

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

Accomplishment Report

2008



Photo by Todd Black

June 2009

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Submitted to

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Preface

This report summarizes the status and 2008 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 2008, 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. 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 action 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 2008, greater emphasis was placed on identifying population and habitat conditions and issues specific to each LWG conservation area.

In this report, each LWG presents 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. As of January 2008, 10 Utah LWGs have completed sage-grouse conservation plans. These plans and a summaries of LWG activities can be found on-line at www.utahcbcp.org.

Staffing

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Project Staff: S. Nicole Frey, Research Assistant Professor, Jack H. Berryman Institute, Department of Wildland Resources, Utah State University (station in the Department of Biology – Southern Utah University, Cedar City), Mr. Todd Black and Ms. Lorien Belton, Community-based Conservation Extension Specialists, Dr. David Dahlgren, Post-Doctoral Fellow, and Rae

Ann Hart, Assistant to an Executive, Department of Wildland Resources, Utah State University, Logan.

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 \$140,000 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 \$200,000 were entered into in 2008 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.

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. In late spring 2008, a new facilitator from USU Extension took over the position left open in December 2007 by the departure of the previous facilitator. Only two meetings, therefore (summer and fall) were held in 2008. The summer field tour was very well attended and visited many project locations during the day.

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: 2008 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:** In 2007, UDWR biologists will coordinate with Ute Tribe biologists to identify sage-grouse lek sites and count birds on Tribal lands.
 - 1.3. **Action:** Work with the NRCS to review and potentially endorse NRCS WHIP and EQIP projects that would benefit sage-grouse in the Resource Area.

The UDWR (Brian Maxfield) meets with the Tribe at an annual coordination meeting. Among other items, the UDWR updates the Ute Tribe on several grouse and habitat projects in the Basin. NRCS and Grazing Improvement Program (GIP, Jim Brown) also meet with the Tribe. UBARM coordinated with NRCS contact Mark Ewell to continue to support project on private land.

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.

The group decided that until a sufficiently specific target audience for a brochure could be determined, outreach efforts for the next year will focus on newspaper articles (press releases) to reach general audiences, and other activities (such as coordinating with the PAWS program) to inform local school-aged children and various resource user groups about sage-grouse issues. The County Extension Office provides updates and notice of LWG activities in county newsletters and through periodic correspondence. Utah Partners (UBPCD) meetings include discussion of LWG activities and opportunities as relevant. UBARM representatives attend energy industry safety training meetings to present sage-grouse information and training on how to be sensitive to sage-grouse needs.

A field tour was conducted in the summer of 2008. Nearly 40 individuals attended, including private landowners and representatives from many different federal and state agencies. The group will hold a yearly field tour in conjunction with the Uintah Basin (Northeast region) Partners for Conservation and Development (UBPCD) group.

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

3.1 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.

3.2. Action: Work with agency partners to develop projects that would increase brood-rearing habitat quality in the Resource Area.

3.3. Action: Work with private and public partners to monitor effects of habitat improvement projects on vegetation and sage-grouse habitat use.

Many recent UPCD/WRI projects in the area have provided improved habitat opportunities. A key need now is for ongoing monitoring to determine grouse response, which may be assisted by UPCD/WRI wildlife monitoring teams currently in formation. Prescribed burns on Anthro Mountain were designed to improve late brood rearing habitat; Utah State University graduate student Eric Thacker is monitoring grouse response.

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

4.1. Action: Work with public and private partners to maintain or create mesic sites in areas used by sage-grouse during late summer and fall.

4.2. 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.

GIP, USFS, and others have been involved with water projects in Cottonwood Canyon in 2008 that added a tank and installed a new apron on a guzzler. Another project (not funded by UPCD) is planned for Sowers Canyon.

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

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

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

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

5.4. Action: Through 2016, test dead sage-grouse for West Nile Virus and any other parasites/pathogens of importance.

Sage-grouse population status and response to management actions are being conducted on Anthro Mountain, Seep Ridge, Blue Mountain, and Deadman Bench using standard radio telemetry protocols. UDWR continues to do lek counts and also obtained funding to conduct aerial surveys for new leks by helicopter and conducted them in spring 2009. West Nile tests are done on birds whenever dead birds are found soon enough after death to be testable.

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.

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

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

6.3. Action: Encourage and support use of chemical and mechanical treatments to control

cheat-grass and invasive/noxious weeds.

Rehabilitation efforts continue on the Neola North Fire on tribal lands. Several related projects were completed, including re-seeding areas where previous seedings were less successful, new treatments (Plateau sprayed) and re-seeding on for fire breaks, and additional projects where cheatgrass occurred in the fire area. Total acreage affected is close to 3000 acres. Plateau is an element of many projects where cheatgrass may be an issue. NRCS cost-shares on many types of weed projects. Communication between the weed board and UBARM continues.

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

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

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

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

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

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. Members of the UBARM group are involved with negotiations with energy developers on siting a compressor station and associated roads on Diamond Mountain in a way that reduces or mitigates potential impacts. Compliance in many such efforts is largely voluntary on the part of the companies involved. Corridor re-vegetation efforts are coordinated through Utah Partners Regional Team – Utilities contact the UDWR, BLM, USFS, and NRCS to coordinate re-vegetation. The agencies provide seed recommendations and approve mixtures. Perch deterrents are not part of ongoing plans due to the results of a study in San Juan County indicating a high level of ineffectiveness.

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.

8.1. Action: Participate in county planning efforts for home/cabin development to ensure that biodiversity impacts are minimized.

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

8.3. Action: Establish easements or other land protection in crucial habitat.

8.4. Action: Work with county planners and county commissioners to establish zoning ordinances for crucial habitat that protect those areas from inappropriate development.

County planning offices have been provided with general maps, and discussions of more specific data needs are currently under discussion. Current ordinances provide the framework but further work remains to be done to potentially zone areas of critical sage-grouse use. Housing developments are not currently impacting sage-grouse areas. UBARM partners are available to discuss easements with any interested landowners.

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.

9.1. Action: Participate in county planning efforts for oil and gas exploration and development to ensure that sage-grouse impacts are minimized.

9.2. Action: Influence BLM/USFS/SITLA/private enterprise planning efforts to minimize impacts to sage-grouse.

The BLM's Resource Management Plan was signed with new language about sage-grouse protection measures. Companies generally try hard to minimize impacts. See additional information under Strategy 7 and Strategy 21.

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

10.1. Action: Revisit and retreat as needed pinyon/juniper removal site.

Many BLM-led lop and scatter and brush hog projects occur in the area, many of which are vetted through the UPCD project ranking process. Miles Hanberg is very active on this type of project.

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

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

Sage-grouse limits are re-evaluated each year based on lek counts. UDWR recently changed systems for allocating permits. UDWR also conducted a phone survey of 25% of upland game hunter to better understand the hunting constituency and why they hunt sage-grouse, among other questions.

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.

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

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

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

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

The UBARM plan defines current and desired conditions and provides management actions frameworks, as well as ongoing discussion of goals and projects at local working group meetings. Multiple partners attend meetings and work to follow the guidelines in the plan. As per Strategy 8, any landowners interested in conservation work or easements have a variety of agencies willing to work together to implement projects or discuss conservation options on private land.

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.

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

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

13.3. 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.

13.4. Action: Manage livestock to enhance riparian conditions.

See Strategies 3, 4, 14, and 19. NRCS and Grazing Improvement Program partners – as well as federal partners who manage private grazing leases – work with grazers (including the Uintah Basin Grazing Association) to plan and implement strategic grazing management on Blue Mountain, Diamond Mountain, and Anthro Mountain. Their work includes water projects mentioned in Strategy 4.

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

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

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

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

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

Seedlings are associated with sagebrush and pinyon-juniper treatments. Treatment areas are reseeded with UDWR-recommended seed mixes when needed to restore forbs in the understory. New management techniques were not developed this year, although continued learning on effectiveness of certain treatments inherently occurs as past projects succeed to varying degrees.

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

15.1. 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.

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

15.3. Action: Identify areas where pinyon or juniper trees are encroaching on good quality sagebrush habitat and treat as needed.

See Strategy 10.

16. Strategy: Enhance existing riparian areas or create small wet areas to improve nesting and brood-rearing habitat.

16.1. Action: Identify opportunities or needs to create small wet areas, implement such projects where economically feasible.

16.2. Action: Design and implement livestock grazing management practices to benefit riparian areas.

16.3. Action: Modify or adapt pipelines or developed springs to create small wet areas.

16.4. Action: Locate projects to minimize potential loss of water table associated with wet meadows.

16.5. Action: Protect existing wet meadows and riparian areas where necessary.

16.6. Action: Manage vegetation and artificial structures to increase water-holding capability of areas.

16.7 Action: Install catchment structures to slow run-off, hold water, and eventually raise water tables.

See Strategy 4.

17. Strategy: Improve lek vegetation conditions to allow for predator recognition and visibility.

17.1. Action: Open lek areas that have been invaded by sagebrush and other shrubs.

17.2. Action: Map and inventory leks with potential for restoration.

17.3. Action: Maintain and enhance desired conditions for leks.

No new leks with potential for restoration were identified during the year.

18. Strategy: Minimize impacts of exotic and invasive/noxious plant species.

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

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.

18.3. Action: Work with existing weed management programs to incorporate sage-grouse habitat needs;

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.

18.5. Action: Manage fire, transportation and vegetation treatments to minimize undesirable vegetation where possible.

See Strategy 6.

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.

19.2. Action: Expand Grassland Reserve Program (GRP) opportunities in sage-grouse habitats.

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

19.4. Action: Work with NRCS and others to maintain the CRP program and enroll important sage-grouse habitats currently in grain production

19.5. Action: Encourage use of sage-grouse friendly seed mixes, including bunchgrasses, forbs and big sagebrush, in CRP and other grassland plantings.

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

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

NRCS works with UBARM partners to identify opportunities and promote wildlife conservation on private agricultural land. The “Farm Bill” biologists, a joint hire between UDWR and NRCS, is available as a resource for landowners planning wildlife-related projects and wildlife friendly projects with other primary goals.

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

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

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

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

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

See Strategies 8, 12, and 19.

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

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.

UBARM partners provide recommendations to operators. Voluntary compliance has been good to date, in some cases with companies more than contractors. Updated guidelines for Utah will be coming out as part of statewide sage-grouse plan. The relevant energy-related appendix still has to go to Resource Advisory Council and Wildlife Board approval processes. Also see Strategy 9 above.

22. Strategy: Minimize impacts of utilities lines in sage-grouse habitat.

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.

See Strategy 7 and 23.

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.

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

23.3. Action: Plan and conduct research to determine if man-made raptor perches increase predator effectiveness in sage-grouse use areas.

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

23.5. Action: Remove trees, remove/modify raptor perches, and maintain quality sagebrush habitat, where predation concerns on sage-grouse have been identified.

23.6. Action: Begin site-specific predation management considering all predator species (especially common ravens and red fox) where necessary and appropriate.

Predation impacts are addressed on an ongoing and as-needed basis, although no population level impacts are specifically under active research. USDA Wildlife Services and UDWR coordinate to manage predators. Wildlife Services places DRC-1339 egg baits in key areas to reduce the risk of raven predation on sage-grouse nests during nesting season. No specific perch removal actions were taken in the area this year. Perch deterrents will not be used based on results of a study in San Juan County.

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.

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

See Strategy 5.

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.

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

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

The Anthro Mountain translocation project began in 2009. The work is being done by a USU graduate student. Thirty hens were moved from Parker Mountain to Anthro Mountain in April 2009. Future translocations are planned for 30 more birds in 2010. The UDWR is also planning a future translocation project involving late summer releases of juvenile birds.

26. 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.

Wildlife monitoring crew currently collecting data on wildlife response to various UPCD-funded treatment projects in the state.

Major Needs and Challenges

Many excellent projects have been done in the area, but increased monitoring is needed to determine the impact these projects may have had on sage-grouse habitat use. UBARM is interested in streamlining the text of the plan to make it more workable. This will be one focus for the upcoming year.

Summary of Sage-grouse Conservation Threats

In 2007, UBARM identified and ranked major threats to sage-grouse conservation in the conservation area (Table 9). This threat ranking is used by UBARM to prioritize conservation actions. The UBARM will review the threat ranking in 2009 to ensure immediacy.

Table 9. Relative importance/contribution of threats to sage-grouse populations in Uintah Basin Adaptive Resources Management (UBARM) Sage-grouse Local Working Group Conservation Area. (L=low; M=medium; H=high; and VH=very high).

Threat	Aspects of Sage-grouse population in the UBARM Resource Area							
	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