Strawberry Valley Adaptive Resource Management (SVARM) Sage-grouse Local Working Group

The Strawberry Valley Adaptive Resource Management (SVARM) sage-grouse local working group is facilitated by Ms. Lorien Belton. SVARM 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.

Figure 9. The Strawberry Valley Adaptive Resource Management (SVARM) Sage-grouse Local Working Group Conservation Area consists of 948,568 acres located in north-eastern Utah.

SVARM members combine active habitat improvement projects with valuable research efforts in order to understand both population trends as well as sage-grouse use of habitat project sites. These sites are effective demonstration projects and valuable beyond the region as education tools as well as having direct benefits for local sage-grouse populations. Two sites in the area have been treated over the last several years to improve brood-rearing habitat (Trout Creek and Chicken Springs), and another is in the planning stages. Researchers with Brigham Young University (BYU) are tracking grouse use of the treatment areas in addition to many other research questions. These BYU researchers are also investigating population dynamics, impact of predation on sage-grouse populations, genetic variation in the population, and many other topics. The working group receives regular updates from the research team. Members of the SVARM group have excellent, open lines of communication, often coordinating state, federal, local, and private efforts in project planning, implementation, and follow-up efforts. Weed control efforts are an excellent example of this kind of focused collaborative effort: Wasatch County, USFS, UDWR, and private individuals all work together to address weed issues for sage-grouse.

Conservation Strategies and Actions

1. Strategy: Provide a system and the reasonable extent of domestic livestock grazing that maintains and improves both the long-term stability of greater sage-grouse populations, and habitats and the livestock industry in the Resource Area.

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

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

1.3. 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.

1.4. Action: Manage livestock to enhance riparian conditions.

As noted in previous years, most of the Strawberry Valley is not grazed, so livestock grazing

is of minimal concern. In the Fruitland area, UDWR and Mitigation Commission own numerous parcels of land in key sage-grouse habitat. Some of these lands are strategically grazed in the spring by the original permittee to help decrease the dominance of crested wheatgrass cover and restore sagebrush communities. The area is used during winters by sage-grouse from the Strawberry Valley populations. Other adjacent properties are not grazed.

2. Strategy: Maintain and, where possible, improve grass/forb component in the understory in nesting and brood-rearing areas.

2.1. Action: Reclaim and/or reseed areas disturbed by treatments when necessary, using seed mixtures with appropriate grasses and desirable forbs.

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

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

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

A series of habitat projects (sagebrush manipulations in the Strawberry Reservoir Area) funded by the WRI and many partners continues to improve brood-rearing and nesting habitat opportunities for sage-grouse within several miles of the leks in the area. In 2011, the Badger Hollow project will be the third phase of these projects, of which Trout Creek and Chicken Springs were previous phases. Projects involve a variety of treatments (mowing, chain harrow, etc) and, when necessary, seeding with forbs and grasses appropriate to the elevation and sage-grouse needs.

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

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

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

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

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

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

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

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

As noted in previous annual updates, water availability is not a limiting factor for sage-grouse in the resource area. No water projects for sage-grouse were done during this reporting period.

4. Strategy: Manage PJ stands to reduce encroachment into sagebrush/grass communities

4.1. Action: Remove encroaching trees and tall shrubs mechanically (chainsaws, chaining, etc.) or by other methods, to maintain visibility at lek sites and security from predation in other seasonal habitats.
4.2. Action: Brush-cut or treat with other mechanical methods specified areas and re-claim or re-seed as necessary.
4.3. Action: Coordinate with State Forester to expand defensible space programs to improve sage-grouse habitat where possible.

The primary area where encroachment is a concern is in the lower-elevation Fruitland area, where an extensive series of projects has been done in recent years. For example, UDWR utilized Dedicated Hunters to remove encroaching PJ into sagebrush habitat on UDWR property (on the Tabby Mountain WMA, west of Highway 208) in the Fruitland area. The volunteers lop and scatter encroaching trees to maintain sage-grouse winter habitat quality. Two thousand additional acres are planned for 2011. Range trend sites are monitored in former chaining projects from 2004, 2005, 2006, and 2007 in the Tabby Mountain area as well.

5. Strategy: Improve lek vegetation conditions to allow for predator recognition and visibility.
5.1. Action: Open lek areas that have been invaded by sagebrush and other shrubs.
5.2. Action: Map and inventory leks with potential for restoration.
5.3. Action: Maintain and enhance desired conditions for leks.
5.4. Action: Coordinate vegetation management to maintain desired conditions
5.5. Action: Evaluate/monitor treatment effects.

No lek-specific vegetation work was done this year.

6. Strategy: Maintain and improve habitat conditions in winter range.
6.1. Action: Treat decadent stands of sagebrush (harrowing, aerator, brush beating, chain, spike), where appropriate, to create uneven aged stands of sagebrush across the Resource Area.
6.2. Action: Establish easements or other land protection in crucial sage-grouse use areas.
6.3. Action: Work with county planners and county council to establish zoning ordinances for crucial winter habitat that protect those areas from inappropriate development.

Winter habitat, particularly that used during especially harsh winters, is primarily located in the Fruitland area. In the fall of 2010, the purchase of another property in the Fruitland area was finalized by Mitigation Commission. That land is managed by UDWR, using strategies such as spring grazing designed to bring back native sagebrush communities, as noted in Strategy 1. Other activities on that property are in planning stages, such as gating and signage to reduce human impacts, as well as PJ encroachment project planning. Previous PJ removal projects, which opened up more sagebrush for possible winter occupation by the birds, are being monitored with range trend as noted above.

7. Strategy: Protect crucial habitat from inappropriate development.

7.1. Action: Work with county planners and county council to establish zoning ordinances for crucial habitat that protect those areas from inappropriate development.
7.2. Action: Establish easements or other land protection in crucial habitat.
7.3. Action: Work with USFS and other federal agencies to protect crucial sage-grouse habitat from renewable and non-renewable energy development.
7.4. Action: Maintain or reestablish sagebrush patches of sufficient size and appropriate shape, to support sage-grouse between agricultural fields.
7.5. Action: Work with NRCS and others to maintain and enroll important sage-grouse habitats involved in Farm Bill programs currently in agricultural production.
7.6. Action: Encourage use of sage-grouse friendly seed mixes, including bunchgrasses, forbs, and big sagebrush, in plantings.
7.7. Action: Encourage interest and enrollment of key sage-grouse habitats in the Farm Bill programs.

Alan Smith's property, purchased by the UDWR, is managed for wildlife, including sage-grouse. The Utah Reclamation and Mitigation Commission has also purchased property in the area which is managed by the UDWR (key contact: Randall Thacker in NE Region) for wildlife benefit. Since January 2010, 5442 acres have been purchased, bringing the total amount in the SVARM area owned by the mitigation commission to 10,223 acres. Four parcels have been purchased recently, two large of several thousand acres and two small parcels of less than 200. Two large parcels, Deep Creek and Currant Creek Ranch, were highly likely to have been developed into ranchettes or cabins and have now been protected from development.

SVARM is also aware of a potential large year-round development that may be proposed in the vicinity of the Strawberry Reservoir, and could impact sage-grouse populations if the area was developed. SVARM members keep current on county planning issues and communicate regularly with the county; for example, notifying county planners and council members in Wasatch County when updates to GIS information on sage-grouse in the region become available.

8. Strategy: Minimize impacts of noxious and invasive weeds.
8.1. Action: Identify areas where noxious/invasive weeds are encroaching on sage- grouse habitat
8.2. Action: Treat areas where noxious/invasive weeds and non-desirable introduced species (e.g. smooth brome) have become, or are at risk of becoming, a factor in sage-grouse habitat loss or fragmentation.
8.3. Action: Work with existing weed management programs to incorporate sage-grouse habitat needs.
8.4. Action: Identify large areas of noxious/invasive weeds and non-desirable introduced species (e.g. smooth brome), that are not meeting sage-grouse habitat needs and reseed where appropriate.
8.5. Action: Manage burned areas, transportation, utility, and pipeline corridors, and vegetation treatments to minimize undesirable vegetation where possible.
8.6. Action: Work with County weed board to increase awareness of weed problems in sage-grouse and other important wildlife habitat.

The UDWR, Wasatch County, and the USFS continue to coordinate on various properties in the area to control weeds. The Trout Creek project has ongoing musk thistle concerns which are jointly addressed by all three partners. This year, the county has $86,000 from Title 2 monies for weed management that can be used to help protect the state's investment in habitat treatments for sage-grouse, including spot treatments for weeds inside habitat treatment areas.

9. Strategy: Minimize impacts of utility lines, fences, and roads in sage-grouse habitat.
9.1. Action: Avoid new construction during important periods and re-route lines where technically and economically feasible to avoid impacts.
9.2. Action: Schedule maintenance to avoid important periods, however, maintenance in emergency situations will be unrestricted.
9.3. Action: Install raptor deterrents when applicable

Several proposed power lines were discussed by the SVARM group but were not determined to be of sufficient concern to sage-grouse areas to require formal comment from the group. The TransWest power line is likely to come through the existing utility corridor in the Fruitland area. It could cause some additional concerns for sage-grouse, but the group felt that because power lines already exist in that corridor, and new power lines are inevitable, using the existing corridor – and consolidating the impacts – is preferable to alternate locations which might cause new impacts to the population. The group chose not to write any letters of concern or support for power line routings.

10. Strategy: Minimize sage-grouse habitat loss to oil and gas activities.
10.1 Action: Increase/encourage participation by private oil/gas industry in SVARM.
10.2. Action: Encourage use of central tanks and locate those in areas with least impact to sage-grouse.
10.3. Action: Use directional drilling where feasible to minimize surface disturbance, particularly where well density exceeds 1:160 acres.
10.4. Action: Minimize pad size and other facilities to the extent possible, consistent with safety.
10.5. Action: Plan and construct roads to minimize duplication.
10.6. Action: Cluster development of roads, pipelines, electric lines and other facilities.
10.7. Action: Minimize noise disturbance (directing mufflers, glass packs, etc.) in and near lek and nesting habitat.
10.8. Action: Use existing, combined corridors where possible.
10.9. Action: Use early and effective reclamation techniques, including interim reclamation, to speed return of disturbed areas to use by sage-grouse.
10.10. Action: Reduce long-term footprint of facilities to the smallest possible.
10.11. Action: Avoid aggressive, nonnative grasses (e.g. intermediate wheatgrass, pubescent wheatgrass, crested wheatgrass, smooth brome, etc) in reclamation seed mixes.
10.12. Action: Eliminate noxious weed infestations associated with oil and gas development disturbances.
10.13. Action: Minimize width of field surface roads.
10.14. Action: Avoid ridge top placement of pads and other facilities.

10.15. Action: Use low-profile, above-ground equipment, especially where well density exceeds 1:160 acres.
10.16. Action: Avoid breeding/nesting season (March 1 – June 30) construction and drilling when possible in sage-grouse habitat.
10.17. 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.
10.18. Action: Reduce daily visits to well pads and road travel to the extent possible in sage-grouse habitat.
10.19. Action: Utilize well telemetry to reduce daily visits to wells, particularly where well density exceeds 1:160 acres.
10.20. Action: Locate compressor stations off ridge tops and at least 2,500 feet from active sage-grouse leks, unless topography allows for closer placement.
10.21. Action: Avoid locating facilities within a quarter mile of active sage-grouse leks, unless topography allows for closer placement.
10.22. Action: Plan for and evaluate impacts to sage-grouse of entire field development rather than individual wells.
10.23. Action: Study, and attempt to quantify, impacts to sage-grouse from oil and gas development.
10.24. 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.
10.25. Action: Implement near-site and/or off-site mitigation as necessary to maintain sage-grouse habitat quality.
10.26. Action: Share sage-grouse data with industry to allow planning to reduce impacts.

SVARM is not aware of any energy development (oil and gas) concerns for sage-grouse in the area. The potential for energy development is believed to be minimal.

11. Strategy: Minimize the impact of extraordinary predation.
11.01. 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.
11.02. Action: Remove trees, remove/modify raptor perches, and maintain quality sagebrush habitat, where predation concerns on sage-grouse have been identified.
11.03. Action: Begin site-specific predation management considering all predator species (especially common ravens and red fox) where necessary and appropriate.
11.04. Action: Work with County planners and private developers to incorporate trash minimization and domestic animal control measures in CCNRs.

Predator control for ravens continued this year, with specific focus on early-season gatherings and the Fruitland area, rather than waiting until sage-grouse were lekking. Targeted, near-lek efforts in the Strawberry-Fruitland areas are done later in the season as needed. Anecdotally, the early season control efforts appear to be much more effective. Although no formal WS efforts were put toward red fox control, a private individual trapped multiple red foxes in the area. The impact of this type of predator reduction on the sage-grouse population is not known but may be limited: the timing of the control efforts

indicated that individuals captured were likely dispersing foxes rather than established pairs, so long-term population impacts are unlikely to have been achieved. BYU researchers continued to assess the grouse response to predator control efforts. No perch removal projects were undertaken, and communication with the county and developers has not yet involved predator management.

12. Strategy: Improve knowledge of diseases and parasites in sage-grouse populations.
12.01. Action: Collect sage-grouse parasite and disease organism samples while handling birds for other research, when possible.
12.02. Action: Monitor radio-collared and other sage-grouse for West Nile Virus and other disease outbreaks.

BYU continues to test for West Nile whenever feasible, but they have not found any evidence of the disease in the resource area.

13. Strategy: Improve knowledge of genetics in sage-grouse in minimum viable populations.
13.01. Action: Collect samples for genetic research from all known breeding complexes (including hunted and un-hunted areas) when possible.

BYU researchers have been collecting blood samples from radio-collared and other captured birds over many years. They have also collected feathers at lek sites. This year, a new graduate student at BYU will begin a multi-year study into how the translocations have influenced the population genetics of sage-grouse in the Strawberry Valley.

14. Strategy: Increase size of sage-grouse population in the Resource Area.
14.01. Action: Continue translocation efforts as called for by UDWR, BYU, and other participating agencies and organizations
14.02. Action: Continue existing predator management activities as called for by UDWR, USDA-WS, BYU, and other participating agencies and organizations.

Translocation and red fox control work has formally ended. The last collared bird from the translocations has not been possible to recapture due to her location on private land to which researchers do not have access, and her collar no longer has remaining battery life. Early season raven control has continued in the area.

15. Strategy: Maintain and increase long-term habitat and population monitoring and research.
15.01. Action: Maintain long-term habitat monitoring sites on the Resource Area (as monitored by the Utah Big Game Range Trend Studies program).
15.02. Action: Maintain and increase radio-monitoring of translocated sage-grouse.
15.03. Action: Work with agency partners to maintain and increase funding for research and monitoring
15.04. Action: Continue to monitor sage-grouse populations through use of lek counts
15.05. Action: Increase lek search activities to find new lek sites in the Resource Area
15.06. Action: Work with USDA-WS to monitor populations of sage-grouse predators.

As in past years, monitoring efforts continue as a joint effort between BYU and UDWR. No

new leks have been found in the area. Big Game Range Trend Studies are ongoing in the area. Predator reduction monitoring is anecdotal but communication continues between UDWR, SVARM, and APHIS. Future monitoring plans for impact to ravens is under discussion. Three WRI projects in the Fruitland area were monitored for sage-grouse activity and pellets in late summer 2009: East Santaquin Draw 2006 chaining, the Santaquin 2009 sagebrush chaining, and the 2-Bar chaining from 2007. All monitoring occurred post-treatment so effects of treatments on sage-grouse will be difficult to determine. Final results will be available in 2011.

A new lek was discovered via helicopter surveys, and was first included in lek counts in the spring of 2011. BYU has continued its population monitoring efforts in the area, including tracking sage-grouse use of new treatment areas. According to quarterly reports from BYU, the treatments areas have been popular roosting areas as well as successful trapping areas, indicating notable grouse usage of those areas. BYU researchers are examining data to better understand nesting location choices with regard to the treatment areas at Trout Creek, Chicken Springs, and Badger Hollow (Badger Hollow vegetation work will be done in summer 2011).

Three past WRI projects in the Fruitland area were monitored for sage-grouse activity and pellets late summers of 2009 and 2010: Santaquin sagebrush and a PJ chaining from 2004, and the 2-Bar chaining from 2007. All monitoring occurred post-treatment so effects of treatments on sage-grouse are impossible to isolate using this data. However, at the 2004 Santaquin Draw sagebrush/greasewood chaining project on UDWR land, sage-grouse pellets were found both years in nearby reference sites and in 2009 at treatment sites; no live birds were found on site either summer. At the 2004 Santaquin draw PJ chaining project, where both treatment and reference areas are classified as crucial winter sage-grouse habitat, no sage-grouse pellets were detected during 2010, nor were any live sage-grouse were seen in the area during 2009 or 2010 by avian and pellet group crews. The final report from 2009 field work suggests that these earlier treatments in sagebrush may not have achieved the goals of improving sage-grouse habitat, because they were located in winter habitat where sagebrush treatments would not have been beneficial. Treatments to remove PJ may have long-term sage-grouse benefits in winter habitat but the need for vegetation recovery time puts the data needs beyond the scope of WRI surveys. In addition, there is a need to monitor during seasons when the birds would be likely to occupy the site (i.e. winter or early spring).

16. Strategy: Increase public education about sage-grouse ecology, conservation, and management.

16.01. Action: Work with Audubon Society to increase educational opportunities regarding sage-grouse in the Resource Area.

16.02. Action: Develop educational materials (brochures, presentations, etc.) and deliver to Friends of Strawberry Valley, Strawberry Anglers Association, Daniels Summit Lodge, Strawberry Water Users and other potential stakeholders to increase awareness

16.03. Action: Encourage use of signage in appropriate areas to increase awareness of crucial sage-grouse habitats.

16.04. Action: Develop sage-grouse identification materials for distribution to recreationists,

bird watchers, and other stakeholders.

A second kiosk was installed in a private land parking lot to inform winter recreationists who might encounter sage-grouse to respect the birds and avoid harassing them. This parking lot is currently being expanded and improved, so will likely see additional winter use by recreationists. A one-page informational piece was developed to include in a future publication coordinated by the FOSV group. Summer field tours, by SVARM, the central region UPCD group, and others, continue to highlight the habitat projects – particularly Trout Creek – as examples of successful sage-grouse habitat restoration efforts through vegetation manipulation.

17. Strategy: Minimize negative impacts of incompatible OHV (ATVs, snowmobiles, 4WD trucks, etc.) recreation and other recreation on sage-grouse populations and habitats.

17.01. Actions: Work with County planners and other agencies to restrict seasonal OHV access to crucial sage-grouse use areas

17.02. Actions: Coordinate with enforcement agencies (Sheriff, parks, USFS, Counties) to increase awareness of negative impacts to sage-grouse

17.03. Action: Create opportunities and use existing avenues to increase awareness in participating public about negative impacts of OHV use in crucial sage-grouse areas

17.04. Action: Coordinate with enforcement agencies to increase awareness of poaching and to minimize sage-grouse poaching opportunities

17.05. Action: Encourage use of signage to identify areas closed to hunting; language in proclamation that specifies closed area

As noted, a second kiosk has been installed at a key snowmobile parking area. The exact impact of recreational vehicles on sage-grouse is unknown and requires additional research.

18. Strategy: Maintain and increase coordination and communication between state and federal agencies and private partners.

18.01. Action: When possible, present all brush management projects at regional UPCD meetings in advance, to facilitate information sharing and coordination

18.02. Action: Annually provide maps of crucial sage-grouse habitat to SVARM partners

18.03. Action: Meet annually to visit habitat projects in the field

18.04. Action: Hold annual coordination meeting prior to the start of spring field season

18.05. Action: SVARM representative to report on UDWR-USFS coordination meetings

18.06. Action: Coordinate with the County through public lands coordinator and committee

18.07. Action: When possible, comment, as a group, on proposed actions that may impact sage-grouse or their habitats.

Focused coordination and review continues to occur on all proposed and ongoing habitat projects, through comments in the WRI database, Central Region WRI meetings, and USFS /UDWR coordination on projects. This year (2011), a presentation was given to the public lands committee of the Wasatch County council, explaining sage-grouse issues locally and regionally, with the intent of continuing relationships between SVARM and the County, as

well as providing information about sage-grouse GIS maps that were updated during this reporting period. The group visits habitat projects annually as part of the summer field tour. Summer tours are often co-sponsored by other groups, such as the local weed management group or Friends of Strawberry Valley, which increases the audience that gets a chance to see sage-grouse habitat projects.

Major Needs and Concerns

The Strawberry Valley LWG is focused on brood-rearing habitat improvement projects in the area surrounding Strawberry Reservoir, and continued understanding of local sage-grouse populations, including use of habitat improvement projects and impact of predation by ravens and red foxes. Efforts also continue to protect and improve winter and breeding habitat in the Fruitland area. The group monitors other concerns, such as development, utility transmission, and recreation changes that might threaten grouse populations.