

NEVADA AND EASTERN CALIFORNIA SAGE-GROUSE CONSERVATION PLAN

IMPLEMENTATION AND COORDINATION (Supplement to Chapter 4, Section 4.2.1)

PROCESS FOR SUBMITTING NEW PROJECTS AND REFINING WORKSHEETS IN APPENDIX F

Serving as a forum for coordination and implementation of the 1st Edition of the Sage-grouse Conservation Plan for Nevada and Eastern California is a very high priority for the Sage-grouse Conservation Team (Team). Thus, the Team developed an Implementation Subcommittee to assist, review, and make recommendations regarding projects and management or conservation actions provided by the local working groups. The Team also established a Research Needs subcommittee to help aid and coordinate proposed research and monitoring projects throughout the plan area as well as other neighboring states. The following is meant to provide guidance, identify a timeline, and clarify the proposal process to the local working groups as they develop new projects and/or refine pertinent project worksheets originally provided and incorporated into Appendix F.

It is of utmost importance that local working groups revisit their established Population Management Unit plans and develop worksheets for projects and management or conservation actions identified in the existing plans if they have not already done so. These projects/actions should address high or medium risks identified in the risk assessment process and are the primary concern. A project worksheet template has been developed by the Implementation Subcommittee and is attached to this document. Also attached is a completed project worksheet for use as an example. These project worksheets will act as proposals and will be ranked by the Implementation Subcommittee using a standard set of criteria to evaluate each project equally.

For those worksheets currently in Appendix F, it is also important for local working groups to refine those, as many of them were incomplete. Much of the existing information in those project worksheets can be used to complete the updated form. Even though the Implementation Subcommittee has already reviewed these worksheets, this does not preclude them from being evaluated again and considered for funding once they have been revised.

Research and monitoring projects will be evaluated separately from habitat enhancement or management action projects as there have been different criteria developed for research projects. The Research Needs subcommittee will evaluate research and monitoring projects that are proposed by the local working groups. This subcommittee has also developed a set of plan area or statewide research needs and, in many cases, these are also range-wide research needs.

The list of these needs is attached to this document. Where possible, the Research Needs subcommittee will attempt to integrate local proposals into plan area priority research needs to address landscape scale questions. The Research Needs subcommittee can also help local working groups develop and refine their research proposals.

The Implementation Subcommittee has identified December 31st of each year as the due date to submit new or revised project worksheets. Local working groups need not wait until this time to submit project or action worksheets. Projects will be accepted throughout the calendar year. Please submit these worksheets electronically to the staff sage-grouse biologist at the Nevada Department of Wildlife. These worksheets will be reviewed in January of each year and the top ranked projects will be submitted to the Funding Subcommittee. The Funding Subcommittee will attempt to find funding for these projects or develop partnerships to fund projects jointly. Local working groups are encouraged to seek funding for projects that they feel are important on their own, either entirely or partially. Projects that have partial funding can be submitted to the Implementation Subcommittee for assistance and these projects may rank higher because of this.

In addition to the project worksheets that have been developed, the Implementation Subcommittee also designed a progress outline (attached) so that outcomes and project advancement can be reported. This document will be attached to the project worksheet once implementation begins. Instructions are provided at the top of the document to guide the author. The outline has three basic components that include action accomplishments, habitat monitoring, and sage-grouse monitoring. The outline will most likely need input from several of the responsible agencies or private landowner for a particular project and shared with the local working group. The outline should be a synopsis of project progress and what monitoring is telling us regarding project effectiveness.

The project worksheet and the progress outline will form the heart of the 2nd edition of the Sage-grouse Conservation Plan and annual progress reports. The figures (number of acres treated, number of acres protected, sage-grouse demographics, etc.) depicted in those progress outlines will be incorporated into the Sage-grouse Conservation Action Table annually to determine progress towards meeting the goals and objectives originally outlined in the Nevada Sage-grouse Conservation Strategy (how much by when?).

NEVADA/EASTERN CALIFORNIA GREATER SAGE-GROUSE CONSERVATION PLAN

PROJECT/CONSERVATION ACTION WORKSHEET

PMU NAME:

PROJECT NAME:

RESPONSIBLE AGENCY OR PARTY:

Risk:

- *Please identify how the risk was determined and what the risk was rated as (high, medium, low)*
- *Describe the nature and extent of the threat*

Objectives:

- *Within this section, please identify what the projects association to key sage-grouse habitat is.*
- *Identify the projects proximity to other known projects if applicable.*
- *Describe the project's linkage back to the PMU plan or LACP plan objectives/deliverables.*

Actions:

Rationale:

- *Does the project adequately address the risk?*

Legal Authority:

- *Legal authority of the party(ies) to the agreement or plan to implement the formalize conservation effort and the commitment of the party to proceed*

Procedural Requirements:

- *Has NEPA documentation been completed?*
- *Have archaeological clearances been conducted (State Historical Protection Office)?*
- *Are there categorical exclusions in place?*
- *Have authorizations been obtained (permits)?*

Level of Partnership or Commitment:

- *Please demonstrate cooperation with other parties whether it is other agencies, non-government organizations, sportsmen's groups, private landowners etc*
- *Have private landowners given permission to conduct restoration action on their land?*
- *Is there a reasonable expectation of implementing the project?*

Potential Project Funding:

- *Please identify any funding sources considered or funding secured whether partial or full.*

Budget:

- *Please identify a cost per acre/hour/riparian mile etc. if applicable. Identify labor, material, equipment costs.*

Implementation Schedule:

- *Please provide a schedule tied to fiscal year funding.*
- *How long will the project take to complete*
- *When is the project expected to be completed?*

Project Location:

Expected Outcomes:

- *What is the likelihood of success of the project?*
- *Identify incremental objectives with dates to achieve them*
- *Identify how much by when (quantifiable parameters)*

Monitoring:

- *What habitat components will be measured?*
- *What sage-grouse parameters will be measured within or near the project area (i.e. lek counts, brood counts, recruitment, presence/absence, etc.)?*

Adaptive Management:

- *Have results from other similar project been considered and have treatment methods been refined to reflect that?*
- *Is the project as proposed conducive to adaptive management application?*

**NEVADA/EASTERN CALIFORNIA
GREATER SAGE-GROUSE CONSERVATION PLAN**

PROJECT/CONSERVATION ACTION PROGRESS OUTLINE

PMU NAME:
PROJECT NAME:
RESPONSIBLE AGENCY OR PARTY:
PROJECT LOCATION:

Instructions: Enter pertinent information regarding accomplishments of a particular project or management action that has an existing project worksheet and is ongoing or completed. This outline will accompany the original project worksheet. The parameters below each heading are merely a guide and there may be other attributes that are being measured that are applicable and merit reporting. Some projects such as telemetry or lek counts and lek discovery will only require addressing the Action Accomplishments section and Sage-grouse Monitoring Section. Completion of this form will often be a joint effort within the local working group context with input from, but not limited to, USFS, BLM, NDOW, USFWS, and NRCS personnel. This form is meant to be a short synopsis of actions, please limit the form to no more than two pages if possible.

ACTION ACCOMPLISHMENTS

- Actions conducted during fiscal year:
 - Funding secured (specify grant)
 - Expenditure
 - Staff Costs:
 - Non-staff or contracted costs:
- Acreage of Restoration Value Treated:
 - Example - 1,500 acres of R-2 treated by mosaic cable chaining
 - Number of acres protected
 - Private acres treated
 - Public acres treated
- Procedural Requirement Completed:
 - NEPA Documentation: Yes/No (if applicable, categorical exclusion)
 - Cultural Clearances: Yes/No (if applicable)
- Land Use Plan Amendment or Fire Plan Integration: (brief description of change)
- Allotment Evaluation: (Ongoing, Completed)
- Livestock/Wild Horse Management: (# of horses gathered, AUM's removed, season of use change)
- Partnerships Developed: (Private, Tribal)
- Land Acquisition: (Number of acres acquired, sage-grouse seasonal habitat)
- Adaptive management recommendations

HABITAT MONITORING

- Intervals Monitored: (Not monitored) 1-year 3-year 5-year
10-year
- Upland Vegetative Monitoring: (List the variables/attributes that will be monitored)
 - Pinyon/Juniper (basal cover, trees per acre) Pre and Post Treatment –
 - Sagebrush Canopy Cover Pre and Post Treatment –
 - Grass species Cover and Composition Pre and Post Treatment –
 - Forb species cover and composition Pre and Post Treatment –
 - Photopoints (how many, where):

NEVADA/EASTERN CALIFORNIA GREATER SAGE-GROUSE CONSERVATION PLAN

PROJECT/CONSERVATION ACTION WORKSHEET

PMU NAME: Massacre
PROJECT NAME: Determine Factors Limiting Sage-grouse Recruitment within
the Grassy-Stevens Portion of the Massacre Population
Management Unit
RESPONSIBLE AGENCY OR PARTY: NDOW, UNR, OSU

Risk:

A number of risk factors were determined and evaluated by the Washoe-Lassen-Modoc working group relative to the Massacre PMU that could be contributing to recruitment rates not realizing their potential. They include, but are not limited to, the following:

- *Conversion of meadows to upland vegetation due to head cutting and soil alteration – High Risk*
- *Insufficient stubble for nesting cover – Medium to High Risk*
- *Historic over-utilization – Medium to High Risk*
- *Over-utilization of meadows by livestock and wild horses – Medium Risk*
- *Low vigor herbaceous vegetation resulting in poor nesting cover and spring forage – Medium Risk*
- *Long-term over-utilization – Medium Risk*
- *Annual, long duration use by livestock and feral horses in spring – Medium Risk*

Objectives:

The objective of this study is to expand upon the Grassy-Stevens Raven Control Project to determine why recruitment levels of sage-grouse chicks into the adult population did not significantly increase when compared to control areas, considering the removal of ravens had a positive effect on nest success. The investigation to determine the effects of raven control began in 2000 with a contract with USDA – Wildlife Services to conduct predator control in the Grassy-Stevens Camp Area. During 2000, Wildlife Services removed all predatory species encountered in the spring of that year; however, the Nevada Department of Wildlife wanted to answer the specific question of what effects raven removal would have on nest success of sage-grouse, so the control effort became specific to ravens in subsequent years until 2004.

The Nevada Department of Wildlife monitored the effects on sage-grouse through the analysis of sage-grouse wings collected from the treatment area. A special sage-grouse hunt was instituted in this area to control the number of hunters, ensure take within the treatment area, and more accurately collect wings. Nearby areas such as the Vya PMU, Granite Mountains, Hayes Canyon Range (collectively labeled as “Other Washoe” during the investigation) and the Sheldon NWR were used as the control sites for the investigation. Wings were analyzed to determine age, sex, and nest success of females. Table 1 shows results from the examination of wing from hunter-harvested sage-grouse.

Table 1. Selected parameters measured for the study site and control areas from 2001-2004.

Parameter	Area	2001	2002	2003	2004
Total Adult Females	Grassy-Stevens	30	24	27	10*
	Other Washoe	43	64	45	40
	Sheldon	41	32	68	61
Nest Success	Grassy-Stevens	N/A	62.5%	66.7%	10%*
	Other Washoe	N/A	39.1%	31.1%	31.7%
	Sheldon	N/A	N/A	N/A	72.1%
Chicks per Hen	Grassy-Stevens	1.24	1.04	2.26	2.40*
	Other Washoe	1.35	1.61	2.49	2.23
	Sheldon	1.83	2.53	1.44	2.10

**The sample size from the Grassy-Stevens area during 2004 is not large enough for a significant sample size; therefore, data are not reliable.*

The results of the investigation have indicated that raven removal had an effect on sage-grouse nest success during 2002 and 2003. Nest success levels on the treatment area were significantly higher than "Other Washoe" locales ($Z_c=2.69$, $0.0025 < P < 0.005$); however, chicks per hen ratios observed in the fall population did not increase significantly when compared to the non-treatment areas. These results are similar to ongoing work being conducted in the Snake Range of northeastern Nevada where nest success near an area of raven removal was significantly greater than the expected nest success levels based on 14 other studies (Coates and Delehanty 2004).

Various factors confounded this investigation such as the lack of nest success data for the Sheldon NWR, lack of nest success data for 2001, the overall time period of the study, and inherent differences between the treatment and control sites. However, realizing these shortcomings, it is necessary to investigate the Grassy-Stevens population further. It is important to know what other causal factors, such as habitat parameters, chick mortality, nutrition and precipitation regimes, are limiting sage-grouse reproductive potential so that recommendations can be made to properly manage sage-grouse and their habitats using sound science within this important Population Management Unit.

Actions:

We propose capturing at least 30 sage-grouse hens in the spring from the Grassy-Stevens Camp portion of the Massacre PMU from the Fern Point, Nellie Springs Mountain, and Grassy Rock areas. Each hen will be fitted with an aluminum leg band and VHF radio transmitter. Blood samples will also be collected from each hen captured and a nutritional analysis will be conducted for each sample taken.

Hens will be monitored to determine nest locations, nest initiation rates, nest success, brood success, mean brood size, and renesting rates and success. Chicks from successful nests will be outfitted with subcutaneous transmitters and followed for 21 days to determine daily survival rates and fate.

Several habitat parameters will be measured during this study including forb cover and frequency during the pre-laying period. Habitat sampling will also be conducted at nest sites as close to nest initiation as possible and will include parameters such as cover type and frequency of shrubs, grasses, and forbs. Vegetative sampling should also take place approximately 14 days post hatch, since this is a critical period for chicks where mortality from predation most likely occurs, at the area that the brood is located at that time. This will provide information regarding habitat

selection and availability during this critical period. We are also investigating collecting habitat data from upland exclosures located in proximity to the treatment area as a control site.

Results of this study will be compared against previous and ongoing studies conducted within the Montana Mountains of Humboldt County, Beatty's Butte in southeastern Oregon (grazed areas) and the Sheldon NWR and Hart Mountain NWR (un-grazed areas).

Rationale:

The study design lends itself to providing some insight into at least five of the seven risk factors identified and potentially all of the risk factors depending on where sage-grouse hens take broods post-hatch (if hens take their broods to meadows as suspected, then vegetative sampling would provide information on condition of meadows at the time of brood use).

The Western Association of Fish and Wildlife Agency Guidelines suggest certain cover types and structure conducive to nest success and recruitment. These guidelines were based on twelve studies (Schultz 2004) that collected data about herbaceous community structure at nest sites (Klebenow 1969, Wakkinen 1990, Connelly et al. 1991, Gregg 1991, Klott et al. 1993, Fischer 1994, Schroeder 1995, Heath et al. 1997, Apa 1998, Sveum et al. 1998, Holloran 1999, Lyon 2000). None of these studies were conducted in Nevada; however, many were conducted in southeastern Idaho where habitat conditions are similar to some parts of Nevada. Nonetheless, because of this fact, the guidelines became the subject of much deliberation among the local working groups in Nevada.

This study will strengthen the knowledge base that is accumulating currently in Nevada with respect to nest site selection, nest success, and ability of the habitat to recruit sage-grouse chicks into the adult population. Results from this study, as explained, will not only be compared to ongoing or recently completed works in the Montana Mountains, Beatty's Butte, Sheldon and Hart Mt. NWR, but also to the WAFWA guidelines.

Legal Authority:

The Nevada Department of Wildlife is the agency responsible for the protection, propagation, restoration, transplanting, introduction and management of wildlife in the State of Nevada under Nevada Revised Statute 501.181.

Procedural Requirements:

This study will require appropriate special permits through the Nevada Department of Wildlife. A permit application will be prepared upon funding appropriation for the study.

Level of Partnership or Commitment:

The Washoe-Lassen-Modoc local working group supports the need for this study. Coordination will take place between NDOW, Oregon State University, and the Bureau of Land Management – Surprise Field Office. Similar studies have occurred within Nevada including works conducted by Oregon State University in the Montana Mountains of Humboldt County and the U.S. Fish and Wildlife Service within the Sheldon NWR, thus implementing a similar project in this area is not expected to incur potential setbacks.

Potential Project Funding:

Potential project funding is pending via a package that will be submitted to Nevada Senators' Reid and Gibbons for funding. Alternative funding may be available through a proposal to the Nevada Wildlife Heritage Trust Account.

Budget:

Project Personnel: Field Technicians (2) + Operating (\$2,000 ea) = \$22,000.00

Equipment:

Radio transmitter (hens) – 30@ \$180.00/ea. = \$5,400.00

Radio transmitters (chicks) – 50@ \$140.00/ea. = \$7,000.00

Receivers – (2 Receivers/\$1,500 ea. + 2 antennas/\$150.00 ea.) \$3,300.00

Supplies:

Trapping supplies (spotlight, nets, batteries) = \$250.00

Veterinary supplies = \$500.00

Insect/vegetation sampling supplies = \$250.00

Telephone/postage/paper = \$500.00

Miscellaneous (tires, trailer parts etc.) = \$600.00

Other: (Analysis)

Blood sample (hen) 30@ \$25/sample = \$750.00

Sex Identification (chicks) (40@ \$15/sample) = \$750.00

Insect and Vegetation Analysis = \$5,000.00

Telemetry Flights (follow-up) = \$2,500.00

Equipment Rental:

Trucks (2) 4WD + mileage for 5 ½ months = \$8,000.00

TOTAL ANNUAL BUDGET: \$56,800.00

Total Project Cost: \$113,600 for two-year project

Schedule:

- *Capture sage-grouse hens during the spring of 2006 and 2007*
- *Follow-up on hens and chicks during spring and early summer of 2006 and 2007*
- *Late-summer and early fall of 2006 and 2007 conduct nutritional analysis from hens and complete progress reports on information collected*
- *The fieldwork will be completed in the summer of 2007 and final report writing will be completed by spring of 2008.*

Project Location:

The Grassy-Stevens Camp area is approximately 50 miles north of Gerlach, Nevada. The total size of the project area is approximately 250 square miles. The area is centered around the Fern

Point, Nellie Springs Mountain, and Grassy Canyon areas located on USGS 30x60 minute topographic maps.

Expected Outcomes:

Through follow-up of chicks implanted with transmitters and nutritional analyses of pre-laying sage-grouse hens, it is anticipated that the additional knowledge gained from this study will enable identification of some limiting factors of sage-grouse recruitment. Once these factors are known, recommendations can be made for improving habitat conditions that may not be meeting requirements for sage-grouse or further investigation of limiting factors identified during the study.

Monitoring:

- *See **Action** section for habitat monitoring*
- *Population monitoring will continue in this important PMU using lek counts (both ground and air). Minimum spring breeding population estimates for the Massacre PMU for 2004 were between 3,410 and 4,547 adult sage-grouse.*
- *In addition, demographic parameters will also continue to be monitored via analysis of wings collected during the normal sage-grouse season for Washoe County.*

Adaptive Management:

- *This study will provide a comparable study to work being conducted in the Montana Mountains of Humboldt County, Nevada, Sheldon National Wildlife Refuge, Hart Mountain National Wildlife Refuge and Beatty's Butte area of southeastern Oregon, thus adding to information on nutritional needs of hens and chicks within Nevada.*
- *Results from this study may provide recommendations to alter current management strategies within this important Population Management Unit.*

*SAGE-GROUSE CONSERVATION TEAM
Research Needs Subcommittee*

Statewide Priority Research Needs

- Annual Grassland Rehabilitation Efforts – Success Stories and Failures
- Effects of Different Livestock Grazing Systems on Sage-grouse Health and Recruitment
- Effects of Pinyon/Juniper Removal on Re-establishing Sagebrush and Native Grass Communities in the Great Basin
- Implications of Fire on Sage-grouse Habitats
- Greenstrip Project Effectiveness – Do they Really Work?
- Methods for Determining Nest Success from Wing Analysis – Is Wing Analysis Really Accurate?
- Extrapolation of Demographic Parameters of Sage-grouse from Various Ongoing or Previously Completed Studies – Mike Pope, Mike Gregg, Jim Sedinger
- Falcon to Gondor Transmission Line Study Control Area – Jim Sedinger
- Bi-State Genetic Evaluation – Scott Gardner, Mike Casazza
- West Nile Virus Monitoring – Bob Dusek, Various
- Determine Factors Limiting Recruitment within the Grassy-Stevens Portion of the Massacre PMU Post Predator Control – Shawn Espinosa, Russell Woolstenhulme
- Statewide Lek Monitoring – Rapid Population Assessment – Jim Sedinger, Shawn Espinosa, Scott Gardner
- Implications of Wind Energy Development on Sagebrush Habitats and Sage-grouse – (Cotterel Mountain Study, Idaho – Tim Reynolds and Cam Collins)