

**Utah's Adaptive Resources Management
Greater Sage-grouse Local Working Groups**

Accomplishment Report

2009-2010



Photo by Todd Black

November 2010

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Submitted to

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Preface

This report summarizes the 2009 and early 2010 accomplishments of Utah's Adaptive Resource Management Greater Sage-grouse (*Centrocercus urophasianus*, hereafter referred to as sage-grouse) Local Working Groups (LWGs). These groups were facilitated by staff affiliated with the Utah Community-Based Conservation Program (CBCP). This report incorporates the information requested under 50 CFR Chapter IV, US Fish and Wildlife Service (USFWS) Policy for Evaluation of Conservation Efforts (PECE) When Making Listing Decisions (USFWS 2003). Specific topics addressed by the LWGs plans include:

1. Staffing, funding, funding sources, and other resources necessary to implement LWG's plans.
2. Legal authority of the partners to implement the plan.
3. The legal procedural requirements (environmental reviews) needed to implement the plans and how this will be accomplished.
4. Authorizations or permits that may or will be needed and how these will be obtained.
5. The type and level of voluntary participation (number of landowners involved, types of incentives used to increase participation).
6. Regulatory mechanisms (laws, ordinances, etc.) that may be necessary to implement the plans.
7. A statement regarding the level of certainty that the funding to implement the plans will be obtained.
8. An implementation schedule to include incremental completion dates.
9. A copy of LWG's approved management plans (These reports are available on our web site www.utahcbcp.org).

The conservation plans discuss the level of certainty that the management efforts identified and implemented will be effective. Specific topics addressed in the conservation plans include:

1. The nature and extent of threats to be addressed by the LWG's plans and how management efforts will reduce the threats described.
2. Explicit objectives for each management action contained in the plans and dates for achieving.
3. The steps needed or undertaken to implement management actions.
4. The quantifiable, scientifically valid parameters by which progress will be measured (e.g., change in lek counts, improved habitat conditions).
5. How the effects of the management actions will be monitored and reported.
6. How the principles of adaptive management resource management are being implemented.

The LWG sage-grouse conservation plans, previous annual reports, and meeting minutes can be accessed at www.utahcbcp.org.

Executive Summary

The Community-based Conservation Program (CBCP) encompasses the historical range of sage-grouse in Utah as identified in the 2002 (2009 revised) Strategic Management Plan for Sage-grouse (Figure 1). The plan, approved by the Utah Wildlife Board on 1 June 2002 (revised 2009), mandated the organization of local sage-grouse working groups (LWGs) to develop and implement sage-grouse conservation plans. The Utah Division of Wildlife Resources (UDWR) in cooperation with Utah State University Extension (USUEXT), private landowners, public and private natural resource, wildlife management, and conservation agencies and organizations have implemented the CBCP.

In 2009-2010, Utah's Adaptive Resources Management Greater Sage-grouse (hereafter referred to as sage-grouse) LWGs continued implementation of their Sage-grouse Conservation Plans (Plan). The LWGs include representatives from state and federal agencies of land and resource management, non-governmental organizations, private industry, local communities, and private landowners.

In this report we summarize efforts of the LWGs to implement the conservation strategies and actions outlined in their Plans. Please note that if a strategy or an action number is missing from this report or no comments are reported under a specific strategy; it means that no action(s) were reported during the period towards its completion. These strategies meet the guidelines set forth by the US Fish and Wildlife Service (USFWS) in their Policy for Evaluation of Conservation Efforts (PECE) standards. The conservation strategies and actions address the five USFWS listing factors as they apply to sage-grouse in each LWG area. Plan recommendations and guidance are voluntarily being implemented by all LWGs. The LWGs meet regularly to review actions and encourage adoption of Plan conservation strategies and actions. In 2009-2010, additional emphasis was placed on identifying population and habitat conditions and issues specific to each LWG conservation area.

Each LWG plan contains a table of ranked threats that currently or potentially affecting sage-grouse and sagebrush habitats in their area. This threat analysis, combined with recommended strategies and actions, provided a framework for LWGs to implement their Plans over the next ten years. Plans are being implemented using an adaptive resource management approach. As new information emerges from local and range wide conservation efforts, the LWGs are using it to update management strategies, and priorities in their area. All 10 Utah LWGs have completed sage-grouse conservation plans. These plans and summaries of LWG activities can be found online at www.utahcbcp.org.

In 2010, the USUEXT/UDWR LWG partnership (Utah Community-based Conservation Program) was recognized by the Utah Center for Rural Life at Southern Utah University with a 2010 Utah Rural Honors Award. The award was presented by Gov. Gary Herbert at the 2010 Utah Rural Summit, held in Cedar City, Utah on the SUU campus. The award recognizes the unique partnership for engaging Utah rural communities in proactive efforts to conserve sage-grouse and other sagebrush obligate species.

Staff

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Funding:

In July 2006, Utah State University entered into a 5 year agreement with the Utah Division of Wildlife Resources (UDWR) to develop and facilitate the Utah Community-Based Conservation Program. This agreement provides up to \$136,000 annually in funding and in-kind matches through June 30, 2011, to conduct the program. Additional funding of up to \$160,000 a year is provided through by the Jack H. Berryman Institute through Utah State University Extension. Additional support in terms site and agency specific grants and contracts in the amount of \$300,000 were entered into in 2009-2010 to support local working group activities, project monitoring and evaluation.

Legal Authority

The LWG Plans implement Utah's Sage-grouse Strategic Management Plan (Strategic Plan) that was approved by the Utah Wildlife Board in 2002 (UDWR 2002, revised 2009).

Project Goals

1. Protect, enhance, and conserve Utah sage-grouse populations and sagebrush-steppe ecosystems.
2. Establish sage-grouse in areas where they were historically found and the current sagebrush-steppe habitat is capable of maintaining viable populations (Utah Sage-Grouse Management Strategic Plan 2002).
3. Protect, enhance, and conserve other sensitive wildlife species that inhabit Utah

sagebrush-steppe ecosystems.

4. Sustain and enhance socio-economic conditions in affected local communities.
5. Complete actions that make listing sage-grouse as threatened or endangered unwarranted and/or assist in recovery if the species are listed.
6. Increase local stakeholders and community involvement and ownership in the species conservation planning processes.
7. Increase LWGs awareness, appreciation, and the application of the use of science in making land use and population management decisions.

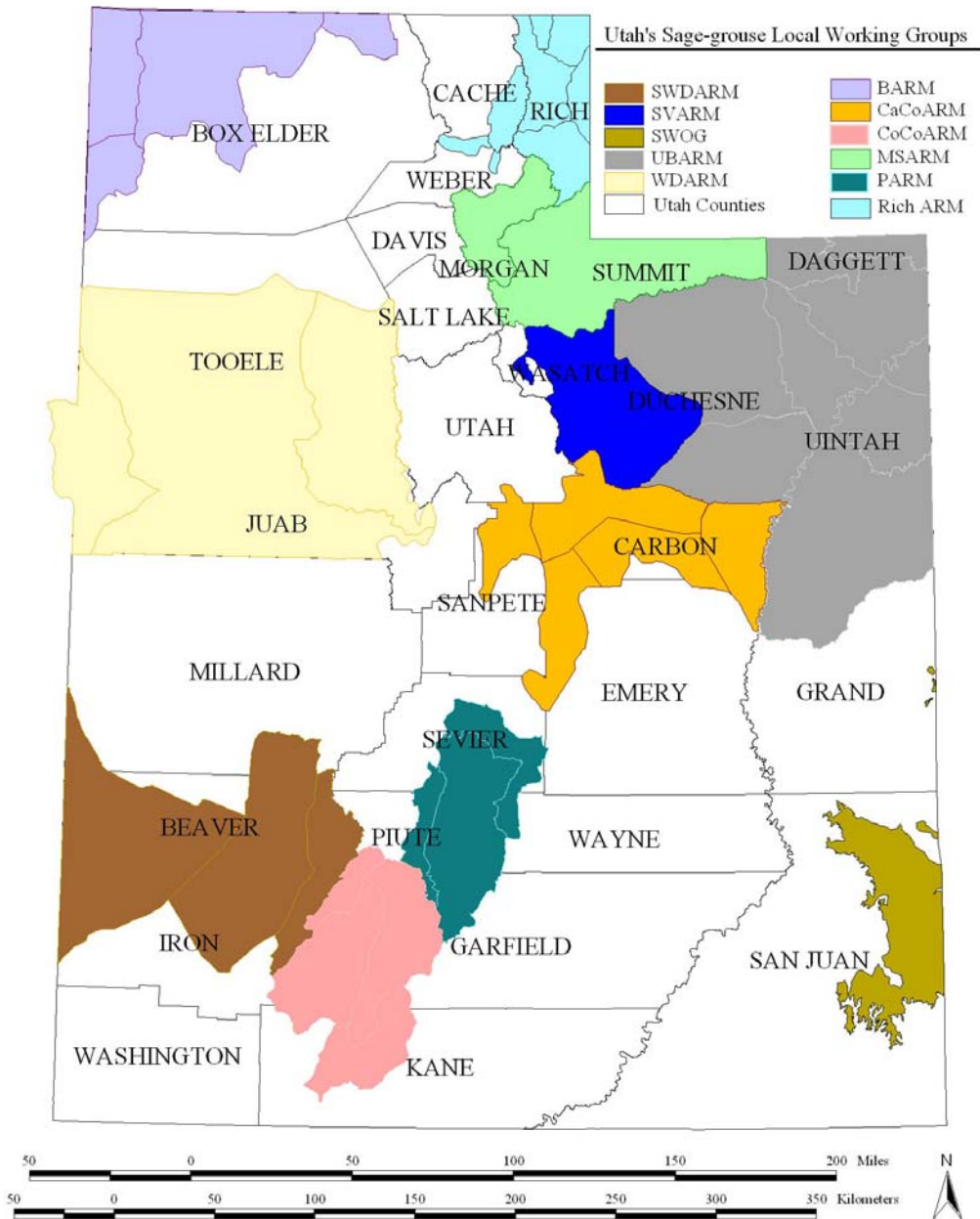


Figure 1. Utah Sage-grouse Conservation Areas, Utah Strategic Management Plan for Sage-grouse (UDWR 2009). (Note this report summarizes conservation actions completed to benefit greater sage-grouse. Thus it does not include Gunnison sage-grouse conservation actions. This species inhabits San Juan County).

Uintah Basin Adaptive Resource Management Local Working Group

The Uintah Basin Adaptive Resource Management (UBARM) sage-grouse local working group is facilitated by Ms. Lorien Belton. UBARM meets three times yearly: a spring meeting, a summer field tour, and a fall meeting. The group may meet more frequently as the need arises.

Beginning in 2009, the group has an informal agreement to coordinate meeting times and field tour dates with the Uintah Basin (northeast region) Utah Partners for Conservation and Development (UBPCD), which meets approximately monthly. This allows for better coordination of projects and issues, in addition to facilitating higher attendance from partners who might otherwise be forced to choose between the two meetings for budgetary purposes. The UBPCD group also passed a resolution in December 2008 to support implementation of the UBARM Sage-grouse Conservation Plan.



Figure 10. The Uintah Basin Adaptive Resource Management (UBARM) Sage-grouse Local Working Group Conservation Area consists of 5,375,423 acres located in eastern Utah.

Conservation Strategies and Actions: 2009-2010 Accomplishments

1. **Strategy:** Increase cooperation and coordination between UBARM and public and private partners.
 - 1.1. **Action:** By 2007, meet with the Ute Tribe Fish and Game Department to update them on UBARM activities and encourage participation.
 - 1.2. **Action:** Work with the NRCS to review and potentially endorse NRCS WHIP and EQIP projects that would benefit sage-grouse on private land.
 - 1.3. **Action:** Encourage use of UBARM defined desired conditions for state and federal lands and influence management actions in order to move toward those conditions.

DWR continues to coordinate with the Tribe on wildlife issues and related topics such as fire. Miles Hanberg met with BIA to discuss how to conduct Towanta Flats fire management in a way beneficial (or at least not harmful) to sage-grouse, but those projects have likely been postponed due to the departure of that BIA employee. NRCS has increased its communication with DWR about sage-grouse issues and involvement in projects, particularly with the March 2010 announcement of sage-grouse specific funding for sage-grouse projects through NRCS. The agency has led several projects on Diamond Mountain and gotten approximately a dozen signups. In addition, NRCS employees were trained on sage-grouse habitat needs in May 2010. BLM had a new IM come out in 2010 that emphasized sage-grouse, but its impact on conservation efforts in the area has yet to be determined.

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

partners.

- 2.1. Action:** By 2008, develop informational handout about sage-grouse ecology and UBARM activities.
- 2.2. Action:** Through 2016, include information about UBARM activities in County Extension newsletter.
- 2.3. Action:** Schedule spring field tour of habitat management projects.
- 2.4. Action:** Coordinate workshops for private partners to share information about habitat enhancement, funding opportunities, and other relevant topics to be identified as needed.

USU Extension newsletter included advance notices about the March 2010 dinner meeting to discuss the USFWS listing decision, which brought in landowners with no previous relationship with UBARM. An informational flyer was created in 2009 and distributed in March 2010 with basic sage-grouse life history information and locally relevant threats. Additional work is needed to expand the audience. The 2009 summer field tour, held in conjunction with the Uintah Basin (Northeast Region) Partners for Conservation and Development (UBPCD) group, was well attended. NRCS money for sage-grouse project announced in March 2010 provided an opportunity to encourage wider participation in sage-grouse conservation efforts. The UBARM meeting in March 2010 provided ranchers an opportunity to ask questions of the FWS about the warranted but precluded decision.

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

- 3.1. Action:** Work with agency partners to develop projects that would increase brood-rearing habitat quality in the Resource Area.
- 3.2. Action:** Work with private and public partners to monitor effects of habitat improvement projects on vegetation and sage-grouse habitat use.
- 3.3. Action:** Conduct vegetation treatments to improve forb diversity in the understory (e.g., harrowing, aerating, chaining) and reclaim or reseed disturbed/treated areas, when necessary, using seed mixtures high in native bunch grasses and desirable forbs.

Several ongoing projects, including the lop-and-scatter on Anthro mountain and grazing work on Deadman Bench being done through the USU/CSI/WRI work is in brood-rearing habitat.

The Yellowstone River riparian fencing, an NRCS project about 115 acres on the west side of the river, was a pasture improvement project which fenced riparian areas and worked on implementation of a grazing plan. Those areas have now improved with respect to sage-grouse habitat. Troughs with escape ramps went into the new pastures. Nearby, on the other side of the river, a UPCD project provided additional fence but probably did not directly benefit sage-grouse.

The Jackson Draw project in Diamond Mountain involved pasture fences (completed) and water pipelines (occurring July 2010) for better cattle distribution, and has improved the

forb content in the area. A sagebrush treatment done in 2008 still needs a final seeding and will be done once it is clear which areas actually need reseeding. This will likely be about 200 acres of seeding, down from the initial 600 acre estimate. This project may have additional future benefits to grouse as well, since additional sage-grouse NRCS money will likely be applied in the future. Also on Diamond Mountain, a 195-acre Dixie Harrow project in the Ruble cabin area off Jones Hole Road should improve sage-grouse habitat.

In addition, the UPCD Cedar Camp project was 2000 acres of lop and scatter finished June 2010. The area is one where birds are still occasionally seen in summertime.

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

4.1. Action: Encourage public and private partners to use techniques from Connelly et al. (2003) “Monitoring of Greater Sage-grouse Habitats and Populations”

4.2. Action: In 2007, UDWR biologists will coordinate with Ute Tribe biologists to identify sage-grouse lek sites and count birds on Tribal lands.

4.3. Action: UDWR to enlist and coordinate private volunteers and/or other agency biologists search for new leks and conduct lek counts on active leks.

DWR continues to do standard spring lek monitoring. Several research projects have finished, including Seep Ridge/East Bench (Leah Smith, looking at energy development) and Anthro Mountain (Eric Thacker, looking at fire), as the graduate students conducting that research have moved on. Both final documents from those students are available online. In addition to these studies, three collared birds on Deadman Bench died but provided some additional information about local population movements in the area. The USU study on Anthro Mountain trapped another 30 on Parker Mountain this spring and translocated them to Anthro. Movements and chick survival are being monitored. The DWR will continue this monitoring once the graduate student working on the project finishes. Currently, BYU is monitoring sage-grouse on Blue Mountain and Diamond Mountain and will be doing nesting and habitat modeling with 30 collared birds. DWR and the Tribe coordinate to monitor some leks. The tribe may also monitor some additional leks not monitored by DWR. With all USFS projects, the Forest Service monitors change in vegetation type.

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

5.1. Action: Identify areas where undesirable vegetation is encroaching on sage-grouse habitat.

5.2. Action: Coordinate with county weed control department to control invasive/noxious weeds in areas used by sage-grouse.

5.3. Action: Treat and/or reseed areas where undesirable vegetation has become or is at risk of becoming a factor in sage-grouse habitat loss or fragmentation.

5.4. Action: Avoid controlled burns and fight wildfires in areas dominated by cheat-grass.

5.5. Action: Encourage and support use of chemical and mechanical treatments to control cheat-grass and invasive/noxious weeds.

5.6. Action: Manage fire, transportation and vegetation treatments to minimize undesirable

vegetation where possible.

Near Matt Worner Lake, there is ongoing spotted knapweed and musk thistle control on DWR land on Diamond Mtn. The knapweed is currently under control but if a major disturbance happened it would be a problem. Various partners, though the local weed board, assist UWDR staff. Forest Service and the BLM reclamation team also work on weed management issues locally.

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

6.1. Action: Re-vegetate utility corridors with sage-grouse seed mixes.

6.2. Action: Avoid placement of new roads and utilities near lek sites (specific distances should be site specific).

6.3. Action: Where possible, install perch deterrents on tall structures located in areas used by sage-grouse.

6.4. Action: Avoid new construction during important periods and re-route lines where technically and economically feasible to avoid impacts.

6.5. Action: Schedule maintenance to minimize important periods, however, maintenance in emergency situations will be unrestricted.

6.6. Action: Where practicable, install low-profile tanks in areas used by sage-grouse.

Work continued this year to mitigate the effects of the compressor station on Diamond Mountain, including relates roads and power lines. There was concern that the road to the new location still goes right by the lek. Timing and travel restrictions for contractors traveling the road during lekking season were put into effect to reduce impacts on lekking grouse. WIC's final implementation plan states: "WIC has agreed to monitor and reduce construction traffic to the station site on the public road. WIC will limit the number of construction vehicles in this area during the sage grouse lekking season and will enforce this provision contractually with the contractor. WIC has also agreed to require the installation of raptor perch excluders on all new power poles associated with the Project. Finally, WIC has agreed to monitor the Diamond Mountain Compressor Station buildings and structures for future raptor perch sites." Power lines related to the compressor station were also rerouted following discussions with the Division of Wildlife Resources and the Fish and Wildlife Service.

In addition to power lines related to the compressor station, several very large regional power transmission lines from Wyoming to Nevada (TransWest and South Gate) have proposed routes through Uintah Basin, including possible routes over Diamond Mountain. DWR and the EIS preparer have been identifying sage-grouse issues. Public comment times have not yet begun.

In general, the Uintah County Public Lands Implementation Plan (Uintah County Board of Commissioners 2005a) has regulations in place to follow the state sage-grouse plan and ensure buffer zones between known leks and new road, utility, fence, etc. developments.

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

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

As in previous years, sage-grouse limits are re-evaluated each year based on spring lek counts. UDWR uses wing barrel collections in the UBARM area where hunts are allowed.

8. 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.

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

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

8.3. 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.

8.4. Action: Manage livestock to enhance riparian conditions.

USU's Anthro cattle-grazing study in brood-rearing habitat went through its first season of data collection (pre-treatment) in 2009, and the cattle have grazed the study plots. A sheep-grazing project on Deadman Bench is in the NEPA process. NRCS, GIP, and federal partners who manage private grazing leases all work with grazers (including the Uintah Basin Grazing Association) to plan and implement strategic grazing management on Blue Mountain, Diamond Mountain, and Anthro Mountain. Also see other comments in the brood-rearing area.

Planning has begun for seven private projects to be funded with the new NRCS sage-grouse money. They range from water development and fencing to brush management and wells. In general many are focused on making grazing rotation more intensive and doing mosaics of brush control to open up sagebrush. Another project is planned adjacent to the Rim Ranch CRP that will cut pastures into smaller areas and put in troughs. That producer has also agreed to come off the mountain September 1 instead of staying to November, which should benefit sage-grouse in the area.

9. 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.

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

UBARM partners remain open to all opportunity to conserve key sage-grouse areas more permanently, although the group has not worked on any projects this year.

10. Strategy: **Manage pinyon/juniper stands** to reduce encroachment into sagebrush/grass

communities.

- 10.1. 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.
- 10.2. Action:** Identify areas where pinyon or juniper trees are encroaching on good quality sagebrush habitat and treat and re-seed as needed.
- 10.3. Action:** Revisit and retreat as needed pinyon/juniper removal sites to prevent reestablishment in previously treated areas.

UPCD projects at Cedar Camp in 2010 and Terry Mesa in the Book Cliffs may both benefit sage-grouse populations by improving habitat. The USFS is in the fifth year of re-treating old chainings on Anthro Mountain. The Nuttars and Jeep Trail Ridge phase happened in summer 2009 (1500 acres). Contracting is ongoing for the 2010 phase Gilsonite phase project The lop-and-scatter habitat evaluation project being done by Terry Messmer of USU is part of that work. Treatment for the USU project occurred in fall of 2009. A project near Bonita involves habitat improvement in a grouse migration route: in 2009, a PJ removal project (about 200 acres) was done and reseeded; the seeding has taken very well.

- 11. Strategy:** Enhance existing riparian areas or create small wet areas to improve nesting, brood-rearing, late summer, and fall habitat.
 - 11.1. Action:** Identify opportunities or needs to create small wet areas in areas used by sage-grouse, implement such projects where economically feasible.
 - 11.2. Action:** Modify or adapt pipelines or developed springs to create small wet areas.
 - 11.3. Action:** Locate projects to minimize potential loss of water table associated with wet meadows.
 - 11.4. Action:** Protect existing wet meadows and riparian areas where necessary.
 - 11.5. Action:** Manage vegetation and artificial structures to increase water-holding capability of areas.
 - 11.6. Action:** Install catchment structures to slow run-off, hold water, and eventually raise water tables.
 - 11.7. 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

See the brood rearing section on NRCS and UP CD projects that included riparian work. Planning continues for tribal trough installment in an area near two leks on Towanta Flats, although the project has been delayed due to staff turnover and other reasons.

- 12. Strategy:** Improve lek vegetation conditions to allow for predator recognition and visibility.

Action: Open lek areas that have been invaded by sagebrush and other shrubs.
Action: Map and inventory leks with potential for restoration.
Action: Maintain and enhance desired conditions for leks.

No lek vegetation projects were undertaken this year. One lop-and-scatter on Anthro Mountain is close to a lek, so may peripherally reduce nearby predation issues, although this is anecdotal. On tribal land, mowing to increase lek visibility has been delayed but is still planned for the future. NRCS (Mark Chamberlain) and UDWR (Miles Hanberg) have been working with the tribe on this project.

13. Strategy: Maintain Conservation Reserve Program (CRP) lands for sage-grouse.

13.1. Action: Work with NRCS and others to maintain the CRP program and improve its benefit to wildlife by altering seed mixes to be more sage-grouse friendly, including bunchgrasses, forbs and big sagebrush

13.2. Action: Maintain or reestablish sagebrush patches of sufficient size and appropriate shape to support sage-grouse between agricultural fields.

13.3. Action: Rehabilitate old low diversity, sod bound CRP fields with sage-grouse friendly seed mixes including bunchgrasses, forbs, and big sagebrush.

13.4. Action: Encourage interest and enrollment of key sage-grouse habitats, including those in grain production, in relevant Farm Bill programs (CRP and GRP).

No new CRP was added in 2009. On Rim Ranch on Diamond Mountain, the CRP there was seeded several years ago with seed-mix recommendations from the DWR. That land is mostly still in CRP, except for about 160 acres that came out. Hopefully the small portion will be re-signed up in August 2010.

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

14.1. Action: Participate with County land use decision makers in identifying key sage-grouse habitats and establishing zoning ordinances that protect those areas from inappropriate development

14.2. Action: Educate County planning departments about where important sage-grouse use areas are located.

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

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

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

14.6. Action: If development does occur, work to minimize impacts to biodiversity.

Development issues are not currently an issue for sage-grouse in the area. The DWR continues to seek a way to share critical information on sage-grouse habitat and lek locations in a way that complies with current state law.

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

- 15.1. Action:** Reduce fragmentation of sage-grouse habitat by oil and gas development activities.
- 15.2. Action:** Minimize disturbance to sage-grouse associated with oil and gas development.
- 15.3. Action:** Reduce cumulative impacts of oil and gas development.
- 15.4. Action:** Use directional drilling where feasible to minimize surface disturbance, particularly where well density exceeds 1:160 acres.
- 15.5. Action:** Minimize pad size and other facilities to the extent possible, consistent with safety.
- 15.6. Action:** Plan and construct roads to minimize duplication.
- 15.7. Action:** Cluster development of roads, pipelines, electric lines and other facilities.
- 15.8. Action:** Use existing, combined corridors where possible.
- 15.9. Action:** Use early and effective reclamation techniques, including interim reclamation, to speed return of disturbed areas to use by sage-grouse.
- 15.10. Action:** Reduce long-term footprint of facilities to the smallest possible.
- 15.11. Action:** Avoid aggressive, non-native grasses (e.g. intermediate wheatgrass, pubescent wheatgrass, crested wheatgrass, smooth brome, etc) in reclamation seed mixes.
- 15.12. Action:** Eliminate noxious weed infestations associated with oil and gas development disturbances.
- 15.13. Action:** Minimize width of field surface roads.
- 15.14. Action:** Avoid ridge top placement of pads and other facilities.
- 15.15. Action:** Use low profile above ground equipment, especially where well density exceeds 1:160 acres.
- 15.16. Action:** Avoid breeding/nesting season (March 1 – June 30) construction and drilling when possible in sage-grouse habitat.
- 15.17. 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.
- 15.18. Action:** Reduce daily visits to well pads and road travel to the extent possible in sage-grouse habitat.
- 15.19. Action:** Utilize well telemetry to reduce daily visits to wells, particularly where well density exceeds 1:160 acres.
- 15.20. Action:** Locate compressor stations off ridge tops and at least 2,500 feet from active sage-grouse leks, unless topography allows for closer placement.
- 15.21. Action:** Avoid locating facilities within ¼ mile of active sage-grouse leks, unless topography allows for closer placement.
- 15.22. Action:** Plan for and evaluate impacts to sage-grouse of entire field development rather than individual wells.
- 15.23. Action:** Study, and attempt to quantify, impacts to sage-grouse from oil and gas development.
- 15.24. 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.
- 15.25. Action:** Implement near-site and/or off-site mitigation as necessary to maintain sage-grouse populations.
- 15.26. Action:** Share sage-grouse data with industry to allow planning to reduce impacts.
- 15.27. Action:** Participate in county planning efforts for oil and gas exploration and

development to ensure that sage-grouse impacts are minimized.

Questar and The Nature Conservancy have begun an “Energy by Design” collaboration in the UBARM area to look at high priority species and look at mitigation strategies. This is likely to be relevant to sage-grouse as it develops.

Appendix 5 of the state sage-grouse plan, which addresses energy issues, has not been formalized yet.

Leah Smith’s thesis work on the East Bench found that sage-grouse avoided well pads and other specific sites as much as possible, but do not necessarily leave the general area due to site fidelity. The population in that area has recently experienced severe declines although it is unclear exactly what has caused them.

The compressor station proposed to be very close to a lek on Diamond Mountain has been relocated to private ground. There will be less sound mitigation on the alternative site but as it is much farther from the lek, this will be less of a problem. Construction is nearly complete on the compressor station as of July 2010.

The BLM is working to decrease the impact to sage-grouse from energy development. However, several new energy development proposals may have significant impacts to sage-grouse. A new energy field has been proposed for the East Bench area. The draft EIS by Anadarko for the Greater Natural Buttes area was released July 14, 2010. On Anthro Mountain, 400 wells have been proposed, of which 20 are in the lek area. One proposed well on Nuttar’s would actually go through a lek. The EIS was released for comment in spring of 2010 and several working groups partners, particularly the FWS, commented extensively, and participate in ongoing conversations with the company (Berry Petroleum). As of July 2010, the final EIS is in development. A separate 20-well proposal by Vantage Petroleum has 2 test wells drilled and a third proposed which may be of concern to sage-grouse.

16. Strategy: Minimize the impact of excessive predation.

16.1. Action: Plan and conduct research to determine the population-level effects of predation on sage-grouse.

16.2. Action: Where sage-grouse population-level effects of predation (especially common ravens and red fox) are clearly identified, plan and implement site-specific predation management as necessary. Incorporate a monitoring plan to determine success.

16.3. Action: Modify power lines and wood fence posts and remove trees (to remove raptor perches) in important sage-grouse areas, where feasible and where predator concerns have been identified

Raven control is ongoing in the area. Wildlife Services places approximately 1200 DRC-1339 egg baits each year in key areas to reduce the risk of raven predation on sage-grouse nests during nesting season. The poisoned eggs are placed within at least five miles of leks and sometimes immediately next to the leks.

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

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

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

West Nile tests are done on birds whenever dead birds are found soon enough after death to be testable. Several projects in the area (Leah's Smith's work on the East Bench and collared birds on Deadman Bench) have observed unusual sage-grouse declines that could be related to West Nile, although the cause is currently undetermined.

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

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

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

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

Of the 30 birds translocated from Parker Mountain to Anthro Mountain in 2009, two thirds had died by November, in addition to a large portion of the collared resident birds as well—an unexpectedly high adult mortality. 30 additional birds were moved in 2010 and have thus far had better survival rates. As part of this project, Natasha Gruber with USU takes blood samples to look at paternity of collared sage-grouse. This will help determine where the genetic pools are and where diversification might be valuable. Collaring studies on Diamond Mountain by BYU were begun as well. Their work will involve trapping and collaring as well as some modeling.

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

19.1. 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.

No WRI sage-grouse (wildlife) monitoring was done in 2009 on projects in this area as the sage-grouse monitoring technician was unable to reach all WRI sites this year. Blue Mountain, Bruch Creek Bench, and McCook Ridge were on the list for possible monitoring, which will be revisited in future years.

Several habitat manipulation projects on Anthro (lop-and-scatter and a cattle-grazing project) and Deadman Bench (sheep-grazing) are moving forward that will be monitored by USU for sage-grouse pellets and vegetation change, but not for other species. The projects are being managed by USU and are partially funded by the Watershed Restoration Initiative funds as well as an NRCS Conservation Innovation Grant provided to the Cooperative

Sagebrush Initiative. In each case, data is being gathered to provide data for eventual mitigation credit calculations, to determine how effective each treatment is at improving sage-grouse habitat.