in setting population objectives that are more realistic and attainable.

Herd Composition - Manage premium limited entry units for a 3-year average of 40-45 bucks per 100 does.

Harvest – Continue PLE buck deer hunting strategy to maintain herd composition objectives and quality hunting opportunities. Provide a management buck hunt to allow additional hunting opportunity and to help maintain the buck/doe objective. Antlerless permits will only be issued to address specific localized crop depredation or range degradation concerns if necessary.

POPULATION MANAGEMENT STRATEGIES

Harvest

Premium Limited Entry - Buck permits will be adjusted to maintain the buck/doe objective set in the Utah Mule Deer Statewide Management Plan for PLE units. Hunting seasons will include three weapon types based on the following percentages: 20% archery, 20% muzzleloader, and 60% any weapon which includes a multi-season hunting opportunity that will allow 3% of the hunters to hunt all seasons.

Management Hunt - Management buck permits will be set between 10-20% of the total permits for the PLE unit.

Additional strategies to increase the management buck harvest may need to be developed in order to lower the buck-doe ratio to the management objective. Other strategies may be considered to address perceptions of hunter crowding.

Monitoring

Population Size - A population estimate will be made using computer modelling based on fall and spring herd composition counts, harvest surveys, and mortality estimates. Current research from GPS collar studies on the adjacent San Juan unit will be used as deer survival data for population models for this unit. The San Juan unit has similar topography, vegetation types, and weather patterns. Future efforts will be considered to conduct similar research on the Henry Mountains.

Buck/doe Ratios and Age Structure - Collect buck/doe and fawn/doe ratio data during fall and spring composition counts. Monitor age structure of the buck population through tooth analysis, check stations, postseason classification and mandatory harvest surveys.

Harvest – The primary means of monitoring harvest will be through statewide mandatory hunter harvest reporting.

Research – Continue to collect annual adult doe survival and cause specific mortality on this unit from GPS collared deer. Continue research efforts to identify habitat use, migration corridors, and limiting factors for deer herd growth.

Table 1- Population Trends and Harvest for Unit 15, Henry Mountains

Year	PLE Buck Harvest	Mgt Buck Harvest	PLE Buck Avg. Age	PLE Buck % Age 5+	Fawns/ 100 does	Bucks/ 100 does	Post-Season Population	Doe Survival (%)	Fawn Survival (San Juan) (%)
2015	43	25	6.2	76%	76	65	2400	84%	71%
2016	44	25	5.5	70%	65	47	2200	80%	71%
2017	50	25	5.3	68%	53	41	1900	82%	41%
2018	44	21	5.0	46%	38	44	1600	86%	0%
2019	46	9	5.3	54%	57	37	1000	77%	27%
2020	48	9	5.2	65%	53	31	900	71%	72%
2021	50	-	5.5	74%	40	40	900	86%	47%
2022	48	-	5.7	93%	59	36	950	91%	36%
2023	49	-	5.7	69%	87	55	955	84%	53%
2024	49	-	5.1	60%	62	48	1280	83%	68%
Average	*47*	*19*	*5.5*	*68%*	*59*	*44*	*1409*	*82%*	*49%*

Antlerless Harvest

Use antlerless harvest to locally reduce deer populations when range conditions, deer adult and fawn survival, fawn production, and deer body condition suggest the population is near carrying capacity.

Predator Management

Manage predators according to the predator management policy (W1AG-04) where habitat is not limiting and predators are demonstrated to have negative impacts on the population. Indices such as doe and fawn survival, body condition scores, fawn production, and cause specific mortality will be used to determine if predator management is deemed necessary.

Private Lands Management

Support programs that increase tolerance for deer on private lands including LOA, CWMU, and Walk-In Access programs.

Address all depredation problems in a timely and efficient manner.

Disease Management

Investigate and manage diseases that threaten mule deer: Chronic Wasting Disease (CWD), Epizootic Hemorrhagic Disease (EHD), and others as outlined in the State Mule Deer Management Plan.

RECREATION OBJECTIVES

Provide high-quality mule deer hunting that encourages a variety of hunting opportunities while maintaining population objectives. In association with high quality hunting, provide high-quality mule deer viewing opportunities.

RECREATION STRATEGIES

Recommend permits for archery 20%, muzzleloader 20%, and any weapon 60%, of which 3% will be provided for multi-season hunting. Provide Management Buck permits at 10-20% of total PLE permits.

Consider additional hunt opportunities such as early/late rifle, HAMSS or extended archery hunts as hunter crowding, disease issues and other concerns dictate.

Recommend season lengths that provide adequate hunting opportunities.

Work with land managers to maintain access during hunting seasons where appropriate.

Support outreach efforts to educate on mule deer management and conservation.

HABITAT MANAGEMENT OBJECTIVES

Work with federal, private, and state partners through WRI to protect, maintain, and/or improve crucial deer habitat through direct range improvements to support and maintain herd population management objectives.

Work with private landowners and federal, state, and local governments to maintain and protect critical and existing ranges from future losses and degradation, through grazing management and OHV and Travel Plan modifications.

Maintain and protect critical winter range from future losses. Acquire critical winter range when the opportunity arises.

Minimize and mitigate impacts from energy development activities.

Minimize deer vehicle collisions along highways on the unit if vehicle collisions become common.

HABITAT MANAGEMENT STRATEGIES

Continue to improve, protect, and restore sagebrush steppe habitats critical to deer. Cooperate with federal land management agencies and private landowners in carrying out habitat improvements such as pinyon-juniper removal, reseedings, controlled burns, grazing management, water developments etc. on public and private lands. Habitat improvement projects will occur on both winter ranges as well as summer range.

Continue to monitor UDWR permanent range trend studies located throughout the unit to evaluate deer habitat health and trend based on important deer use areas.

Work toward long-term habitat protection and preservation using agreements with federal agencies and local governments and conservation easements, etc. on private lands.

Support, cooperate with, and provide input to land management planning efforts dealing with actions affecting habitat security, quality and quantity.

Work with land management agencies and energy companies to minimize and mitigate impacts of energy development activities.

Continue to monitor deer survival on this unit. Use GPS data to determine potential habitat improvement projects.

Manage riparian areas in critical fawning habitat to furnish water, cover and succulent forage from mid to late summer.

Protect deer winter ranges from wildfire by reseeding burned areas, creating fuel breaks and vegetated green strips and reseed areas dominated by cheat grass 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.

Utilize antlerless deer harvest to improve or protect forage conditions when vegetative declines are attributed to deer over utilization.

Treatments/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 8,908 acres have been treated within the Henry Mountains unit since the WRI was implemented in 2004. Treatments frequently overlap one another, bringing the net total of completed treatment acres for this unit to 8,258 (Map 2, Table 2). Other treatments have occurred outside of the WRI through independent agencies and landowners, but the WRI comprises most of the work done on deer winter ranges throughout the state of Utah.

Manual vegetation removal (lop and scatter, etc.) to treat pinyon (*Pinus* spp.) and juniper (*Juniperus* spp.) trees is the most common management practice by acreage in this unit. Harrow treatments are also common, as are bullhog and anchor chaining for tree removal. Other management practices include (but are not limited to) seeding to augment herbaceous components (Table 2).

Table 2- WRI treatment action size (acres) of completed projects for WMU 15, Henry Mountains. Data accessed on 02/25/2025. *Does not include overlapping treatments.

| Type	Total Completed Acreage
Vegetation Removal/Hand Crew	**5,722**
Lop & Scatter	5,717
Lop-Pile-Burn	5
Harrow	**1,331**
≤ 15 ft. (Two-Way)	1,325
≤ 15 ft. (One-Way)	5
Bullhog	**791**
Skid Steer	791
Chain Harrow	**516**
≤ 15 ft. (One-Way)	516
Seeding (Primary)	**471**
Ground (Mechanical Application)	411
Broadcast (Aerial-Fixed Wing)	60
Anchor Chain	**72**
Ely (Two-Way)	72
Other	**5**
Road Decommissioning	5
Grand Total	**8,908**
*Net Total Land Area Treated	**8,258**

Permanent Range Trend Summaries

Big Game Habitat

The key areas in this unit are associated primarily with pinyon-juniper chaining and revegetation treatments, but exceptions include other areas that are frequently used by bison and mule deer. The following areas are considered to be crucial deer winter habitat: Crescent Creek, Cave Flat, Quaking Aspen Spring, Dugout Creek, and Coyote Creek. The Bullfrog Creek and Airplane Spring areas are considered substantial winter deer habitat. The Mud Spring area is crucial year-round habitat for both bison and deer. The Steven's Mesa and Swap Mesa areas sample desert shrub communities that are crucial year-long habitat for bison and crucial winter habitat for deer. Finally, the Birch Spring and Nasty Flat areas are considered to be crucial year-long bison habitat and crucial deer summer habitat. As American bison are both state and nationally recognized as a species of concern, by extension habitat health and suitability for the Henry Mountain unit is a focus for improvement (Utah Division of Wildlife Resources, 2015; Committee Members, 2022).
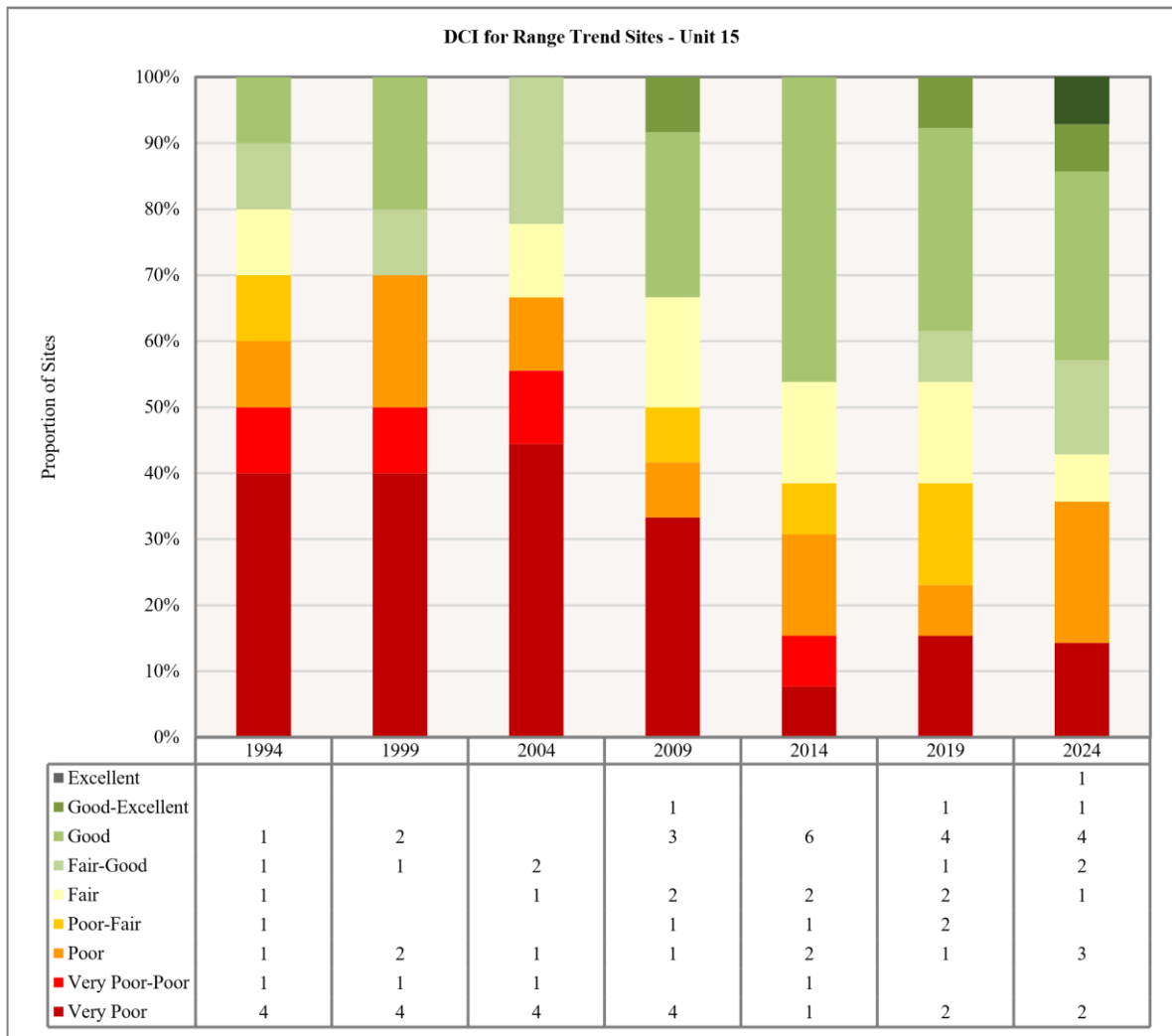
Deer Winter Range Condition Assessment

The overall condition of deer winter range (Map 1) on the Henry Mountains Management Unit has improved from poor averaged conditions between 1994 and 2004 to fair conditions between 2014 and 2024. This improvement in conditions is primarily driven not by the addition of sample sites, but by improving conditions on long-standing sampling areas, namely Bates Knob (15-05), Box Springs Chaining (15-06), Airplane Spring (15-07), Cave Flat (15-10), Quaking Aspen Spring (15-12), and Sidehill Spring (15-13). The main drivers for the unit's wintering habitat stability and quality, and for the overall deer winter range condition averages between fair and good include Eagle Bench (15-01), South Creek Chaining (15-04), Airplane Spring, Cave Flat, Sage Flat (15-20), and Copper Creek (15-19). The Bates Knob, Box Springs Chaining, Garden Basin (15-08) (suspended), Cave Flat Chaining (15-09) (suspended), Quaking Aspen Spring, Steven's Mesa (15-15), Coyote Spring (15-16), Cave Flat Chaining 2 (15-18), and Johns Knoll (15-22) studies are/have been considered to have very poor and poor wintering habitat conditions consistently from year to year. These poor conditions suppress the unit's overall quality of winter habitat. Range Trend sites in WMU 15 that tend to have higher winter habitat variability include South Creek Chaining, Bates Knob, Quaking Aspen Spring, Sidehill Spring, Dugout Creek (15-14), and Sage Flat. This may suggest a higher potential for winter range improvement, but it may also suggest some instability in each community's resistance and resilience to state transitions. However, all of these sites except for Dugout Creek appear to exhibit overall improvement in winter habitat and may experience the most success out of all study sites if treatments were applied in these areas.

The overall deer winter range assessment in 2024 for WMU 15 is that the unit is in fair condition with most sites ranging between fair and excellent conditions. However, Dugout Creek, Steven's Mesa, Coyote Spring, Cave Flat Chaining 2, and Johns Knoll remain between very poor and poor conditions due to either a lack of preferred browse cover or perennial forbs and the presence of annual grass. Specific factors limiting habitat quality on Dugout Creek include a lack of perennial grass cover and a diversified age class structure for preferred browse (Figure 1).
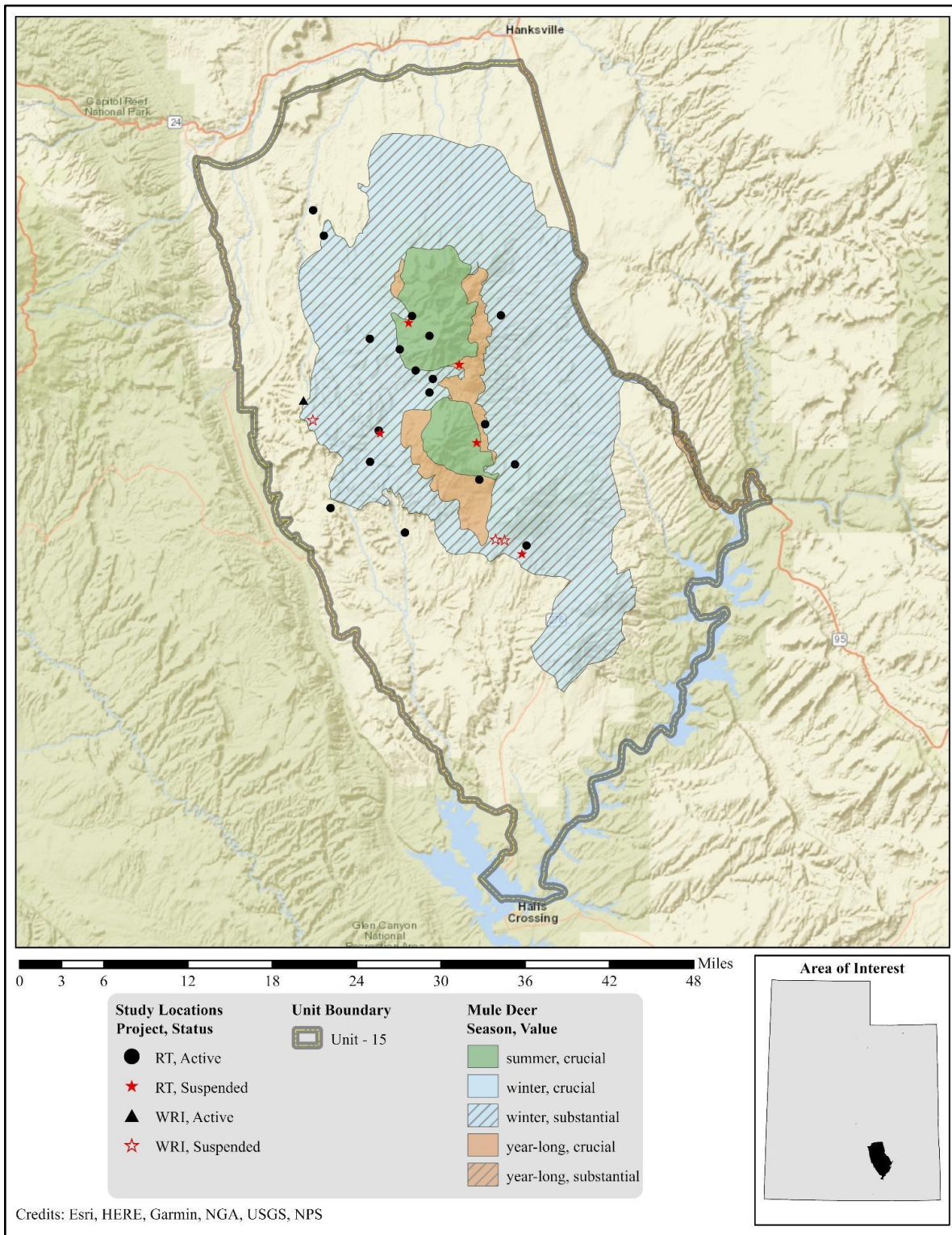
Map 1- Estimated mule deer habitat by season and value showing Range Trend Locations for WMU 15, Henry Mountains.

DCI for Range Trend Sites - Unit 15

	1994	1999	2004	2009	2014	2019	2024
■ Excellent							1
■ Good-Excellent				1		1	1
■ Good	1	2		3	6	4	4
■ Fair-Good	1	1	2			1	2
■ Fair	1		1	2	2	2	1
■ Poor-Fair	1			1	1	2	
■ Poor	1	2	1	1	2	1	3
■ Very Poor-Poor	1	1	1		1		
■ Very Poor	4	4	4	4	1	2	2

Figure 1. Henry Mountains Deer Winter Range Desirable Components Index (DCI) Showing Proportions of Range Sites in each Condition Class (Poor, Fair, Good, etc.) Overall the condition of the sites have improved since 2004.

Table 3- Body Fat Comparisons of Captured Deer, 2014-2024. Gold cell is low and blue high. Use the San Juan mule deer unit for reference, highlighted in red. The San Juan unit is the unit that is most like the Henry Mountain unit where body condition data is being researched.

Unit	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
						Percent (%) Ingesta Free Body Fat (IFBF)					
Box Elder						8.79	9.3	12.42			
Cache		11.02	9.59	13.65	10.32	13.71	12.13	12.88	10.44	14.4	12.4
Morgan							8.84	10.84		14.97	
Antelope Island						9.99					
North Slope					8.59						10.06
South Slope	11.31	9.46	9	9.56	7.24	9.9	8.52	12.18	8.65	11.02	9.11
Oquirrh-Stansbury	10.52	8.43	9.56	8.79	7.39	8.46	8.26	10.91	9.91	10.02	10.43
Chalk Creek/Kamas					7.19	11.02	10.75				
Wasatch-Manti		8.76	9.22	10.23	9.32	11.11	8.97	10.28	9.4	12.02	9.53
Wasatch East						11.51	12.26	10.78			
Wasatch-West											12.3
Southeast Manti			8.87			9.42	9.25	10.89	8.03		
Southwest Manti						7.3					
Nebo-Tintic								12.67	8.88	12.61	9.33
Book Cliffs				7.56	6.35	8.8	7.13	8.88		6.65	8.84
Range Creek									8.48	11.25	8.58
West Desert					6.33	8.04					
Monroe	8.1	8.98	8.23	9.53	6.5	10.37	8.56	11.28	8.4	12.23	8.59
Beaver						7.75	8.44	9.67			
Boulder						8.54	5.96			10.05	10.9
Kaiparowits						5.88					
Panguitch					8.76	8.64					
Pine Valley		7.42	6.68	6.54	6.91	6.86	6.77	7.71	7.25	8.92	6.89
Southwest Desert											7.28
Zion					8.48	9.04				7.21	8.36
La Sal						8.63		7.61	8.91	11.46	6.64
San Juan		9.35	9.25	7.6	7.77	9.5	8.11	8.79	7.97	9.22	7.36
Statewide	9.98	9.06	8.8	9.18	7.78	9.48	8.61	10.52	8.76	10.86	9.16
Statewide_7_Units	9.98	9.01	8.71	9.72	7.95	10.07	8.87	10.87	9.01	11.12	9.19

Unit Low

Unit High
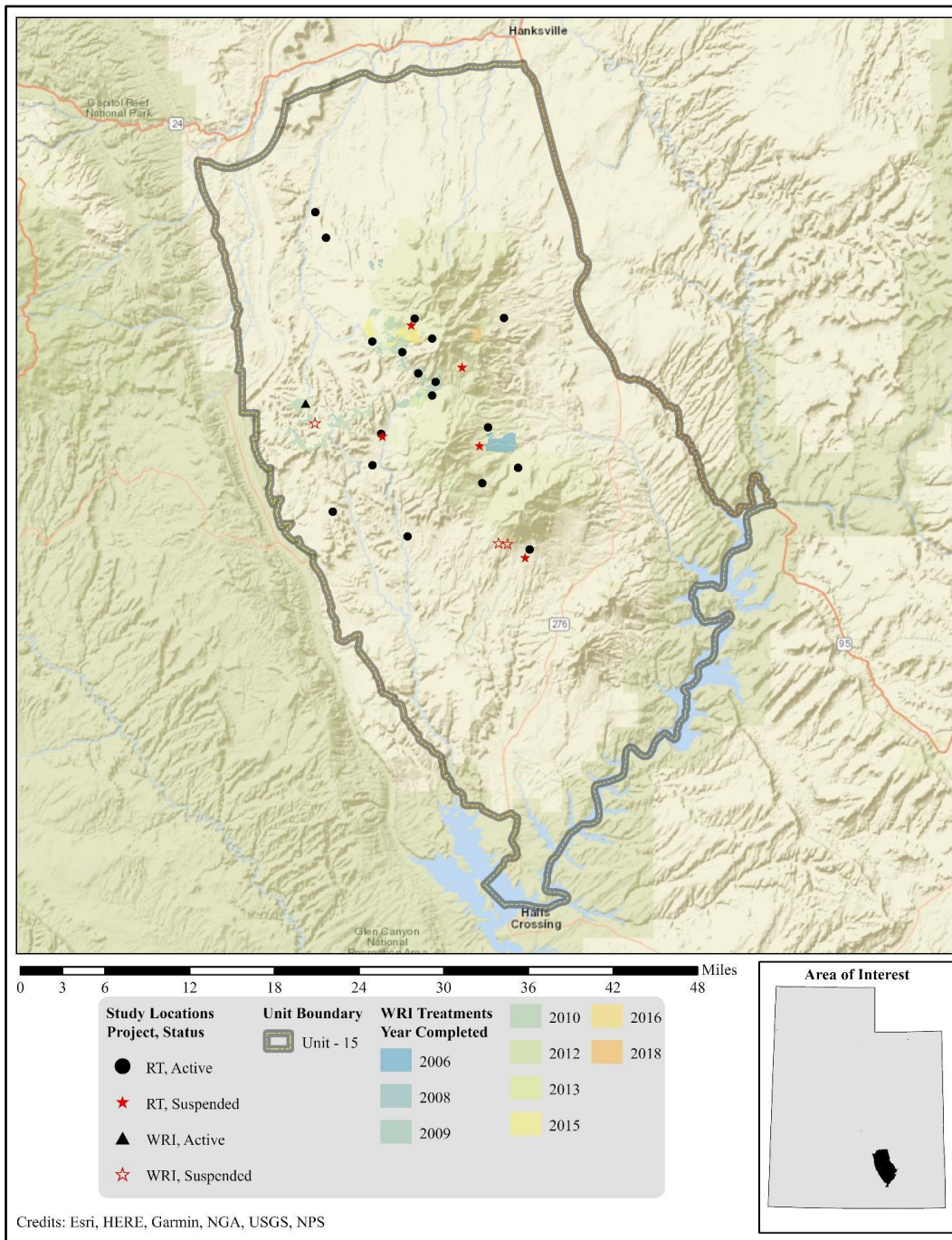
Map 2- WRI treatments by fiscal year completed for WMU 15, Henry Mountains

DURATION AND AUTHORITY OF PLAN

This unit management plan was approved by the Division Director in Sept. 2025 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.