9. Uintah Basin Adaptive Resource Management Local Working Group

The Uinta Basin Adaptive Resource Management Local Working Group (UBARM) was organized in 2004 and facilitated by Todd A. Black and Sarah G. Lupis. Ms. Lupis served as the technical writer and compiler of the Plan itself. UBARM is comprised of state and federal agency personnel, representatives from local government, nonprofit organizations, academic institutions, private industry, and private individuals. Agencies, organizations, and individuals who contributed to the Plan through their participation in UBARM are listed in the LWG Plan.

a. Local Legal Authority

The Board of Commissions for Duchesne, Uintah, and Daggett counties serve as the executive and legislative branches of local government. They have the authority to 1) protect and promote the health, welfare, and safety of the people of Duchesne, Uintah, and Daggett counties, 2) regulate land use, land planning, and quality and protection of natural resources, and 3) have duly adopted regulations and policies to exercise such authorities (Duchesne County Commission 1997, Daggett County Commission 2004, Uintah County Commission 2005a and 2005b**)**. The Uintah County Public Lands Implementation Plan (Uintah County Board of Commissioners 2005a) makes the following statements relevant to sage-grouse management:

- Wildlife populations, such as sage-grouse or prairie dog, determined to be in need of special protection must be protected from sport shooting prior to determining the need for implementation or restrictions on livestock grazing or development
- Sage-grouse management in Northeastern Utah must follow the Strategic Management Plan for Sage Grouse 2002 (Publication 02-20 State of Utah Department of Natural Resources Division of Wildlife Resources, June 11, 2002). This is to insure that management guidelines for the grouse are compatible with local sage-grouse population and habitat
- Guidelines to manage sage-grouse populations and their habitat (John W. Connelly, Michael A. Schroeder, Alan R. Sands, and Clait E. Braun), represent definitive work on sage-grouse and their habitat. This publication should be the basis for creation of any state or local sage-grouse management plan
- The following buffers must be implemented to insure required protection is provided to sage-grouse during the critical stages of breeding, nesting, and rearing young. These buffers or requirements may be adjusted where natural barriers exist, impacts can be mitigated, or sage-grouse are determined not to be present during the proposed disturbance
- Avoid significant human disturbances within 0.6 miles (1 km) of a lek during the breeding season (March 1-May 31) from one hour before sunrise to three hours after sunrise.
  - Avoid developing roads, fences, poles, and utility lines within 1300 feet (400 meters) of a lek. Any such developments within the 1300 feet must be designed to minimize to the extent possible, bird structure collision and to prevent raptor perching.

In addition, the Uintah County General Plan (Uintah County Board of Commissioners 2005b) promotes County-to-community, community-to-community and agency-to-County coordination, cooperation, and communication. The Duchesne County Code (Duchesne County 1997, amended 2005) contains the following provisions related to wildlife in the County:

- Wildlife management agencies, public land management agencies, and the County shall work together to manage big game populations
- Wildlife agencies shall find effective ways to mitigate and compensate landowners for damage caused by big-game animals on private property. Duchesne County recognizes that the Utah Division of Wildlife Resources is mandated by Utah Code to mitigate damage to agricultural crops, equipment, and improvements and that a process to do so is in place
- Wildlife populations shall not be increased, nor shall new species be introduced, until forage allocations have been provided and an impact analysis completed for the effects on other wildlife species and livestock
- Reduction in forage allocation resulting from forage studies, drought, or other natural disasters will be shared proportionately by wildlife, livestock, and other uses
- Increases in forage allocation resulting from improved range conditions shall be shared proportionally by wildlife, livestock, and other uses.
- Wildlife target levels and/or populations must not exceed the forage assigned in the Resource Management Plan (RMP) forage allocations
- Predator and wildlife numbers must be controlled to protect livestock and other private property, and to prevent population decline in other wildlife species
- Resource-use and management decisions by federal land management and regulatory agencies, should support state-sponsored initiatives or programs designed to stabilize wildlife populations that may be experiencing a scientifically-proven decline in numbers.

Portions of Daggett County are zoned to provide some measure of protection to wildlife habitat, including wetlands, wildlands, and open spaces. The zoning requirement (Daggett County Commission 2004, amended 2006) specifically states:

The Multiple Use (MU-40) District is formulated to protect mountain, hillside, wetland areas subject to flooding, plus agricultural and farmlands from incompatible land uses and the inefficient or costly provision of services while allowing activities that recognize the environmental and physical sensitivity of these areas and the public health, safety and welfare.

b. Status of Local Population

Plan Area

The Uinta Basin LWG Resource Area is located in eastern Utah in Uintah, Duchesne, and Daggett counties (Figure 1). The Resource Area encompasses 5,375,423 acres (24,024mi$_2$) managed by the USFS, BLM, SITLA, Tribal, and private landowners. The Resource Area is defined by the Utah-Wyoming border to the north, the Utah-Colorado border to the east, the Book Cliffs Divide to the south, and Highway 35 and Wolf Creek to the west. The Resource Area has been subdivided into nine subunits, corresponding to sage-grouse breeding complexes.

These breeding complexes are based on geographic boundaries and groupings of leks. Although movement between complexes is likely, the complexes represent discrete subpopulations of sage-grouse in the Resource Area. The Resource Area is characterized by hot summers and cold winters. According to National Climate Data Center records collected at the Vernal Municipal Airport from 1961 to 1995, July is the hottest month with an average high temperature of 90.0°F; winter lows reach 5°F in January. The Resource Area is a primarily a dry area, receiving an average of only 8.0 inches of rain annually. The Resource Area contains a diverse array of microclimates from low elevation, desert-like conditions to high-elevation forested areas. Recorded climate information does not entirely reflect conditions over the entire Resource Area; however, it does provide an indication of relative conditions.

Landownership

Approximately 56% of the Resource Area is public land. The remaining lands are private, Tribal, and State Institutional Trust Lands Administration ownership (Table 35).

Table 35. Landownership in the Uintah Basin Adaptive Resources Management Sage-grouse Local Working Group Resource Area**,** 2007.

Landowner*	**Area (acres)**	**Area (Miles2)**	**% of Resource Area**
Bureau of Land Management	1,745,787	2,727	32.74
Northern Ute Tribe	989,500	1,546	18.56
National Park Service	51,324	80	0.96
Private	867,786	1,355	16.28
State of Utah	47,410	74	0.89
School Institutional Trust Lands Administration	414,853	648	7.78
US Fish & Wildlife Service	8,975	14	0.17
US Forest Service	1,182,271	1,847	22.17

Sage-grouse Population Status and Distribution

Accounts from pioneers, trappers, and explorers of the Resource Area indicate that sage-grouse were historically abundant in the area. Paul McCoy, whose family came to the Uinta Basin in 1889, recounted that homesteaders coming to the area in 1916 reported an abundance of ‘sage chickens’. Another long-time resident of the area, Morgan Hall, reported that during the 1920s, “… the crickets and the sage chickens were so numerous that my horse would almost step on sage chickens during the day...” Somewhat contradictory statements have also been found from the same era. For example, in a 1898 Report of the State Fish and Game Warden (Sharp 1898), “…the sage hen, [does] not seem to thrive well with civilization, and are surely becoming fewer and more difficult to get as the years go by, and bid fair to become extinct before long.” In addition, Rulon

Hacking, Senior High First Prize, The Protection and Conservation of Game, Animal and Bird Life of the Uinta Basin, was quoted in the Vernal Express in 1924, "The game birds of the Basin are on the decrease. There are a number of reasons for this. First, the illegal hunter…is greatly responsible for this decrease. It is estimated that each coyote kills one hundred and fifty sage chickens per year, either by killing the bird or destroying the egg. A greater effort should be made to get rid of this roamer."

These accounts illustrate that sage-grouse populations in the Uinta Basin may have been declining 80 years ago. The UDWR began using lek counts to monitor sage-grouse populations in the Resource Area in 1967 (Figure 25). That year, a total of 134 male sage-grouse were counted on 3 leks. During these initial counts, the locations of only a few leks were known. In 1971, 10 leks in the Resource Area were counted for a total of 121 males. The estimated spring population size in 1971 was 484 adult birds. Sage-grouse populations in the Resource Area reached a peak in 1978 when 748 males were counted on 26 leks. This represents a total estimated spring population of 2,992 adult birds. Since 2000, the total number of males counted on leks has fluctuated around the 30-year average of 477 total males (Figure 26). The number of males counted fell slightly below the average during 2001 and 2002, likely due to drought conditions, and was slightly above the average in 2003 and 2004. In 2005, more sage-grouse males were counted on leks in the Uinta Basin than ever recorded. A total of 788 males were counted on 51 leks for an estimated total spring population of 3,158 adult birds.

The number of active leks can also be used to index sage-grouse population trends. In an attempt to avoid bias due to monitoring effort, only years when >10 leks were counted were included in this analysis (Figure 26). The historical population high of 1978 is still apparent, however, recent increases do not appear as significant, and the population appears to be stable, rather than increasing. This indicates that while the number of males counted on leks in the Resource Area is increasing, increases in total males counted could be attributed to increased counting and lek searching efforts. In fact, 51 leks were counted in 2005, more than were ever counted in the Resource Area (range = 1-51).

c. Key Ecological Indicators and Threats

UBARM participants identified key ecological attributes (KEAs) of sage-grouse ecology and biology and associated indicators (to measure KEAs), determined and ranked the range of variation for each KEA, and assessed the current and desired conditions for each KEA (Table 36). They then identified and ranked potential threats (Table 37).

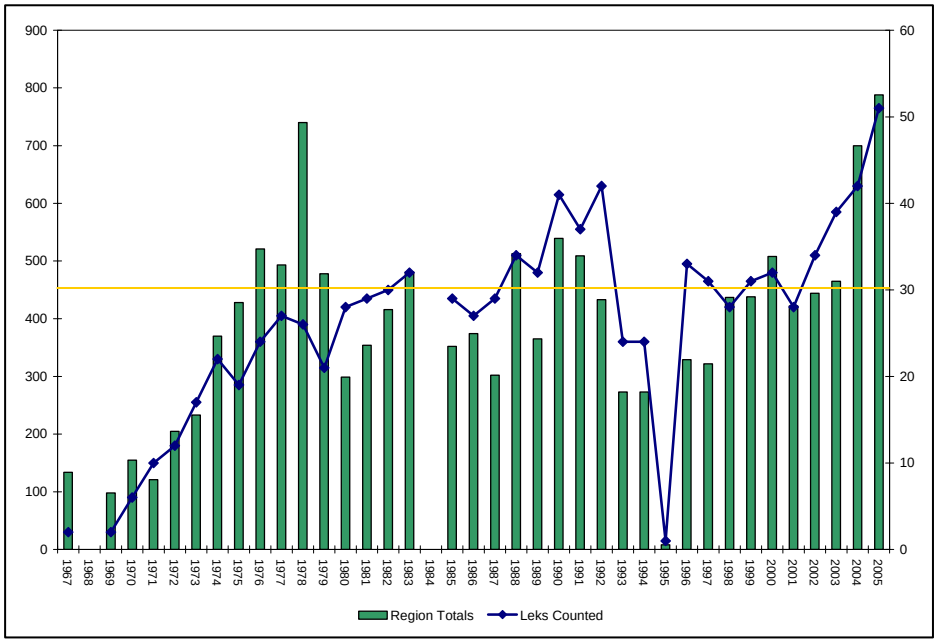

Figure 25. Maximum total number of males counted, number of leks counted, and 30-year average maximum total males counted on leks in the Uintah Basin Adaptive Management Sage-grouse Local Working Group Resource Area, 1967-2005**.**

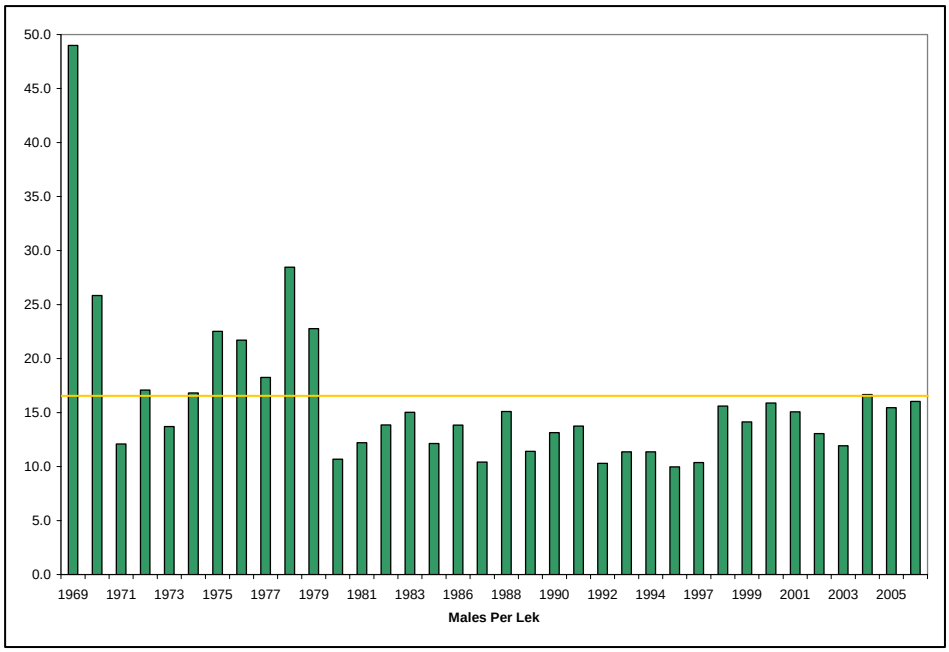

Figure 26. The number of males per lek in the Uintah Basin Adaptive Resources Management Sage-grouse Local Working Group Resource Area, 1969-2006; only years when >10 leks were counted included**.**

Table 36. Greater sage-grouse key ecological aspects identified in Utah's Daggett, Duchesne, and Uintah Counties, Uintah Basin Adaptive Resources Sage-grouse Local Working Group, 2007. The 'Key Attribute' and 'Indicator' cells' are those defined by Greater Sage-grouse guidelines (Connelly et al 2000). The shaded cells represent the current condition as recorded by local working group members of a particular attribute and indicator as it relates to sage-grouse habitat and life history requirements.

Resource	Area Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Indicator Status	Current Rating	Desired Rating	Date of Current Rating	Date for Desired Rating
Uintah Basin	Landscape Context	Connectivity of key habitat types	Condition of surrounding natural vegetation	Life history patches are sparse and dispersed creating barriers between low habitat patches.	Habitat patches are isolated and narrowly connected.	***Habitat patches are of generally good quality and close proximity, but with some fragmenting features.***	All habitat patches are within a similar matrix and functionally connected.	Sage-grouse seasonal habitat in the Uintah Basin is generally well connected but has some fragmentation. Sage-grouse are able to move between seasonal habitats within the Resource Area and are able to move between the Resource Area and surrounding habit	Good	Good	5-Nov	16-Jul
Uintah Basin	Landscape Context	Connectivity of Populations & Sub-populations	Distance to other occupied or potential habitat	Population does not interact with any other population(s).	Next adjacent population 25-35 mi away with few habitat patches in between.	***Next adjacent population 20-35 mi away with large habitat patches connecting the two; a few birds/generation known to move between populations.***	Next adjacent population 15-35 mi away with occasional to regular mixing of individuals through large patches with short separation distances between patches.	Connectivity to other populations seems good based on radio-telemetry studies in the area. Lack knowledge of sage-grouse movement in the Book Cliffs.	Good	Good	5-Nov	16-Jul
Uintah Basin	Condition	Lek habitat quality.	Proximity to sagebrush (or other cover) and openness on lek.	No appropriate cover w/in 400 m of most leks; significant encroachment of tall vegetation on leks.	Dispersed patches of sagebrush cover and little grass w/in 400 m of lek; density of tall vegetation on leks increasing.	**Large patches of sagebrush or other cover w/in 400 m of lek with little encroachment of tall vegetation.**	*Large patches of sagebrush or other cover w/in 400 m of lek with no encroachment of tall vegetation.*	There is variability across the entire Resource Area. Most leks are in good condition.	Good	Very Good	5-Nov	11-Jul
Uintah Basin	Condition	Nesting/early brood-rearing habitat quality.	Sagebrush canopy cover and density; understory composition; proximity to open patches dominated by herbaceous vegetation.	Inadequate sagebrush cover/density; little perennial grasses or forbs in dense sagebrush with no openings.	**Inadequate or high sagebrush cover/density; poor perennial grass/forb cover in sagebrush with limited openings.**	*Adequate sagebrush cover/density; some perennial grasses/forbs in sagebrush with good perennial grass/forb content in openings.*	High stature grasses in shrub lands; dense cover in riparian zone; high species richness; a matrix of open patches that includes mesic sites.	Most areas are in fair condition during a "normal" year and look better in wet years.	Fair	Good	5-Nov	16-Jul

Uintah Basin	Condition	Summer/Late Brood-rearing Habitat Quality	Sagebrush canopy cover and density; understory composition; proximity to open patches and mesic sites dominated by herbaceous vegetation.	Little or no shrub land cover/density; little perennial grasses or forbs in dense sagebrush with no open patches or mesic sites.	**Little or high shrub land cover/density; poor perennial grass/forb cover in sagebrush with limited openings and mesic sites or alfalfa fields.**	*Open shrub land (5-10%) with moderate stature grasses; some perennial grasses/forbs in sagebrush with good perennial grass/forb content in openings; some mesic sites.*	High stature grasses in open shrub lands (5-10%); dense cover in mesic sites; high species richness; a matrix of open patches and many mesic sites.	In the high end of fair--most sites look pretty good.	Fair	Good	5-Nov	16-Jul
Uintah Basin	Condition	Winter Habitat Quality	Sagebrush canopy cover and height.	Majority sparse sagebrush cover or very small patches or majority very dense and tall (i.e. "decadent"); sagebrush frequently covered by snow.	Low stature and/or sparse sagebrush cover on westerly and southerly slopes and drainages or majority very dense and tall (i.e. "decadent"); sagebrush often covered by snow.	***Less than 15% canopy cover of sagebrush on southerly and westerly aspects and few dense patches available; sagebrush rarely covered by snow.***	Widely distributed winter habitat throughout the Resource Area; canopy cover >15% sagebrush on southerly and westerly aspects w/avg. of 10" above snow depth on >5% slopes; dense sagebrush cover in drainages.	Winter habitat in good condition.	Good	Good	5-Nov	16-Jul
Uintah Basin	Size	Population Distribution	Distribution of leks			**Current distribution**	*Current distribution + more leks in the Book cliffs and on the South Slope of the Uintah.*		Good	Very Good	5-Sep	16-Jul
Uintah Basin	Size	Population Size	3-year running average maximum number of males counted on leks	<300	301-625	**626-1,000**	*1,000+*		Good	Very Good	5-Sep	16-Jul
Uintah Basin	Size	Population Size	Number of active leks	<23	24-35	**36-60**	*60+*		Good	Very Good	5-Sep	16-Jul

Table 37. Relative importance/contribution of sage-grouse population threats in Utah's Daggett, Duchesne, and Uintah Counties, Uintah Basin Adaptive Resources Management (UBARM) Sage-grouse Local Working Group, 2007. Threats are described in the "Threat Analysis" section of this Plan. Rankings are as follows: L=low; M=medium; H=high; and VH=very high. Ranks are defined according to TNC (2005).

	Aspects of Sage-grouse population in the UBARM Resource Area							
Threat	Reduced Population Size	Population Distribution	Reduced Lek Habitat Quality	Reduced Nesting/Early Brood-rearing Habitat Quality	Reduced Summer/Late Brood-rearing Habitat Quality	Reduced Winter Habitat Quality	Reduced Connectivity of Seasonal Habitat Types	Reduced Connectivity of Populations & Sub-populations
Home and Cabin Development	L	M	L	L	L	L	L	L
Power lines, Fences, & Other Tall Structures	-	M	H	M	M	M	M	M
Oil and Gas Development	M	M	M	M	M	M	M	M
Roads	L	M	M	M	L	M	H	H
Drought and Weather	L	-	L	H	H	H	-	-
Hunting Pressure	L	L	-	-	-	-	-	-
Incompatible Fire Management Practices	-	H	H	H	H	H	H	M
Incompatible Livestock Grazing	-	L	L	H	H	L	-	-
OHV Recreation	-	M	H	M	M	L	L	L
Invasive/Noxious Weeds	-	M	M	VH	VH	H	M	L
Parasites and Disease	H	H	-	-	-	-	-	-
Predation	VH	H	-	-	-	-	-	-
Vegetation Management	-	-	H	H	H	H	H	M
Pinyon-Juniper Encroachment	-	M	H	M	M	H	H	H

d. Status of Conservation Strategies and Actions

UBARM participants identified several conservation strategies and actions that could be implemented to enhance greater sage-grouse populations. Here UBARM partners report on specific actions completed or addressed in 2006/2007 and steps to be taken to implement addition actions into subsequent years of the plan. If a strategy or an action number is missing from this report; it means that no action(s) were taken in 2006/2007 towards its completion. To access a copy of the UBARM conservation plan visit the following web site address: http://utahcbcp.org/files/uploads/uintah/ubarmsagrplan.pdf. The UBARM LWG will be reviewing and updating their Plan in early 2009

1. **Strategy**: Increase cooperation and coordination between UBARM and public and private partners.

Action: By 2007, meet with the Ute Tribe Fish and Game Department to update them on UBARM activities and encourage participation.
Status: Leah Smith and Brian Maxfield met with Karen Court to discuss greater sage-grouse conservation and obtain access to Tribal land to conduct the ecology study. The UDWR meets with the tribe in annual coordination meeting. Jim Brown and other Grazing Improvement Program Representatives and Mark Chamberlain NRCS have met with the Tribe in the fall 2007 and winter 2008 to discuss potential projects.
Action: In 2007, UDWR biologists will coordinate with Ute Tribe biologists to identify sage-grouse lek sites and count birds on Tribal lands.
Status: This is ongoing. This work is being conducted by Brain Maxfield and Leah Smith.

Action: Work with the NRCS to review and potentially endorse NRCS WHIP and EQIP projects that would benefit sage-grouse in the Resource Area.
Status: See 1.1. During the fall 2007 and several times since, NRCS has meet with Karen Courts regarding possible projects. NRCS (Mark Chamberlain) meets regularly with Utah partners to review and plan projects that may benefit greater sage-grouse.
Partners: USU Extension, Ute Tribe, UDWR, NRCS.
Threats addressed: Vegetation management
Aspects of Sage-grouse ecology addressed: population size, population distribution, seasonal habitat quality.

2. **Strategy**: Increase information/education opportunities with local community and UBARM partners.

Action: By 2008, develop informational handout about sage-grouse ecology and UBARM activities.
Status: No action has been completed on this brochure. It was identified by the LWG as a high priority item to be completed in 2008. A draft will be prepared by the LWG facilitator in 2008 for group review.
Action: Through 2016, include information about UBARM activities in County Extension newsletter.
Status: This is ongoing. The County Extension Office provides updates and notice of LWG activities in county newsletters and through periodic correspondence.
Action: Schedule spring field tour of habitat management projects.
Status: A field tour of projects sites on Diamond Mountain was conducted in the spring 2007. The LWG toured the East Bench Project area in the fall of 2006 to discuss a study on the ecology of sage-grouse inhabiting the area. This project was subsequently implemented. Funding for the project was provided by the UDWR, Enduring Resources, LLC and more recently Andarko Petroleum, Inc. Also in the spring of 2007 the group reviewed projects on Deadmans Bench. This work is being coordinated by – Miles Hanberg - UDWR and Steve Strong BLM.
Action: Coordinate workshops for private partners to share information about habitat enhancement, funding opportunities, and other relevant topics to be identified as needed. Pending – Regional team meetings –
Status: On-going through Utah Partners quarterly meetings
Partners: USU Extension, UDWR, USFS, BLM, SITLA, NRCS, UFBF, private partners.
Threats Addressed: Vegetation management, fire management, pinyon-juniper encroachment, livestock grazing.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality.

3. **Strategy**: By 2016, increase brood-rearing habitat quality in the Resource Area.

Action: Work with the NRCS and private partners to develop NRCS WHIP and EQIP projects that would increase brood-rearing habitat quality in the Resource Area.
Status: On-going
3.2. Action: Work with agency partners to develop projects that would increase brood-rearing habitat quality in the Resource Area.

Status: On-going. The prescribed burns implemented on Anthro Moutain were designed to improve brooding rearing habitat. The response of greater sage-grouse to burns is being evaluated by Utah State University.
3.2. Action: Work with private and public partners to monitor effects of habitat improvement projects on vegetation and sage-grouse habitat use.
Status: On-going. The vegetation response on all projects implemented is monitored by UDWR Range Trend crews. Sage-grouse response to major demonstration projects such a Anthro Mt. (Action 3.2) is being evaluated by Utah State University.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Vegetation management, livestock grazing, drought and weather, invasive/noxious weeds, pinyon-juniper encroachment.
Aspects of Sage-grouse Ecology Addressed: Nesting/early brood rearing habitat quality, summer/late brood rearing habitat quality, connectivity of seasonal habitat types.

4. **Strategy:** Increase the amount of mesic sites available to sage-grouse during the late summer and early fall.

Action: Work with public and private partners to maintain or create mesic sites in areas used by sage-grouse during late summer and fall.
Status: Mark Chamberlain reported that projects have been implemented on Diamond Mt and Jackson Draw. These projects are reported in the LWG area project list.
Action: During times of drought, coordinate with public and private partners to maintain water available for sage-grouse during late summer and early fall in areas used during this time.
Status: No action
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Drought and weather, livestock grazing, vegetation management.
Aspects of Sage-Grouse Ecology Addressed: Summer/late brood-rearing habitat quality

5. **Strategy**: By 2016, increase population and habitat monitoring efforts in the Resource Area.

Action: Encourage public and private partners to use techniques from Connelly et al. (2003) “Monitoring of Greater Sage-grouse Habitats and Populations”
Status: Sage-grouse population status and response to management actions are being conducted on Anthro Mt. Seep Ridge, Blue Mt, and Deadsman Bench using standard radio telemetry protocols.
Action: In 2007, UDWR biologists will coordinate with Ute Tribe biologists to identify sage-grouse lek sites and count birds on Tribal lands.
Status: On-going. Leah Smith and Brian Maxfield are coordinating this effort.
Action: UDWR to enlist and coordinate private volunteers and/or other agency biologists search for new leks and conduct lek counts on active leks.

Status: On-going. Utah State University and the UDWR are coordinating a program to train and involve dedicated hunters in effort to locate new lek sites.
Action: Through 2016, test dead sage-grouse for West Nile Virus and any other parasites/pathogens of importance.
Status: On-going. Birds recovered in 2007 were tested for WNv and other pathogens. One positive test was recorded in 2006 in the LWG area.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Parasites/disease
Aspects of Sage-Grouse Ecology Addressed: Population size, population distribution, connectivity of populations and subpopulations.

6. **Strategy**: By 2016, work with public and private partners to reduce invasive/noxious plant species, especially in areas used for nesting and brood-rearing.

Action: Coordinate with county weed control department to control invasive/noxious weeds in areas used by sage-grouse.
Status: Several UBARM members have been involved - Spotted Knapweed, Hoary Cress on Anthro Mt, Russian Knapweed – Road maintenance agreements with private industry. Daggett County knap weed and Canadian thistle.
Action: Avoid controlled burns and fight wildfires in areas dominated by cheat-grass.
Status: On-going. The Neola North Fire has been reseeded with an approved seed mixture to mitigate a cheatgrass invasion.
Action: Encourage and support use of chemical and mechanical treatments to control cheat-grass and invasive/noxious weeds.
Status: Several UBARM Members are part of the weed control board. Cory Ramson USU conducting study on Sunshine Bench to control cheatgrass.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, County Weed Boards & departments, private partners.
Threats Addressed: Invasive/noxious weeds, vegetation management, fire.
Aspects of Sage-grouse Ecology Addressed: Lek habitat quality, nesting/early brood-rearing habitat quality, summer/late brood-rearing habitat quality, connectivity of seasonal habitat types.

7. **Strategy**: By 2016, minimize effects of roads and utilities in areas used by sage-grouse.

Action: Re-vegetate utility corridors with sage-grouse seed mixes.
Status: On-going. This effort is coordinated through Utah Partners Regional Team – Utilities contact the UDWR BLM USFS NRCS to coordinated revegetation. The agencies provide seed recommendations and approve mixtures.
Action: Avoid placement of new roads and utilities near lek sites (specific distances should be site specific).
Status: On-going. URARM is searching for new leks to mitigate potential future impacts. The Uintah County Public Lands Implementation Plan (Uintah County Board of Commissioners 2005a) makes the following statements relevant to sage-grouse management: 1) sage-grouse management in Northeastern Utah must follow

the Strategic Management Plan for Sage Grouse 2002 (Publication 02-20 State of Utah Department of Natural Resources Division of Wildlife resources, June 11, 2002). This is to insure that management guidelines for the grouse are compatible with local sage-grouse population and habitat, 2) buffers must be implemented to insure required protection is provided to sage-grouse during the critical stages of breeding, nesting, and rearing young. These buffers or requirements may be adjusted where natural barriers exist, impacts can be mitigated, or sage-grouse are determined not to be present during the proposed disturbance, 3) avoid significant human disturbances within 0.6 miles (1 km) of a lek during the breeding season (March 1-May 31) from one hour before sunrise to three hours, and after sunrise, and 4) avoid developing roads, fences, poles, and utility lines within 1300 feet (400 meters) of a lek. Any such developments within the 1300 feet must be designed to minimize to the extent possible, bird structure collision and to prevent raptor perching.
Action: Where possible, install perch deterrents on tall structures located in areas used by sage-grouse.
Status: Pending the results of a study being conducted in San Juan County.
Action: Where practicable, install low-profile tanks in areas used by sage-grouse.
Status: Ongoing – recommended on all projects. Compliance is largely volunteer on part of operators. The rcommendations have been followed on East Bench by Andarko Petroleum Inc.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Powerlines, fences, and other tall structures, predation, renewable and non renewable energy development, roads.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types.

8. **Strategy:** Through 2016, avoid locating homes/cabins within important sage-grouse use areas, while ensuring private property rights. If development does occur, the work will minimize impacts to biodiversity.

Action: Participate in county planning efforts for home/cabin development to ensure that biodiversity impacts are minimized.
Status: Housing developments are not currently impacting sage-grouse areas. UBARM is searching new leks to mitigate this future potential. The Uintah County General Plan (Uintah County Board of Commissioners 2005b) promotes County-to-community, community-to-community and agency-to-County coordination, cooperation, and communication. The Duchesne County Code (Duchesne County 1997, amended 2005) contains the following provisions related to sage-grouse and other wildlife in the County: 1) resource-use and management decisions by federal land management and regulatory agencies, should support state-sponsored initiatives or programs designed to stabilize wildlife populations that may be experiencing a scientifically-proven decline in numbers, 2) Portions of Daggett County are zoned to provide some measure of protection to wildlife habitat, including wetlands, wildlands, and open spaces.
Action: Educate County planning departments about where important sage-grouse use areas are located.

Status: The Uintah County planning office has been provided maps to identify important sage-grouse areas. Duchesne County will be provided similar maps in 2008.
Action: Establish easements or other land protection in crucial habitat.
Status: Some landowners have expressed interest in easements. UBARM members are continuing this dialogue with interested landowners.
Action: Work with county planners and county council to establish zoning ordinances for crucial habitat that protect those areas from inappropriate development.
Status: On-going . See actions 8.1 and 8.2.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, County Planning departments, private partners.
Threats Addressed: Home and cabin development, roads, powerlines, fences, and other tall structures.
Aspects of Sage-Grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitats, connectivity of populations and subpopulations.

9. **Strategy:** Through 2016, avoid locating oil and gas roads or pads near lek sites. Where impacts do occur, implement interim reclamation to well site(s) as soon as practicable.

Action: Participate in county planning efforts for oil and gas exploration and development to ensure that sage-grouse impacts are minimized.
Status: On-going. UBARM members participate and site reviews. For example - Deadmans Bench – some stipulations where placed in leases but compliance is largely left to the operator. Compliance has been good.
Action: Influence BLM/USFS/SITLA/private enterprise planning efforts to minimize impacts to sage-grouse.
Status: On-going – UBARM representatives participate in interagency planning meetings.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners
Threats Addressed: Renewable and non-renewable energy development, roads, powerlines, fences, and other tall structures.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types, connectivity of populations and subpopulations.

10. **Strategy:** Through 2016, prevent reestablishment of pinyon/juniper through annual monitoring and maintenance level control efforts.

Action: Revisit and retreat as needed pinyon/juniper removal site.
Status: See habitat project list.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners
Threats Addressed: Pinyon-juniper encroachment, vegetation management.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types.

11. 11. Strategy: Monitor impacts of hunting on sage-grouse population in Resource

Area.

Action: Review and advise UDWR on sage-grouse harvest plans.

Status: On-going. The UDWR has reduced the size of the area hunted. And opened new area based on increased numbers. Limited number of permits are available and number adjusted based on population estimates.

Partners: UDWR, UBARM

Threats Addressed: Hunting

Aspects of Sage-grouse Ecology Addressed: Population size.

12. Strategy: By 2016, key public and private lands in the UBARM Resource Area (specific locations to be selected) are protected and/or managed so as to conserve/improve sage-grouse nesting and breeding habitat.

Action: Encourage use of UBARM defined desired conditions for state and federal lands and influence management actions in order to move toward those conditions.

Status: On-going. The UBARM completed plan defines current and desired condition and provides a management action framework. This plan has been provided to all UBARM partners.

Action: Support partner efforts that protect sage-grouse and sage-grouse habitat on public lands.

Status: On-going through Utah Partners and UBARM.

Action: Pursue private land protection on a few key parcels (TBD).

Status: Pending.

Action: Pursue habitat improvement projects or land management strategies on private lands in areas used by sage-grouse for nesting and brood-rearing.

Status: See project list.

Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners, The Nature Conservancy.

Threats Addressed: Home and cabin development, powerlines, fences, and other tall structures, renewable and non-renewable energy development, roads, livestock grazing, recreation, vegetation management.

Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types, connectivity of populations and subpopulations.

13. Strategy: Provide for a level and system of domestic livestock grazing that maintains and improves both the long-term stability of sage-grouse populations and habitats and the livestock industry in the Resource Area.

Action: Coordinate grazing management with livestock operators to reduce resource and timing conflicts on leks and prime nesting habitat when possible.

Status: The Uintah Basin Grazing Association is involved in strategic grazing and rotational grazing on Blue and Diamond Mountain.

Action: Apply grazing management practices to achieve desired conditions including maintenance of residual herbaceous vegetation appropriate for the site.

Status: On-going. The Utah Grazing Improvement Project has implemented projects to improve water distribution and use on native rangelands in the area. The USFS has implemented prescribed burns on Anthro Mt to improve grouse use and grazing

distribution. Sage-grouse response to the the burns is being monitored by Utah State University.

Action: Encourage implementation of grazing systems that provide for areas and times of deferment while taking into consideration the resource capabilities and needs of the livestock operator.

Status: See 13.1 – Regional Team partners are discussing the need to locating forage that could be grazed so other sites could be deferred.

Action: Manage livestock to enhance riparian conditions.

Status: On-going. The Grazing Improvement Project has funded projects in the area to improve riparian conditions. NRCS is also involved in this effort. See attached project lists.

Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, UFBF, private partners.

Threats Addressed: Livestock grazing.

Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality.

14. Strategy: Maintain and where possible, improve forb component in the understory.

Action: Reclaim and/or reseed areas disturbed by treatments when necessary, using seed mixtures high in native bunch grasses and desirable forbs.

Status: On-going. See attached project list.

Action: Restore understory vegetation in areas lacking desirable quality and quantity of herbaceous vegetation where economically feasible.

Status: On-going. See attached project list.

Action: Conduct vegetation treatments to improve forb diversity (e.g., harrowing, aerating, chaining) and reclaim or reseed disturbed area, if needed.

Status: On-going. See attached project list.

Action: Develop management techniques to increase forb diversity and density in sagebrush steppe, within limits of ecological sites and annual variations.

Status: On-going. See attached project list.

Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.

Threats Addressed: Vegetation management, fire, renewable and non-renewable energy development, roads, pinyon-juniper encroachment, inivasive/noxious weeds.

Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality.

15. Strategy: Manage pinyon/juniper stands to reduce encroachment into sagebrush/grass communities.

Action: Remove encroaching trees and tall shrubs mechanically (chainsaws, chaining, etc.) or by other methods, where needed to maintain visibility at lek sites and security from predation in other seasonal habitats.

Status: On-going. See attached project list.

Action: Brush-cut or treat with other mechanical methods on specified areas and re-claim or re-seed as necessary.

Status: On-going. See attached project list.

Action: Identify areas where pinyon or juniper trees are encroaching on good quality

sagebrush habitat and treat as needed.
Status: On-going. See attached project list.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Pinyon-juniper encroachment, vegetation management, predation, fire.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, population size, connectivity of seasonal habitat types.

16. Strategy: Enhance existing riparian areas or create small wet areas to improve nesting and brood-rearing habitat.
Action: Identify opportunities or needs to create small wet areas, implement such projects where economically feasible.
Status: On-going. See attached project list.
Action: Design and implement livestock grazing management practices to benefit riparian areas.
Status: On-going. See attached project list.
Action: Modify or adapt pipelines or developed springs to create small wet areas.
Status: No action
Action: Locate projects to minimize potential loss of water table associated with wet meadows.
Status: Pending.
Action: Protect existing wet meadows and riparian areas where necessary.
Status: On-going. See attached project list.
Action: Manage vegetation and artificial structures to increase water-holding capability of areas.
Status: No action.
Action: Install catchment structures to slow run-off, hold water, and eventually raise water tables.
Status: No action.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Drought and weather, vegetation management.
Aspects of Sage-grouse Ecology Addressed: Nesting/Early brood-rearing habitat quality, summer/late brood-rearing habitat quality, connectivity of seasonal habitats.

17. Strategy: Improve lek vegetation conditions to allow for predator recognition and visibility.
17.1Action: Open lek areas that have been invaded by sagebrush and other shrubs.
Status: A lek on Blue Mt and Deadmans Bench was Dixie harrowed to open the site – See attached project list.
17.2Action: Map and inventory leks with potential for restoration.
Status: On-going. As new leks are identified the maps are updated.
17.3Action: Maintain and enhance desired conditions for leks.
Status: On-going. The UDWR has identified a potential lek enhancement project on tribal land.

Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Predation, invasive/noxious weeds, pinyon-juniper encroachment, powerlines, fences, and other tall structures.
Aspects of Sage-grouse Ecology Addressed: Population size, lek habitat quality, population distribution.

18 Strategy: Minimize impacts of exotic and invasive/noxious plant species.
18.1Action: Identify areas where undesirable vegetation is encroaching on sage-grouse habitat.
Status: On going. See attached project list and Strategy 6.
18.2 Action: Treat areas where undesirable vegetation has become or is at risk of becoming a factor in sage-grouse habitat loss or fragmentation.
Status: On-going. See Strategy 6.
18.3 Action: Work with existing weed management programs to incorporate sage-grouse habitat needs;
Status: On-going.
18.4 Action: Identify large areas of introduced plant species that are not meeting sage-grouse habitat needs and reseed with native species where appropriate.
Status: On-going.
18.5 Action: Manage fire, transportation and vegetation treatments to minimize undesirable vegetation where possible.
Status: On-going. See strategy 6.
Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, private partners.
Threats Addressed: Invasive/noxious species, vegetation management, fire, roads.
Aspects of Sage-grouse Ecology Addressed: Nesting/early brood-rearing habitat quality, summer/late brood-rearing habitat quality, connectivity of seasonal habitats.

19 Strategy: Minimize impacts of agricultural conversion on sage-grouse.
19.1 Action: Maintain the CRP program and improve its benefit to wildlife by altering seed mixes.
Status: On-going.
19.2 Action: Expand Grassland Reserve Program (GRP) opportunities in sage-grouse habitats.
Status: Pending.
19.3 Action: Maintain or reestablish sagebrush patches of sufficient size and appropriate shape to support sage-grouse between agricultural fields.
Status: Pending.
19.4 Action: Work with NRCS and others to maintain the CRP program and enroll important sage-grouse habitats currently in grain production
Status: Pending Farm Bill action.
19.5 Action: Encourage use of sage-grouse friendly seed mixes, including bunchgrasses, forbs and big sagebrush, in CRP and other grassland plantings.
Status: On-going.
19.6 Action: Rehabilitate old low diversity, sod bound CRP fields with sage-grouse

friendly seed mixes including bunchgrasses, forbs, and big sagebrush.

Status: Pending.

19.7 Action: Encourage interest and enrollment of key sage-grouse habitats in relevant Farm Bill programs.

Status: On-going and pending new Farm Bill.

Partners: NRCS, UDWR, USFS, BLM, SITLA, USU Extension, private partners.

Threats Addressed: Vegetation management.

Aspects of Sage-grouse Ecology Addressed: Lek habitat quality, nesting/early brood-rearing habitat quality, summer/late brood-rearing habitat quality, connectivity of seasonal habitat types.

20 Strategy: Minimize the amount of quality sage-grouse habitat eliminated by residential and commercial land development consistent with private property rights.

20.1Action: Participate with County land use decision makers in identifying key sage-grouse habitats.

Status: On-going work with Farm Bureau.

20.2Action: Maintain sagebrush environments of sufficient size and shape around developments in sage grouse habitat.

Status: On-going – See Strategy 8.

20.3Action: Encourage the voluntary use of conservation easements and other land protection vehicles with willing sellers in sage grouse habitats.

Status: On-going.

20.4Action: Educate rural residents about the importance of good grazing management in keeping small tracts weed free and capable of providing wildlife habitat.

Status: On-going.

Partners: NRCS, UDWR, USFS, BLM, Ute Tribe, SITLA, USU Extension, County Planning departments, private partners.

Threats Addressed: Home and cabin development

Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types, connectivity of populations and subpopulations, population distribution, increased predation, disturbance during critical periods.

21 Strategy: Minimize sage-grouse habitat loss to oil and gas activities while ensuring continued development.

Status: On-going see Strategy 9 above – UBARM partner provide recommendations to operators. Voluntary compliance has been good.

21.1 Action: Reduce fragmentation of sage-grouse habitat by oil and gas development activities.

21.2 Action: Minimize disturbance to sage-grouse associated with oil and gas development.

21.3 Action: Reduce cumulative impacts of oil and gas development.

21.4 Action: Use directional drilling where feasible to minimize surface disturbance, particularly where well density exceeds 1:160 acres.

21.5 Action: Minimize pad size and other facilities to the extent possible, consistent with safety.

21.6 Action: Plan and construct roads to minimize duplication.
21.7 Action: Cluster development of roads, pipelines, electric lines and other facilities.
21.8 Action: Use existing, combined corridors where possible.
21.9 Action: Use early and effective reclamation techniques, including interim reclamation, to speed return of disturbed areas to use by sage-grouse.
21.10 Action: Reduce long-term footprint of facilities to the smallest possible.
21.11 Action: Avoid aggressive, non-native grasses (e.g. intermediate wheatgrass, pubescent wheatgrass, crested wheatgrass, smooth brome, etc) in reclamation seed mixes.
21.12 Action: Eliminate noxious weed infestations associated with oil and gas development disturbances.
21.13 Action: Minimize width of field surface roads.
21.14 Action: Avoid ridge top placement of pads and other facilities.
21.15 Action: Use low profile above ground equipment, especially where well density exceeds 1:160 acres.
21.16 Action: Avoid breeding/nesting season (March 1 – June 30) construction and drilling when possible in sage-grouse habitat.
21.17 Action: Limit breeding season (March 1 – May 1) activities near sage-grouse leks to portions of the day after 9:00 a.m. and before 4:00 p.m.
21.18 Action: Reduce daily visits to well pads and road travel to the extent possible in sage-grouse habitat.
21.19 Action: Utilize well telemetry to reduce daily visits to wells, particularly where well density exceeds 1:160 acres.
21.20 Action: Locate compressor stations off ridge tops and at least 2,500 feet from active sage-grouse leks, unless topography allows for closer placement.
21.21 Action: Avoid locating facilities within ¼ mile of active sage-grouse leks, unless topography allows for closer placement.
21.22 Action: Plan for and evaluate impacts to sage-grouse of entire field development rather than individual wells.
21.23 Action: Study, and attempt to quantify, impacts to sage-grouse from oil and gas development.
21.24 Action: Evaluate need for near-site and/or off-site mitigation to maintain sage grouse populations during oil and gas development and production, especially where well density exceeds 1:160 acres.
21.25 Action: Implement near-site and/or off-site mitigation as necessary to maintain sage-grouse populations.
21.26 Action: Share sage-grouse data with industry to allow planning to reduce impacts.

Partners: UDWR, USFS, BLM, SITLA, County Planning departments, private partners.

Threats Addressed: Renewable and non-renewable energy development, roads, powerlines, fences, and other tall structures, invasive/noxious weeds, vegetation management.

Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types, connectivity of populations and subpopulations, population distribution.

22 Strategy: Minimize impacts of utilities lines in sage-grouse habitat.
Status: See Strategy 7, 8, and 9.
22.1 Action: Avoid new construction during important periods and re-route lines where technically and economically feasible to avoid impacts.
22.2 Action: Schedule maintenance to minimize important periods, however, maintenance in emergency situations will be unrestricted.
22.3 Action: Install raptor deterrents when applicable.
Partners: UDWR, USFS, BLM, SITLA, private partners.
Threats Addressed: Powerlines, fences, and other tall structures.
Aspects of Sage-grouse Ecology Addressed: Seasonal habitat quality, connectivity of seasonal habitat types.

23 Strategy: Minimize the impact of excessive predation.
23.1 Action: Plan and conduct research to determine the population-level effects of predation on sage-grouse.
Status: No action.
23.2 Action: Where sage-grouse population-level effects of predation are clearly identify, plan and implement site-specific predation management as necessary. Incorporate a monitoring plan to determine success
Status: USDA Wildlife Services is placing DRC-1339 egg baits to reduce the risk of raven predation on sage-grouse nests during the nesting season by reducing populations.
23.3 Action: Plan and conduct research to determine if man-made raptor perches increase predator effectiveness in sage-grouse use areas.
Status: Pending – Research is currently being conducted in San Juan County to evaluate the effectiveness of Perch deterrents.
23.4 Action: Modify power lines and wood fence posts (to remove raptor perches) in important sage-grouse areas, where feasible and where predator concerns have been identified
Status: Pending the outcomes of an on-going research project. See Action 23.3.
23.5 Action: Remove trees, remove/modify raptor perches, and maintain quality sagebrush habitat, where predation concerns on sage-grouse have been identified.
Status: Pending.
23.6 Action: Begin site-specific predation management considering all predator species (especially common ravens and red fox) where necessary and appropriate.
Status: On-going. USDA Wildlife Services and the UDWR have implemented a predator management plan that includes sage-grouse.
Partners: UDWR, USFS, BLM, SITLA, USDA-WS, private partners.
Threats Addressed: Predation, pinyon-juniper encroachment, powerlines, fences and other tall structures

Aspects of Sage-grouse Ecology Addressed: Population size, seasonal habitat quality.

24 Strategy: Improve knowledge of disease in sage-grouse populations.

24.1 Action: Collect grouse parasite and disease organism samples while handling birds for other research.

Status: On-going.

24.2 Action: Monitor radio collared and other grouse for West Nile Virus and other disease outbreaks

Status: On-going on Seep Ridge Anthro, Deadmans Bench.

Partners: UDWR, USFS, BLM, private partners.

Threats Addressed: Parasites and disease

Aspects of Sage-grouse Ecology Addressed: Population size, population distribution, connectivity of populations and subpopulations.

25 Strategy: Increase subpopulation numbers and genetic distribution in Resource Area subunits (TBD).

25.1 Action: Use translocation from within the Resource Area to supplement subpopulations.

Status: Pending.

25.2 Action: Use translocation from areas outside the Resource Area to supplement subpopulations.

Status: A total of 70 birds over three years were trapped on Diamond Mt and moved to Strawberry Valley.

25.3 Action: Use translocation techniques developed by Baxter et al. in Strawberry Valley

Status: Pending.

Partners: UDWR, USFS, University partners, private partners.

Threats Addressed: None

Aspects of Sage-grouse Ecology Addressed: Population size, population distribution, connectivity of populations and subpopulations.

26 Strategy: Strategy: Increase knowledge base regarding the positive and negative effects of sagebrush habitat improvement projects on other shrubsteppe species.

26.1 Action: Identify and/or develop research and monitoring protocol to address impacts to other shrubsteppe species of management practices targeted at improving or enhancing sage-grouse populations and/or habitats.

Status: On-going. Evaluations are being conducted on Anthro Mt., Seep Ridge, Deadmans Bench.

Partners: USFS, BLM, USU Extension, UDWR, University partners.

Threats Addressed: None

Aspects of Sage-grouse Ecology Addressed: None

e. Habitat Improvements and Completed Conservation Actions

The UDWR, in conjunction with the Utah Partners for Conservation and Development (UPCD), have implemented several habitat improvement projects in the Resource Area targeted at restoring or enhancing sage-grouse habitat. In 2004, approximately 4,100 acres of habitat in the Resource Area were treated and 7,000 acres were treated in 2005. Treatments were aimed at opening sagebrush canopy to enhance native grass/forb cover in the understory. Additional habitat improvement projects are planned for 2006. The UDWR anticipates treating 15,425 acres in the Resource Area in 2006. The location of some habitat improvement projects is given in Figure 27. Table 38 lists the acreage and general location of habitat improvement projects implemented in 2004 and 2005 and proposed for 2006 by the UDWR.

The USFS has also implemented several habitat improvement projects and burn restoration projects on the Uinta Mountains and Tavaputs Plateau. General conclusions (S. Goodrich, USFS, personal communication) from the monitoring of those projects are:
• Big sagebrush is well adapted to drought except on areas bordering or grading into desert shrub communities
• Mountain big sagebrush can return to burned areas with crown cover reaching pre-burn levels in about 15-30 years
• Mountain big sagebrush can return to pretreatment levels following herbicide applications in about the same time as in burned areas
• Limited information indicates Wyoming big sagebrush will take much longer to recover from fire than mountain big sagebrush

In 2006, USU and the Ashley National Forest initiated a study to evaluate the effects of small scale (<100 acres) prescribed burning on use of mountain big sagebrush communities by sage-grouse. The selected sites, located on Anthro Mountain, will be burned in the fall of 2007. Two years of pre-treatment and 2 years of post-treatment data will be collected relative to sage-grouse use of the areas and the vegetative response. The information gleaned from this study will enhance UBARM's understanding of fire as a potential threat and potential tool in the Resource Area

Table 38. Habitat improvement projects implemented to address sage-grouse threats identified by the Uintah Basin Adaptive Resources Management Local Sage-grouse Working Group, 2005-2007.

ID	FY start	FY complete	Project Title	Treatment type	Threat code	Acres
10	2005	2006	Taylor Flat P/J removal	lop and scatter hand thin P/J	1,2,18,21	733
22	2005	2006	Monument Ridge P/J removal	lop and scatter hand thin P/J	1,2,18,21	40
28	2005	2006	Steinaker Draw P/J project	P/J removal with bullhog	1,2,18,21	1002
39	2005	2006	Snake John greenstripping	a-way dixie harrow and aerial seed	1,9,18	1091

73	2005	2006	Seep/Winter Ridge P/J removal	lop and scatter hand thin P/J	21	23
178	2005	2007	Ruple Cabin sagr range enhance	double drum aerator and aerial seed	1,2	410
258	2005	2005	Snake John Valley lop and scatter	lop and scatter hand thin P/J	1,2,18,21	197
259	2005	2005	Wolf Point lop and scatter	lop and scatter hand thin P/J	1,2,18,21	497
298	2005	2005	Wolf Point phase 2 P/J removal	lop and scatter hand thin P/J	1,2,18,21	1987
299	2005	2005	Red Creek Flat lop and scatter	lop and scatter hand thin P/J	1,2,18,21	199
310	2005	2005	V-Canyon Ridges lop and scatter project	lop and scatter hand thin P/J	1,2,18,21	673
314	2005	2007	Kings Point P/J removal	lop and scatter hand thin P/J	1,2,18,21	994
316	2006	2007	Chew-Blue Mtn. sagr enhancement	2-way dixiie harrow re-seed	1,2,15	235
317	2006	2006	Clay Basin-Daggett P/J removal	lop and scatter hand thin P/J	1,2,18,21	511
319	2006	2007	Winter Ridge Asphalt P/J removal	lop and scatter hand thin P/J	1,2,18,21	1065
357	2006	2007	West Stuntz Blue mtn sagr enhancement	2-way dixie harrow and re-seed	1	883
358	2006	2006	Winter Ridge phase 2 lp and scatter	lop and scatter hand thin P/J	1,2,18,21	1322
359	2006	2007	Red Creek Flat phase 2 lop and scatter	lop and scatter hand thin P/J	1,2,18,21	612
392	2006	2007	Clay Basin-Daggett SITLA	lop and scatter hand thin P/J	1,2,18,21	810
393	2005	2005	Red Fleet-Donkey Flat seeding	re-seed using range land drill	1,2	1007
394	2006	2007	Blue Knoll lop and scatter	lop and scatter hand thin P/J	1,2,18,21	1003
397	2006	2007	Anthro mtn sage-grouse project Y-1	lop and scatter hand thin P/J	1,2,18,21	1680
399	2006	2007	Chew/USU sheep grazing project	use livestock to reduce CC of sage-brush	1,2,15,18	1040
999	2006	2006	2 Bar X Ranch	Water development	22	700
9999	2007	2007	Uintah Basin Grazing Assoc	Brush control	15	2000
9998	2007	2007	Searle Brush Mgmt	Brush mgmt	15	240
9997	2007	2007	CW McCoy Sheep brush mgmt	Brush mgmt	15	700
9996	2006	2006	Chivers Water Develeopment	Water development	22	250

9995	2005	2005	Chivers Water Development	Brush mgmt	15	1600
9994	2005	2005	Terry Brotherson	Brush mgmt and seeding	15	122
9993	2005	2005	Max Anderson	Range planting/water development	15-22	60
9992	2006	2006	Terry Brotherson	Brush mgmt	22	60
9991	2007	2007	Max Giles	Brush mgmt & Spring development	22-15	40
9990	2007	2007	Drippin Chicken Water/ Doc Allen	Water Development	22	100
9989	2006	2006	Donald Hicken	Range planting/Water development	15	275
9988	2007	2007	Hacking Land and Livestock	Brush mgmt	15	350
9987	2007	2007	Grant Hacking	Water development	22	300
9986	2006	2006	Burt Delambert	Brush mgmt/water development	15-22	900
9985	2007	2007	Chew Livestock	Brush mgmt/Seeding	15-22	250
9984	2005	2005	Donald Frandsen	Water development 2 springs	22	150
9983	2006	Ongoing	Deep creek investment/Allen Smith	Prescribed grazing for sage grouse	1, 2, 15, 16	9300
9982	2005	2005	Deep creek investment/Allen Smith	Dixie harrow on brush	1, 2, 15, 16	325
9981	2006	2006	Deep creek investment/Allen Smith	Seeding of better sage grouse forage	1, 2, 15, 16	740
9980	2005	2005	Strawberry River Ranch	Water development	22	100
9979	2005	2005	Little red creek cattle co.	13 pond sites/ brush mgmt	15-22	600
9978	2004	2004	Southern Cross Ranch	1 pond, brush mgmt, seeding	1, 2, 15, 22	150
9977	2006	2006	Jay Abbot	10 ponds/gully plugs	22	500
9976	2007	2007	Mike Vanderhoof	Weed mgmt, seeding, brush mgmt	7, 15	450
9975	2007	2007	Lanny Young/ State Trust Lands	Brush mgmt	15, 16	500
9974	2006	2007	LH Lop and scatter	hand crew lop and scatter PJ	21	328

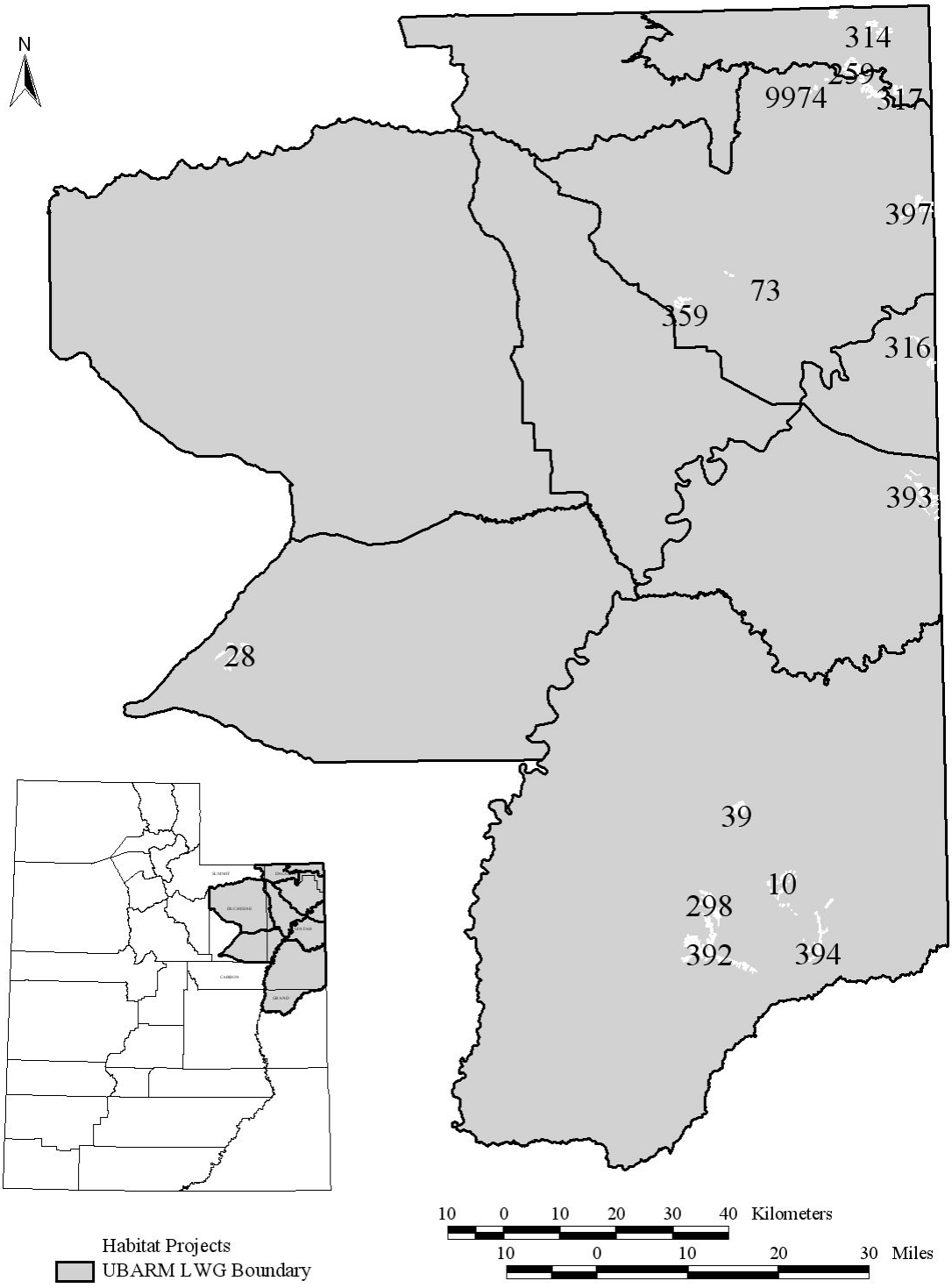

Figure 27. Location of habitat projects completed to mitigate sage-grouse threats in the Uintah Basin Adaptive Resources Management Sage-grouse Local Working Group Resource Area, 2006-2007.