

DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 14
San Juan
October 2015

BOUNDARY DESCRIPTIONS

Grand and San Juan Counties - Boundary begins at the confluence of the San Juan and Colorado rivers; north along the Colorado river to Kane Springs Creek; southeast along this creek to Hatch Wash; southeast along this wash to US-191; south on this road to the Big Indian road; east on this road to the Lisbon Valley road; southeast on this road to the Island Mesa road; east on this road to the Colorado state line; south on this line to the Navajo Indian Reservation boundary; southwest along this boundary to the San Juan River; west on this river to the Colorado River.

This boundary includes two subunits including:

Unit 14A - San Juan, Abajo Mountains - Grand and San Juan Counties - Boundary begins at the junction of Highway US-163 and South Cottonwood Creek (near Bluff); then north along this creek to Allen Canyon; north along this canyon to Chippean Canyon; north along this canyon to Deep Canyon; north along this canyon to Mule Canyon; north along this canyon to the Causeway; north from the Causeway to Trough Canyon; north along this canyon to North Cottonwood Creek; north along this creek to Indian Creek; north along this creek to the Colorado River; north along this river to Kane Springs Creek; southeast along this creek to Hatch Wash; southeast along this wash to Highway US-191; south on this road to the Big Indian road; east on this road to the Lisbon Valley road; southeast on this road to the Island Mesa road; east on this road to the Colorado state line; south on this line to the Navajo Indian Reservation boundary; west and south along this boundary to the San Juan River; west on this river to Highway US-163; then east on this highway to South Cottonwood Creek.

Unit 14B - San Juan, Elk Ridge - San Juan County - Boundary begins at the junction of highway US-163 and South Cottonwood Creek (near Bluff); north along this creek to Allen Canyon; north along this canyon to Chippean Canyon; north along this canyon to Deep Canyon; north along this canyon to Mule Canyon; north along this canyon to the Causeway; north from the Causeway to Trough Canyon; north along this canyon to North Cottonwood Creek; north along this creek to Indian Creek; north along this creek to the Colorado River; south on this river to the San Juan River; east on this river to highway US-163; east on this highway to South Cottonwood Creek.

LAND OWNERSHIP

Subunit 14A - San Juan, Abajo Mountains

RANGE AREA AND APPROXIMATE OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service			130454	38%	1670	<1%
Bureau of Land Management			75780	22%	420722	61%
Utah State Institutional Trust Lands			9219	3%	59981	9%
Native American Trust Lands			0	0%	12	<1%

Private			125767	37%	210695	30%
National Parks			0	0%	390	<1%
Utah State Parks			0	0%	0	0%
Division of Wildlife Resources			0	0%	0	0%
TOTAL			341220	100%	693470	100%

Subunit 14B - San Juan, Elk Ridge

RANGE AREA AND APPROXIMATE OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	225	<1%	168372	65%	19210	3%
Bureau of Land Management	64649	94%	50048	19%	505156	76%
Utah State Institutional Trust Lands	4055	6%	4688	2%	50213	8%
Native American Trust Lands	0	0%	0	0%	7	<1%
Private	0	0%	3076	1%	6042	<1%
National Parks	15	<1%	69	<1%	54196	8%
National Recreation Area	0	0	0	0	10983	2%
USFS & BLM Wilderness Area	106	<1%	32973	13%	12679	2%
Utah Division of Wildlife Resources	0	0%	0	0%	0	0%
TOTAL	69050	100%	259226	100%	658486	100%

UNIT MANAGEMENT GOALS

Maintain a healthy mule deer population within the long term carrying capacity of the available habitat, based on winter range trend studies conducted by the DWR every five years.

Manage the deer population at a level capable of providing a broad range of recreational opportunities, including hunting and viewing.

Balance deer herd goals and objectives with impacts on human needs, such as private property rights, agricultural crops and local economies.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size - Manage for a target population of 20,500 wintering deer (modeled number) 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.

Biologists will continue to carefully monitor winter ranges and make recommendations to improve and protect winter habitat. Should over-utilization and range damage by deer occur, recommendations will be made to reduce deer populations to sustainable levels in localized areas.

Long-term Objective - Achieve a winter target population of 20,500 deer.
(13,500 deer on **Abajo Mountains** subunit and 7,000 deer on **Elk ridge** subunit).

Short-term Objective

Abajo Mountains – No change needed in population objective. Desirable Components Index (DCI) scores from the 2014 range trend survey show that out of 14 undisturbed monitoring sites, 8 sites are in the "good" to "fair" classification range and 6 sites are in the "poor" to "very poor" classification range. Disturbed/treated sites have improved with 11 sites in the "good" to "fair" classification range and 5 sites in the "poor" to "very poor" classification range, post disturbance/treatment.

Elk Ridge – A 20% reduction in population objective to 5,600 deer will be implemented in 2015 due to poor, localized range conditions. Beef Basin, which represents approximately 20% of crucial deer winter range on the subunit, has experienced severe reductions in sagebrush abundance since 1994, promoting an increase in annual grasses, mostly cheat grass. The 2014 DCI overall rating for sites in this area are "very poor". The reduced short-term population objective will remain until range conditions improve to an overall "fair" DCI rating. Antlerless removal is not needed immediately because the current deer population is <50% of objective and fawn production is poor. If the deer population approaches the short-term objective, antlerless removal in specific problem areas will be considered.

Subunit	Long-term Objective	2015-2019 Objective	Change
Abajo Mountains	13,500	13,500	0
Elk Ridge	7,000	5,600	-1,400
UNIT TOTAL	20,500	19,100	-1,400

Herd Composition

Abajo Mountains – Maintain a three-year average postseason ratio of 15-17 bucks per 100 does, in accordance with the statewide plan. Caution will be use when adjusting permits and trends of population indicators will be considered.

Elk Ridge – Maintain a three-year average postseason ratio of 25-35 bucks per 100 does, in accordance with the statewide plan.

Harvest

Abajo Mountains - Continue general season unit by unit buck deer hunt management, using archery, rifle and muzzleloader hunts. Antlerless removal will be implemented when needed to achieve the target population size and to address specific localized crop depredation or range degradation concerns, 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.

Elk Ridge - Continue limited entry hunting to maintain herd composition objectives and quality hunting opportunities. Utilize antlerless harvest when population objectives are met or to address specific habitat and depredation concerns.

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size - The **Abajo Mountains** and **Elk Ridge** population estimates will be made based on fall and spring herd composition counts conducted by biologists, harvest surveys, and mortality estimates based on radio collar studies and range rides. These data will be used in computer models to determine a winter deer herd population size. The modeled population estimate for the winter of 2015 was 10,700 deer on the Abajo Mountains subunit and 700 deer on the Elk Ridge subunit.

Buck Age Structure - Monitor age class structure of the buck population through the use of check 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 and the use of check stations.

Research - Continue radio telemetry survival study on the San Juan unit as a regional representative unit.

Population Trends and Harvest for the San Juan, Abajo Mountains (14a) Deer Subunit -

Year	Buck harvest	Post-Season F/100 doe	Post-Season B/100 doe	Post-Season Population	Objective	% of Objective
2012	873	53	14	11,200	13,500	83%
2013	945	62	17	8,300	13,500	62%
2014	904	52	20	9,900	13,500	73%
3 Year Avg	907	56	17			

Population Trends and Harvest for the San Juan, Elk Ridge (14b) Deer Subunit -

Year	Buck harvest	Post-Season F/100 doe	Post-Season B/100 doe	Post-Season Population	Objective	% of Objective
2012	43	42	24	2,000	7,000	29%
2013	46	51	24	800	7,000	11%
2014	44	38	36	600	7,000	9%
3 Year Avg	44	44	28			

Disease Management

Investigate and manage diseases that threaten mule deer populations and continue monitoring for chronic wasting disease (CWD) as stated in the Statewide plan. This unit is a CWD positive unit. Continue surveillance through check stations and other methods to document prevalence, and location of positive animals.

Urban Deer Management

Continue working with municipalities on localized urban deer control management actions. Work cooperatively with municipalities in developing urban deer management plans, within the guidelines set by state law and agency policies.

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 - Monitor range conditions and deer use to maintain habitat quality necessary to achieve population objectives (see Habitat Management Strategies). Identify areas where deer escapement could be enhanced through permanent or temporary road closures or other restrictions on motorized access.

Predation - Follow DWR predator management policy:

- If the population estimate is less than 90% of objective and is stable or decreasing and fawn to doe ratio drops below 70 for 2 of the last 3 years or if the fawn survival rate drops below 50% for one year, then a Predator Management Plan targeting coyotes will be implemented on that subunit. If the population trend is increasing the population must be below 65% of objective and meet the above criteria in order to initiate Predator Management for Coyotes. In 2015, the San Juan unit qualified for predator management specific to coyotes as the population trend was decreasing and <90% of objective with <70 fawns:100 does for 2 of the last 3 years.
- 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 would be implemented on that subunit. This unit qualified for predator management specific to cougars in 2015 as adult doe survival has been below 85% for 2 of the past 3 years.

Highway Mortality - Cooperate with the Utah Dept. of Transportation in construction of highway fences, passage structures and warning signs, etc. Highway mortality will continue to be monitored and the need for additional highway fences, passage structures and warning signs will be evaluated.

Illegal Harvest - Should illegal kill become an identified and significant source of mortality attempt to develop specific preventive measures within the context of an action plan developed in cooperation with the Law Enforcement section.

HABITAT MANAGEMENT OBJECTIVES

Protect, maintain, and/or improve 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.

Work with federal, private, and state partners to improve crucial deer habitats through the WRI process.

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

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.

HABITAT MANAGEMENT STRATEGIES

Continue to improve, protect, and restore summer and winter range habitats critical to deer, such as aspen and sagebrush steppe communities. Cooperate with federal land management agencies and private landowners in carrying out habitat improvements such as pinion-juniper removal, reseeding, controlled burns, mechanical treatments, grazing management, water developments etc. on public and private lands. Continue to monitor permanent range trend studies located throughout the unit.

Coordinate with and support Universities and land management agencies on habitat research projects. Specifically, Utah State University's current sagebrush restoration project on four of the main winter ranges within the San Juan unit.

Continue to monitor permanent range trend studies located throughout the unit.

Conduct cooperative seasonal range assessments to evaluate forage condition and utilization. Determining opportunities for habitat improvements will be an integral part of these surveys. This will also be pivotal in determining if antlerless harvest is necessary.

Work toward long term habitat protection and preservation through the use of agreements with federal agencies and local governments and the use of conservation easements 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.

Work with land management agencies in managing 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 annual grasses with desirable perennial vegetation.

Reduce expansion of pinion-juniper woodlands into sagebrush habitats and improve habitats dominated by pinion-juniper woodlands by completing habitat restoration projects like lop & scatter, bullhog, and chaining.

Seek opportunities to increase browse in burned areas of critical winter range.

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

PERMANENT RANGE TREND SUMMARIES

Unit 14 - San Juan

Deer Winter Range Condition Assessment

The condition of deer winter range within the San Juan management unit has fluctuated on the study sites sampled since 1992/94. The majority of the sites sampled within the unit are considered to be in good to poor condition based on the most current sample data. The sites classified as being in poor or very poor condition are sites with decreasing or little amounts of sagebrush and little to no recruitment of young sagebrush plants to the community (Figure 2.43 and Figure 2.44). The condition of disturbed and treated sites typically improves with increased time after treatment or disturbance. The majority of disturbed or treated study sites that ranked as being in poor or very poor condition 6-10 years after disturbance are sagebrush improvement and pinyon-juniper reduction projects. These study sites are generally still lacking in available browse species (Map 1). See Utah Big Game Range Trend Unit Summaries 2014 Wildlife Management Units 13A, 14, 15, 16B/16C (Publication No. 15-10) for more information.

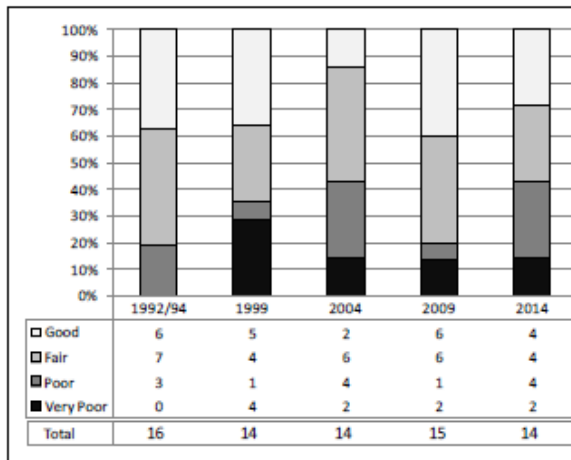


Figure 2.43: Deer winter range Desirable Components Index (DCI) summary by year of undisturbed sites for WMU 14, San Juan.

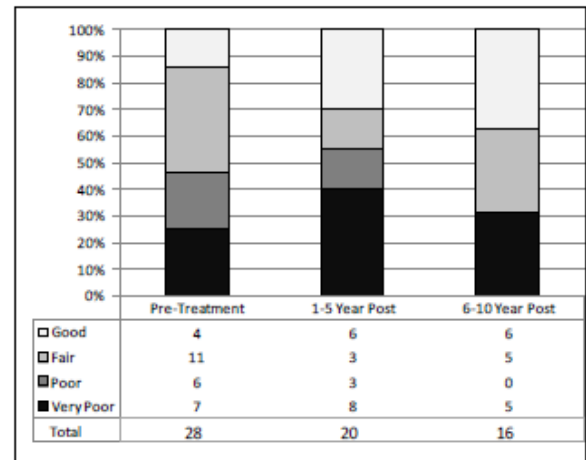
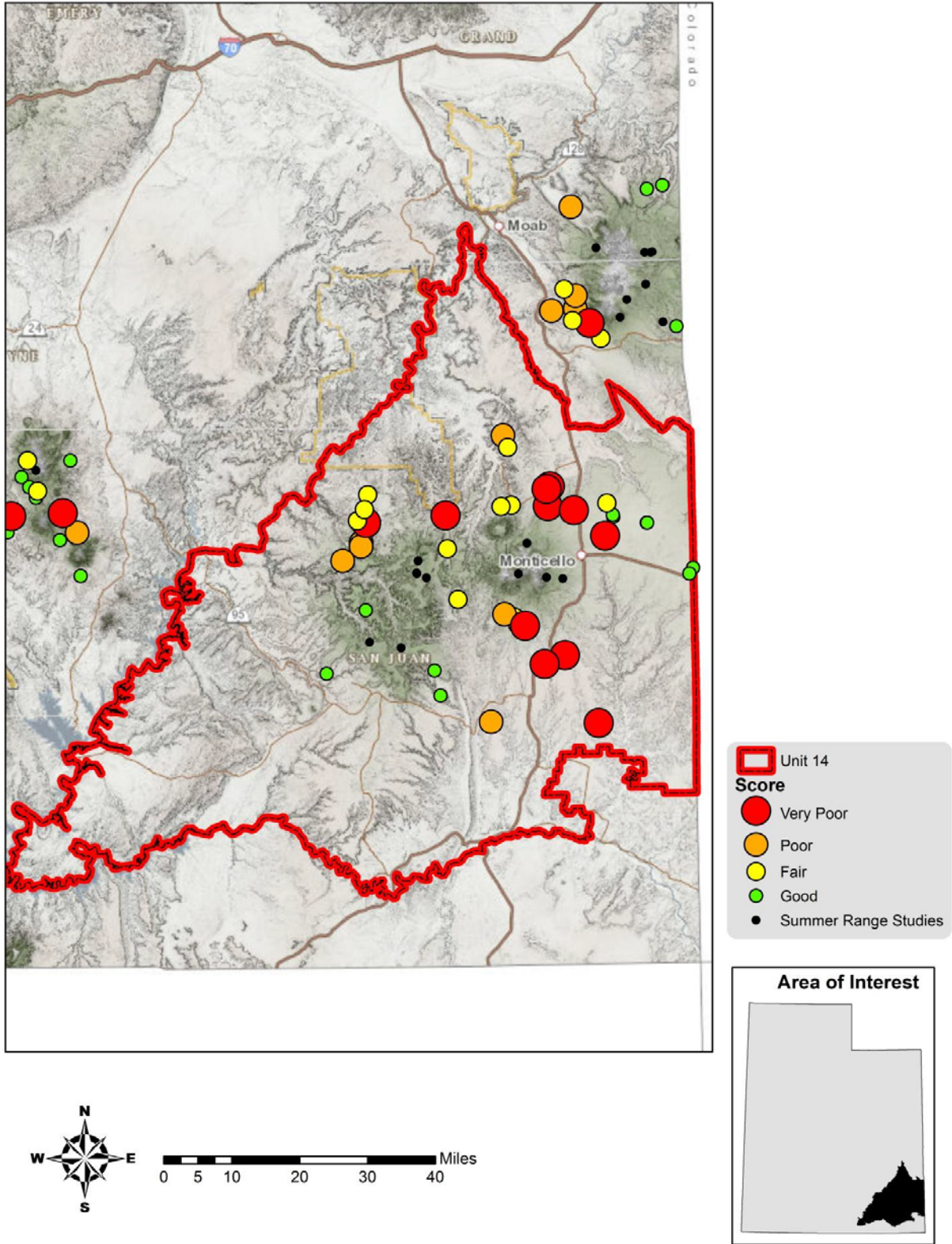


Figure 2.44: Deer winter range Desirable Components Index (DCI) summary by year of treated/disturbed sites for WMU 14, San Juan.



Map 1: Deer winter range Desirable Components Index (DCI) ranking distribution by study site of most current sample date as of 2014 for WMU 14, San Juan.

Treatments/Restoration Work

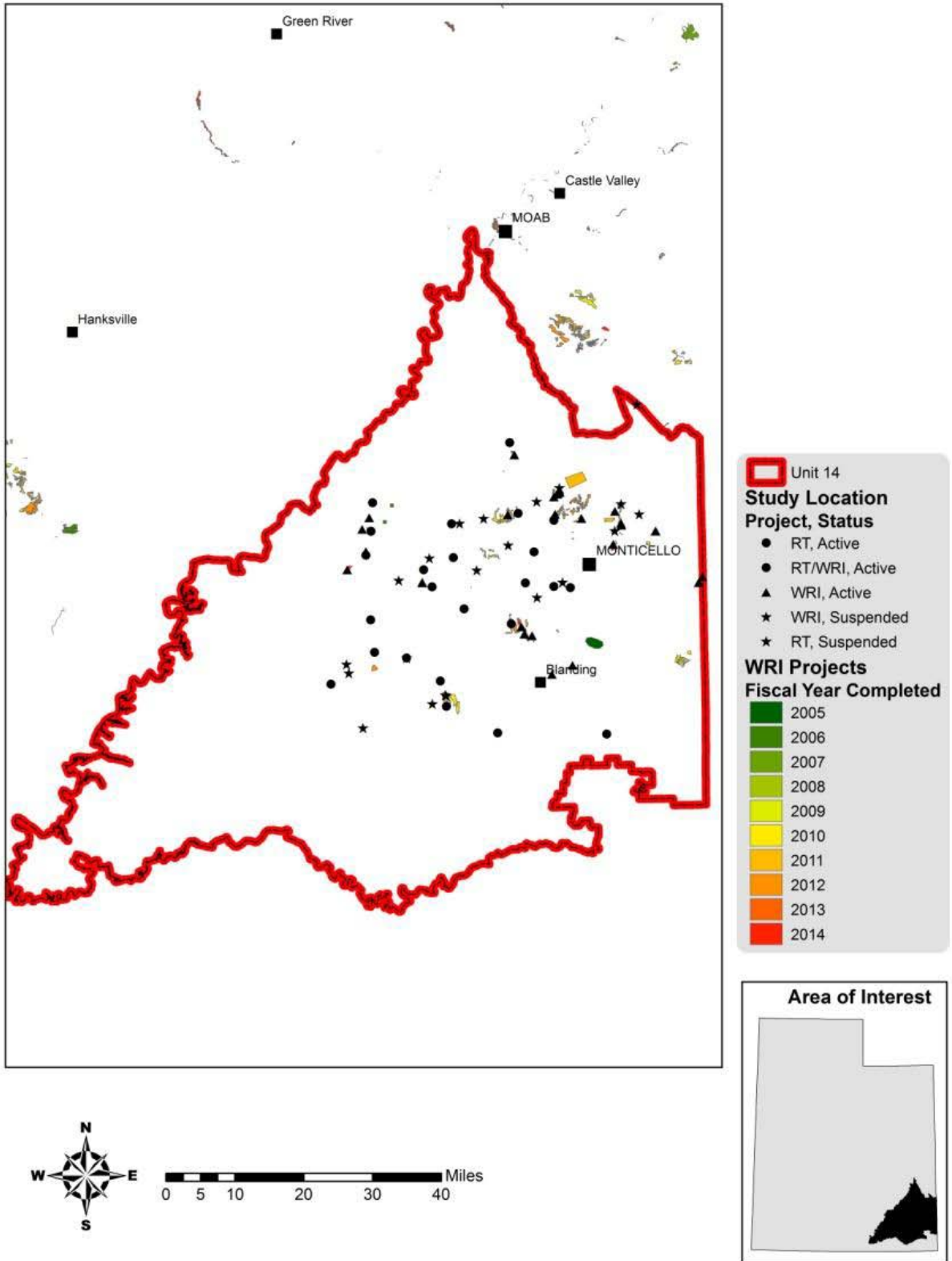
There has been an active effort to address many of the limitations on this unit through the Watershed Restoration Initiative (WRI). A total of 16,721 acres of land have been treated within the San Juan unit since the WRI was implemented in 2004. Treatments occasionally overlap one another bringing the total treatment acres to 17,502 acres for this unit (Table 1) (Map 2). Other treatments have occurred outside of the WRI through independent agencies and landowners, but WRI projects comprise the majority of work done on deer winter range throughout the State of Utah.

Treatments to reduce pinyon-juniper woodlands such as bullhog, chaining, and lop-and-scatter are common management practices on this unit. Other common management treatments are those to rejuvenate sagebrush stands such as herbicide, disc, and harrow. In addition, many of these treatments have been seeded to increase more desirable plant species.

Treatment Action	Acres
Bullhog	5,269
Seeding	4,665
Harrow	2,351
Anchor Chain	1,947
Lop and Scatter	1,862
Herbicide	1,107
Disc	276
Prescribed Fire	22
Aerator	4
*Total Land Area Treated	16,721
Total Treatment Acres	17,502

Table 1: WRI treatment action size (acres) for WMU 14, San Juan.

*Does not include overlapping treatments.



Map 2: WRI treatments by fiscal year completed for WMU 14, San Juan.

Discussion and Recommendations

Summer Range Habitats

Summer habitats at high elevations on this unit include conifer, aspen, alpine, and mountain shrub habitat types. These areas are generally considered to be in good condition for deer summer range habitat. This community supports a diverse herbaceous understory that provides valuable forage during the summer months. While in generally good condition, major concerns include conifer encroachment in to aspen stands, an abundance of introduced aggressive perennial grasses, and noxious weeds. All of which have an impact on the quality and quantity of forb species important to mule deer.

It is recommended that monitoring of this community continue. When reseeding is necessary to restore herbaceous species, care should be taken in species selection and preference should be given to native grass species when possible. Additional actions may be necessary to reduce the presence of noxious weeds within this community type.

Habitat projects that promote aspen and forb communities as well as a diverse age structure of the forest are recommended. Such projects may include: prescribed fire, timber management, mechanical treatment, and grazing management. If reseeding is necessary to restore herbaceous species, care should be taken in species selection and preference should be given to native grass species when possible. Monitoring should also continue in order to watch for the presence of noxious weeds within this community type.

Proposed and recommended habitat project locations for these community types are: North Elk Ridge, Maverick Point and Mormon Pasture Mountain.

Winter Range Habitats

Winter range habitats include sagebrush steppe, pinyon-juniper woodlands, and salt desert shrub habitats. These mid elevation upland communities are generally variable in deer winter range with many of the communities in poor to very poor condition; however, there are a few communities that are considered to be in good to excellent condition. These communities support many vegetation types including the following: black sagebrush, basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, antelope bitterbrush, and mahogany species. These communities support large, dense shrub populations that provide valuable browse in mild to moderate winters for deer. These communities are prone to encroachment from pinyon-juniper trees which can reduce understory shrub and herbaceous health if not addressed. Many of these stands show very high utilization by ungulates. As a result, many stands are decadent. Annual grasses, primarily cheatgrass, can be an issue within these communities. Increased amounts of cheatgrass can increase fuel loads and increase the threat of wildfire within these communities. If wildfire occurs within these communities they lose most of their value as deer winter range and reestablishment of valuable browse species is typically slow.

It is strongly recommended that work to prevent and reduce pinyon-juniper encroachment should continue in these communities. When reseeding is necessary to restore herbaceous species, care should be taken in species selection and preference should be given to native grass species when possible. Moreover, care should be taken in selecting treatment methods that will not increase annual grass loads. Treatments to reduce annual grass may be necessary on some sites. Work to diminish fuel loads and create fire breaks should continue in order to reduce the threat of catastrophic fire that results in the loss of preferred browse. If a treatment to rejuvenate sagebrush occurs, care should be taken in selecting treatment methods that will not increase annual grass loads.

Proposed and recommended habitat project locations for these community types are: Alkali Ridge, Cedar Point, Harts Draw, Mustang Flat, Beef Basin, Dark Canyon Plateau, East Rim Cottonwood Canyon, and Pickett Fork.