

Nevada NRCS Sage-grouse Initiative Plan

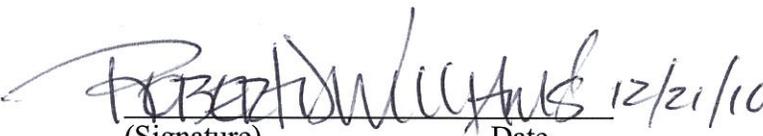
The Nevada Sage-Grouse Initiative provides a unique opportunity to make available significant conservation resources to landowners willing to work to improve rangeland health and sage-grouse habitat on their land. An overarching goal of this effort is to demonstrate that sage-grouse conservation is compatible with working, agricultural landscapes. The Conservation Title of the 2008 Farm Bill authorized several voluntary, incentive-based conservation programs, administered by the Natural Resources Conservation Service (NRCS) that can be used to achieve habitat improvements. This collaborative initiative combines strategic use of these programs with the biological expertise of the Nevada Department of Wildlife (NDOW) and the U.S. Fish and Wildlife Service (FWS) for the purpose of making measurable and significant progress towards treating a specific threat to sage-grouse on private lands. It is our hope that this targeted approach, and commitment by our agencies, will attract additional investment of resources. During the development of this plan, stakeholders providing input and support included: Audubon Society, NDOW, the Nature Conservancy, and FWS. We would like to personally thank all agencies, landowners, and partners for their continued efforts and contributions towards implementing cooperative conservation that will benefit the greater sage-grouse and the ranching communities throughout Nevada.



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Background

Greater sage-grouse have experienced sustained population declines in Nevada and throughout the West for the past several decades due to a combination of factors. On March 23, 2010 the US Fish and Wildlife Service (FWS) announced the 12-month finding for the Greater Sage-grouse (hereafter referred to as sage-grouse) under the Endangered Species Act (ESA). A distinct population of sage-grouse also occurs within the Bi-State area (Mono basin) of California and Nevada. This population of sage-grouse is commonly referred to as the Bi-State population and was considered separately under the ESA. The range-wide finding for the sage-grouse was warranted, but precluded with a listing priority of eight. The Bi-State population of sage-grouse, was also found to be warranted but precluded, but with a listing priority of three. Currently under the ESA, the sage-grouse is considered a candidate species and will receive no special protections from the USFWS until their status changes. If threats to their existence are not ameliorated, they will be listed as Threatened or Endangered under the ESA. The management of the species lies with Nevada Department of Wildlife (NDOW), the state wildlife agency, up until the time the species is listed. Federal listing of this wide ranging species would likely have a dramatic impact on ranching, mining, energy development and other activities in Nevada. Without significant action to curtail the threats to sage-grouse and their habitat, it is likely that at least some populations will merit protection under the ESA.

There have been a number of conservation efforts directed at the sage-grouse and its habitat in Nevada for the past 10 years. The Nevada Sage-grouse Conservation Strategy was completed in October 2001 (Neel 2001). As part of this strategy, the sage-grouse habitat in Nevada was divided into 56 population management units (PMU). Seven local working groups were formed throughout the state to identify risks and projects in each of the PMUs. As a result of the work outlined in the Nevada Sage-grouse Conservation Strategy, the 1st Edition of the Greater Sage-grouse Conservation Plan for Nevada and Eastern California (NV Governor's Plan) was completed in June of 2004. The major goal identified in the NV Governor's Plan is to: "Create healthy, self-sustaining sage-grouse populations well distributed throughout the species' historic range by maintaining and restoring ecologically diverse, sustainable, and contiguous sagebrush ecosystems while implementing scientifically sound management practices" (Nevada Governor's Sage-grouse Conservation Team 2004).

NRCS and FWS formed a joint partnership in 2010 – *"To promote conservation of both the greater and the Gunnison sage-grouse, NRCS Chief Dave White and Acting Director of the Fish and Wildlife (FWS) Rowan Gould signed a Partnership Agreement that will aid these species while helping sustain working ranches and farms in the West. The SGI will give participating landowners the opportunity to help conserve sage-grouse and contribute to efforts that may make listing under the ESA unnecessary"*. Conference Report Q & A-SGI, 2010

"The two agencies have used the "conferencing" provisions under section 7 of the ESA to assess the potential benefits and adverse effects of specific NRCS conservation practices to be implemented and maintained by landowners under the SGI. The conference report analyzes the expected cumulative effects of the implementation on the species through careful review of specific NRCS conservation practices and how they will be implemented to remove or reduce the known threats to these sagebrush dependent species. Should either sage-grouse species be listed in the future, the report can be used as the basis for preparing a Biological Opinion under

section 7 of the ESA that would include "incidental take."" Conference Report Q & A-SGI, 2010 Additionally, *"this Conference Report provides certainty to cooperators who voluntarily implement the NRCS sponsored conservation practices analyzed and the conservation measures developed in this report that they will be in compliance with the ESA should either or both sage-grouse species are listed as a threatened or endangered species under the ESA."* Conference Report-SGI, 2010

"During development of the conference report, the FWS worked closely with NRCS to determine the effects of 40 individual conservation practices, both those that will be beneficial and those that could potentially adversely affect the birds and their habitat. Conservation measures were developed to avoid, ameliorate, or minimize the identified adverse effects that could result from implementation of the practices prescribed in landowners' conservation plans." Conference Report Q & A-SGI, 2010 Nevada NRCS will utilize the 2010 NRCS- FWS Conference Report as both a guideline and a reference for proper implementation of the 40 individual conservation practices identified in the report.

Strategic Approach

Private landowners have a large stake in the future well being of the sage-grouse and many have already been actively involved in conducting improvements on their lands that benefit sage-grouse. Even though the majority of sage-grouse habitat and lek areas occur on public lands in Nevada, private lands are also providing essential sage-grouse habitat. Therefore, to provide the greatest benefit to the sage-grouse, it is important to address the threats to both public and private lands. A variety of conservation programs were reauthorized within the 2008 Farm Bill, that have the ability to greatly assist private landowners in conserving sage-grouse habitat on both public and private lands.

The goal of the Nevada NRCS Sage-Grouse Initiative is to make measurable and significant progress with our partners towards treating specific threats to sage-grouse on both private and public lands through cooperative conservation efforts by strategically utilizing conservation programs. This approach is based on the notion that focusing resources on a particular problem in the most important places on the landscape results in the highest likelihood of positively affecting sage-grouse populations in the shortest amount of time. *"Close collaboration of many stakeholders, including local, State, and Federal agencies, tribes, and NGOs, will ensure that NRCS activities complement efforts already underway. The SGI provides a multi-tiered framework that allows coordination and implementation on a range-wide scale while ensuring local input and control over actions in specific States and core areas."* Conference Report-SGI, 2010

Two valuable GIS tools are available that will assist the agencies and groups interested in sage-grouse conservation to determine the areas on the landscape that are currently important to sage-grouse. The first tool is a map developed by NDOW, delineating (Figure 1) the area where the majority of active leks and breeding habitat is present. Another mapping effort is the development of core areas which delineates areas that provide habitat for 75% of all known breeding sage-grouse. (Doherty, K.E., Tack, J.D., Evans J.S., Naugle D.E. 2010. Mapping

breeding densities of greater sage-grouse: A tool for range-wide conservation planning. BLM Completion Report: Agreement # L10PG00911). “Core areas are an effective approach to targeting conservation actions to maximize biological benefits. By prioritizing and strategically focusing NRCS resources to range-wide core areas, benefits of conservation efforts for sage-grouse can be maximized.” Conference Report - SGI, 2010. This effort is based on the principles outlined by Kevin Doherty, PhD, in his dissertation, Sage-Grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts (Doherty 2008). Regionally, sage-grouse habitat is divided into seven management zones (Figure 2). The core areas were developed for management zones I & II first, and the remaining core areas were completed for management zones III-VII in September of 2010.

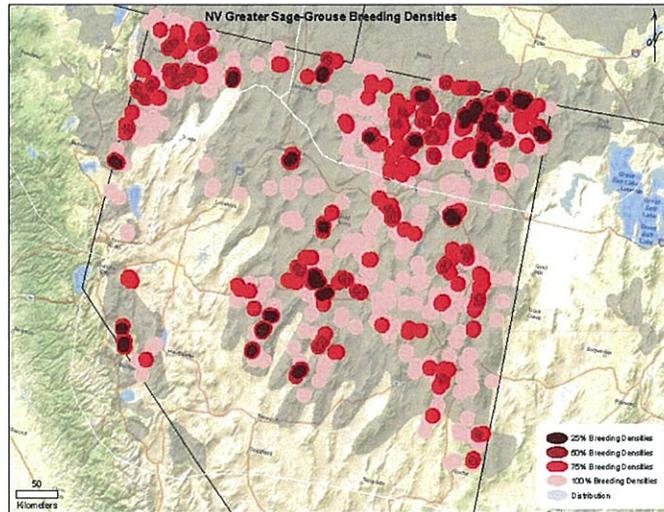


Figure 1. Greater sage-grouse breeding densities in Nevada (from Nevada Department of Wildlife).

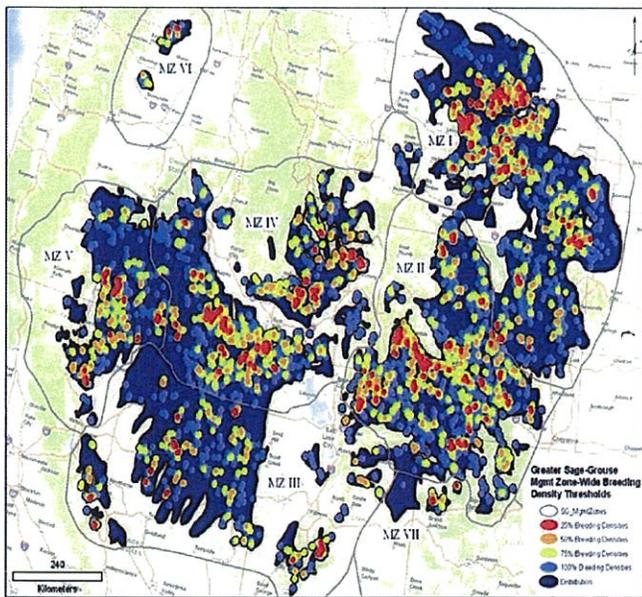


Figure 2. Breeding density areas for management of greater sage grouse that represent spatial locations of 25%, 50%, 75%, and 100% (delineated by color) of the known breeding population.

One concern that has been expressed over both of these maps is neither mapped data set takes winter sage-grouse habitat into account, and in some cases, nesting and brood rearing habitat are not appropriately accounted for, especially for migratory populations. This problem is accentuated in Nevada because the majority of the sage-grouse populations are thought to be migratory, traveling many miles from breeding habitat to winter habitat, and the maps don't capture the important winter habitat.

Consideration should also be given to how sage-grouse use an area seasonally. Seasonal habitats are categorized into nesting, brood rearing (early and late) and winter habitat. This will affect prescriptive treatments for a given area.

Threats

Regionally, the 12 month FWS finding identifies issues that are threats to sage-grouse including: habitat conversion for agriculture, urbanization, infrastructure in sagebrush habitats, power lines, communication towers, fences, roads, railroads, fire, invasive plants, pinyon/juniper encroachment, grazing, energy development, mining, wind energy development, transmission corridors, and climate change. Many of these identified threats negatively impact sage-grouse directly, but several of these major threats cause sage-grouse habitat fragmentation and loss.

Not all of the range-wide issues identified by FWS are of a concern in Nevada at this time, but there is certainly some overlap. The 2004 NV Governor's Sage-grouse Conservation Plan, identifies threats (risks) to sage-grouse. Those threats include; habitat quantity, habitat quality, wildfire, habitat fragmentation, livestock grazing, wild horses, predation, changing land uses, hunting/poaching, disturbance, disease, pesticides, cycles, and climate/weather. In 2004, when the Nevada Governor's plan was written, energy development (i.e.: wind, geothermal, solar, and natural gas) was not identified as a threat to sage-grouse. However, energy development has recently gained momentum in Nevada and should be added to the list as a threat, which brings the total to 15.

The threats to both habitat quantity and quality have negatively affected Nevada and California sage-grouse populations the most. Issues that have contributed negative impacts to both habitat quantity and quality are: wildfire, pinyon juniper encroachment, non-native range seeding, wet meadows becoming degraded, improper livestock grazing, sage-grouse habitat fragmentation, and loss.

Although NRCS's programs cannot address all of the threats affecting sage-grouse, NRCS conservation practices have the ability to directly affect many of the issues regarding habitat quantity and quality. Additionally, NRCS habitat conservation programs can provide protection to Sage-grouse habitat on private land with a variety of conservation easement options.

Habitat Quantity/Quality

Sage-grouse habitat quantity and quality have decreased for a variety of reasons. Typically, a disturbance event occurs, altering vegetation structure and composition which leads to decreased habitat suitability for sage-grouse. Some habitat changes are relatively easy and inexpensive to rehabilitate, while others are more difficult and expensive to restore. Issues that can be the cause of decreases in habitat quantity and quality may include but are not limited to: degraded wet meadows, livestock grazing, non-native range planting, pinyon/juniper encroachment, wildfire, or land use practices and development that do not take in to account the needs of sage grouse during the planning and implementation process.

Wet meadows provide important brood rearing and summer habitat for sage-grouse. If these meadows are degraded and natural hydrology is lost, habitat quality and quantity decline for sage-grouse. Typically, water tables have dropped as a result of wet meadows being degraded overtime and are reflected by increased upland vegetation in the meadow.

Having good quality habitat available for sage-grouse can greatly reduce the effects of disease, predation, hunting, weather, and disturbance on populations. Subsequently, it is essential to maintain good quality habitat in order to ensure sage-grouse populations are maintained.

NRCS has a suite of conservation practices that can be applied to address negative effects associated with the issues of wildfire, pinyon and juniper encroachment, non-native seeding, degraded wet meadows, and livestock grazing.

Wildfire

Issue: Several million acres of rangelands have burned throughout Nevada in the past 10 years. Some of these rangelands have been converted to cheatgrass stands which have an increased fire regime. It is estimated that approximately 40% of active leks in Nevada have already been affected by wildfire and with the increased fire potential much more sage-grouse habitat stands to be negatively affected by wildfire in the future.

“Fire is one of the primary factors linked to population declines of greater sage-grouse because of long-term loss of sagebrush and conversion to monocultures of exotic grasses.” (Service 2010) Restoration and replanting costs after a wildfire are much higher than implementing preemptive fire suppression to minimize wildfire danger and loss of critical sage brush habitat.

“The conservation practice standards that are implemented under the purposes of the SGI are likely to minimize the risk of increased fire hazard due to their inherent design features and application, and by following the recommended conservation measure for this concern (the management of woody slash piles should significantly reduce build-up of fuels and by following state forestry laws governing management of slash). At the landscapes scale for this particular conservation practice standards the identified management controls are expected to reduce the extent and magnitude of creating increased hazards for uncontrolled and/or unnatural fire regimes in sagebrush.” Conference Report-SGI, 2010

Replanting/Restoration

Once a wildfire has affected an area, there are several NRCS practices available to mitigate the effects. These practices are critical area planting (342), pest management (595), prescribed grazing (528) and range planting (550). If there is a reasonable likelihood that the rangeland will not be converted to cheatgrass, range planting may be used to seed a native grass, shrub, and forb seed mix onto the site. The seed mix will reflect plant species identified within the ecological site description. In instances where there is a high or moderate likelihood that the rangeland will be converted to cheatgrass, critical area planting should be used to establish vegetation that will stabilize the soil and reduce the chance for the establishment of cheatgrass or other invasive species. This could include the use of competitive non-native species such as a suitable range reclamation grass, forage kochia, cultivars of native or endemic grasses or forbs. Once perennial vegetation has been established, a modified form of assisted succession can be used to re-establish native grasses, shrubs, and forbs to the site. After the fire, prescribed grazing (528) can be utilized to implement proper grazing use to help facilitate the rangeland recovery.

The pest management practice (595) can be used to apply herbicides to inhibit cheatgrass or other invasive plants from competing with more desirable vegetation. Herbicides may only be applied to land in accordance with the applicable state and federal laws, along with the manufacturer’s specifications for application. Additionally, the use of herbicides on public land is restricted to the overseeing land management agency’s list of allowable herbicides on its managed land and the agency’s prior approval before the herbicide is applied.

Assisted succession is a method of transitioning an annual weed monoculture to a healthy native plant community. Crested wheatgrass, or a similar non-native perennial species, can be seeded into a site to restore biological function, soil health, and water and nutrient cycling. This method also depletes the annual weed seed bank. This may take several years to gain sufficient weed control. A diverse native plant community can be re-established by reducing the cover of the non-native perennial species by mechanical and/or chemical means and inter-seeding the site with a native seed mixture. Overall, assisted succession will take multiple years to complete and a long term monetary investment commitment to reach a healthy native plant community.

Suppression

The suppression of wildfire can also be addressed by NRCS practices and should only be used to protect intact habitat. Firebreak (394) can be used to establish a temporary or permanent strip of bare or vegetated land to retard fire. Existing vegetation is mechanically manipulated to reduce fuel loads and promote fire-resistant plants. However, a NRCS Biologist or State Range Specialist should be consulted when planning the placement of this firebreak practice since sage-grouse utilize resources across the landscape.

Nevada NRCS will "Evaluate the site's potential for invasion by undesirable plants during practice planning and design. Minimize soil and vegetative disturbances during implementation of conservation practices. Following the evaluation of local site conditions, site-specific Ecological Site Descriptions and the specific needs of the sage-grouse will be used to inform the reclamation strategy. Native species will be used whenever possible to meet practice objectives with preference to shrubs, forbs, grasses and grass-like plants preferred by sage-grouse as well as those species that reflect the potential of the specific ecological site to optimize sage-grouse habitat. Tree species should not be planted. When non-native species are necessary to stabilize disturbed areas, avoid the use of plants identified as either invasive or aggressive. All seed mixes should be State-certified weed free. Timing of planting and post-establishment vegetation management will be designed as per local site conditions to meet NRCS practice specifications and NRCS biologist or State Wildlife Agency recommendations. Machinery associated with the practice should be clean and free of vegetative debris prior to use to prevent the spread of invasive plant species. Newly seeded/planted sites should be rested from livestock grazing for an appropriate period as determined by NRCS to ensure stand establishment." Conference Report-SGI, 2010

Additionally, "NRCS will design implementation of conservation practices to minimize or avoid the loss of sagebrush during practice installation. For linear practices, limit removal of sagebrush to one side of disturbance and to only the width of removal vehicle. If access for operation and maintenance is required, limit access to one side of disturbance and a limit access to one vehicle width." Conference Report-SGI, 2010

Project designs involving sage brush and under story removal, NRCS will refer to the Brush Management Specification that was reviewed by the State Wildlife Agency "to determine overall practice applicability, location, extent, configuration, and timing in conservation practice standard's where removal of sagebrush and associated understory vegetation is the objective (brush management, grazing land mechanical treatment, prescribed burning)." Conference Report-SGI, 2010

Pinyon and Juniper Encroachment

Issue: Pinyon and juniper expansion is a problem in Nevada due to altered fire regimes. Pinyon and juniper encroachment first causes a loss in habitat quality for the sage-grouse by providing increased nesting and perching opportunities for predators. As the encroached trees get larger, it creates a habitat quantity concern for the sage-grouse. The trees slowly out-compete the brush and grass for light and nutrients, which leads to site domination.

NRCS's brush management (314) practice can be applied to remove the threat of pinyon and juniper trees in sage-grouse range. Several treatment options are available for removing encroaching trees, which are hand cutting, hydro-axe, feller-buncher, or chaining. When removing trees that are in Phase I or II (Phase I is the least encroached, while Phase III is the most encroached "Western Juniper Field Guide: Asking the right Questions to Select Appropriate Management Actions- USGS Circular 1321"), range planting may or may not be required depending on the site seed bank. If there is a high probability that cheatgrass may invade the site after the removal of the trees, the treatment should be followed up by range planting (550). Phase III encroachment sites are expensive and difficult to restore, therefore the focus should be placed primarily on the removal of Phase I and II encroachments.

"The conservation practice standards that are implemented under the purposes of the SGI are likely to minimize the risk of increased fire hazard due to their inherent design features and application, and by following the recommended conservation measure for this concern (the management of woody slash piles should significantly reduce build-up of fuels and by following state forestry laws governing management of slash). At the landscape scales for this particular conservation practice standards the identified management controls are expected to reduce the extent and magnitude of creating increased hazards for uncontrolled and/or unnatural fire regimes in sagebrush." Conference Report-SGI, 2010

Non-Native Seeding

Issue: In the 1950's through the 1970's, it was popular in Nevada to remove sagebrush and plant crested wheatgrass. Some of these stands have had native grass, shrubs, and forbs reestablished amongst the crested wheatgrass, but some stands are still monocultures.

"NRCS will evaluate the site's potential for invasion by undesirable plants during practice planning and design. Minimize soil and vegetative disturbances during implementation of conservation practices. Following the evaluation of local site conditions, site-specific Ecological Site Descriptions and the specific needs of the sage-grouse will be used to inform the reclamation strategy. All seed mixes should be State-certified weed free. Timing of planting and post-establishment vegetation management will be designed as per local site conditions to meet NRCS practice specifications and NRCS biologist or State Wildlife Agency recommendations. Machinery associated with the practice should be clean and free of vegetative debris prior to use to prevent the spread of invasive plant species. Newly seeded/planted sites should be rested from livestock grazing for an appropriate period as determined by NRCS to ensure stand establishment." Conference Report-SGI, 2010 NRCS will address the issue of non-native seeding, prescribing range planting (550) in these areas to interseed native grasses, forbs, and shrubs in an effort to restore these habitats back to native vegetation through assisted succession.

Degraded Wet Meadows

Issue: Wet meadows are very important brood rearing and summer habitat for sage-grouse. If these meadows are degraded, habitat quality and quantity decline for sage-grouse. Typically, water tables have dropped as a result of degraded wet meadows. The lowering of water tables are reflected by increased upland vegetation in the meadow and/or a visible head cut that has incised throughout the system. Both a head cut and an incised channel can result from natural storm events, mechanical channelization of riparian and wet meadow areas, unmanaged grazing, improper water developments, or any combination of these causes. To fully address this issue, it is important to first identify the cause of the meadow degradation and then develop a workable solution.

NRCS has a variety of conservation practices to address wet meadow restoration. Examples include installing grade control structures (410) to minimize and stop a head cut, or removing encroached upland vegetation within the meadow through brush management (314) to restore natural hydrologic function. Additional practices to facilitate wet meadow restoration are critical area planting (342) and channel bank vegetation (322) which may be used to reestablish both soil stabilizing vegetation and the wet meadow area. A change in the current grazing system, by implementing prescribed grazing (328), will improve meadow health by providing grazing rest when it is needed. The pest management practice (595) can be used to apply herbicides to inhibit cheatgrass or other invasive plants from competing with more desirable vegetation. Herbicides may only be applied to land in accordance with the applicable state and federal laws, along with the manufacturer's specifications for application.

Livestock Grazing

Issue: Livestock grazing is an issue that with *“grazing Practice implementation in isolation without concurrent grazing management prescribed to address sage-grouse habitat needs, can result in a reduction of sage- grouse habitat quality.”* Conference Report-SGI, 2010

“To benefit the quality of sage-grouse habitat, the umbrella systems practice Upland Wildlife Habitat Management (code 645) for the Sage-grouse Initiative shall be used to design, implement and install the other Facilitating practice standards to ensure that sage-grouse habitat is maintained or improved following application.” Conference Report-SGI, 2010

NRCS has the ability to work with private landowners to devise a grazing system that benefits livestock, the land, and wildlife including sage-grouse. NRCS practices that will be used to implement proper grazing use are prescribed grazing (528) and upland wildlife habitat management (645). Other structural practices may be prescribed to facilitate prescribed grazing or upland wildlife habitat management such as: fence (382), watering facility (614), and pipeline (516). Prescribed grazing would be implemented on wet meadows, areas of pinyon and juniper removal, and seeded areas to provide grazing rest.

Habitat Protection Programs

Issue: Important sage-grouse habitat has been lost due to improper land management practices, fragmentation of land parcels, and a variety of development pressures. Future development pressures and habitat fragmentation will continue to increase, along with the resource requirements associated with human population growth and urban sprawl.

NRCS has the ability to protect sage-grouse habitat by offering conservation easements to private landowners. Publicly owned land is not eligible to be enrolled in NRCS easement programs. These important areas can be identified by using the core area maps generated by Kevin Doherty along with the active lek and breeding habitat maps produced by NDOW.

NRCS has three easement programs that are applicable to protecting sage-grouse habitat: Farmland Ranch Protection Program (FRPP), Grassland Reserve Program (GRP), and the Wetland Reserve Program (WRP). Additionally, both the GRP and WRP programs can provide money to fund habitat restoration of the land parcels being enrolled in an easement.

Program Ranking

This plan will serve as a basis for determining Nevada SGI funding priority. Project ranking consideration will be given to all projects that benefit sage-grouse. Higher priority will be given to projects based on the following prioritization criteria:

1. Projects to be implemented on the core sage-grouse areas where a stable population of sage-grouse already exists within an identified core area.
2. Project addresses at least one of the issues that degrade sage-grouse habitat quantity or quality listed in the Nevada Sage-grouse Initiative plan.
3. Projects are implemented where other sage-grouse habitat restoration projects are occurring on adjacent properties.

Program Ranking and Project Funding Priorities:

1. First priority should be those projects that both occur in an identified sage-grouse core area and address at least one of the issues that degrade habitat quantity or quality (listed previously). Additional first priority will be given to projects that complement sage-grouse restoration projects on adjacent properties within the core areas.
2. Second, priority should be projects that address one or more of the issues that degrade habitat quantity or quality within sage-grouse range. Additional secondary priority will be given to projects that complement restoration projects on adjacent properties within sage-grouse range.
3. Third, priority should be projects that provide benefits to sage-grouse within the core areas, but do not address any of the issues that degrade habitat quantity and quality (listed previously).
4. Final priority to be funded, are projects that provide benefits to sage-grouse throughout their range, but are not located in the identified core areas.

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