From:	Thorson, Robyn
To:	Theresa Rabot; Hannan, Richard
Subject:	Fwd: GRSG: Mitigation Framework final draft
Date:	Friday, July 18, 2014 7:19:25 PM
Attachments:	USFWS GSG RangeWide Mitigation Framework_Final-DRAFT_18July2014.docx

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Didn't see you on distribution....

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---------- Forwarded message ----------
From: **Shauna Ginger** <shauna_ginger@fws.gov>
Date: Fri, Jul 18, 2014 at 4:55 PM
Subject: GRSG: Mitigation Framework final draft
To: FW6 Sage-grouse FMT <fw6_sage-grouse_fmt@fws.gov>
Cc: Anna Harris <anna_harris@fws.gov>, Kris Tita <kris.tita@sol.doi.gov>

FMT,

Attached is the final draft GRSG Rangewide Mitigation (Guidance) Framework. Major changes from the June 4th version/areas of potential concern are highlighted. For example, there have been significant language changes to the additionality section (including role of CCAAs).

If you have any suggestions or concerns please let us know soon (by July 31st). Over the next two weeks a small tri-regional group will be working with our solicitors and external affairs to format and prepare a roll-out package, aiming for second week of August for finalization.

I will be out of the office next week. Please cc Kathy Hollar regarding immediate feedback on the document and Anna Harris regarding any comments on external messaging/roll-out.

Many thanks again to everyone for your feedback and work on this!

-Shauna

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Shauna Ginger

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GREATER SAGE-GROUSE RANGE-WIDE MITIGATION GUIDANCE FRAMEWORK

[*insert date*], 2014

PURPOSE OF THIS DOCUMENT

In 2010 the U. S. Fish and Wildlife Service (Service) determined that the greater sage-grouse (*Centrocercus urophasianus;* hereafter sage-grouse) warranted protections under the Endangered Species Act (ESA). This finding was based on two primary factors: 1) the present or threatened destruction, modification, or curtailment of habitat or range, and 2) the inadequacy of existing regulatory mechanisms.

The purpose of this document (Framework) is to communicate some of the factors the Service is likely to consider in evaluating the efficacy of mitigation practices and programs in reducing threats to sage-grouse. Our goals in providing this Framework are twofold:

- Help states, the Bureau of Land Management (BLM), and other partners develop and implement coordinated and robust mitigation processes across the range to reduce threats and the potential need to list the species under the ESA; and
- If the sage-grouse should be listed, application of these recommendations will improve permitting processes, Section 7 consultations, mitigation outcomes, and contribute to sage-grouse recovery.

As used in this document, the term **mitigation** encompasses the full suite of activities to avoid, minimize, and compensate for adverse impacts to sage-grouse and sage-grouse habitat.

This document is guidance only and subject to modification as new information on sage-grouse science or mitigation policies emerge. The recommendations provided here align with the Department of Interior's 2014 mitigation report[1] and are consistent with the information and conservation objectives provided in the 2013 Conservation Objectives Team (COT) Report[2] for sage-grouse. The Service recommends an avoidance first strategy be employed for all occupied sage-grouse habitat, especially *Priority Areas for Conservation* (*PACs*) and other identified important sage-grouse populations or habitat. Unavoidable impacts occurring in any sage-grouse habitat should be fully compensated.

The Service recognizes that state wildlife agencies have management expertise, authority, and responsibility for sage-grouse conservation in their respective jurisdictions and that private and public land managers have management expertise and authority for sage-grouse habitat conservation. Coordination among federal, state and local agencies, tribes, and stakeholders in forming *landscape-scale* strategies which include mitigation processes is vital. Using this Framework as a guide can promote

[1] http://www.doi.gov/news/upload/Mitigation-Report-to-the-Secretary_FINAL_04_08_14.pdf

[2] http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf

consistency in mitigation programs across the species' range and across agencies while providing for some degree of local flexibility.

- Consistency will better enable stakeholders to implement established mitigation actions that positively affect sage-grouse conservation while also enabling the Service to better assess the intended biological effects of these mitigation efforts at the range-wide scale. Therefore, it is important that locally adopted processes support national and regional sage-grouse management goals and result in a reporting process that is sufficiently standardized so that data, threats, and accomplishments can be adequately conveyed.
- The Service believes it is important to maintain flexibility in this Framework to accommodate the many differences in the regulatory, socio-economic, and ecological environments between and within states that influence the efficacy of any tool. Flexibility will also allow for and encourage local innovation as programs are developed and tested.

Generally, while mitigation programs can be flexible to accommodate social and economic considerations, it is important that program elements are based on sound science and are linked to conservation objectives in a transparent manner. Ultimately, we all must be able to demonstrate that impacts are truly unavoidable, compensatory actions appropriately mitigate residual impacts, and the net effect is a conservation gain to the species.

There is no one right or correct design for a mitigation program. Rather, our hope in providing this guidance is that it will encourage consistency across the range and help our many partners develop mitigation processes that simultaneously conserve sage-grouse while maintaining or enhancing economic opportunities throughout the sage-grouse range. Mitigation processes should be fair, implementable, fully compensatory, and effective for sage-grouse.

DOCUMENT STRUCTURE

PART I	provides general goals and regulatory considerations for any mitigation program within the context of the mitigation hierarchy
PART II	provides overarching mitigation principles, standards, and recommendations for the development of mitigation processes and programs
APPENDIX 1	glossary of important terms, *italicized on first use* in this document
APPENDIX 2	detailed questions to consider when developing or assessing a mitigation program

PART I

MITIGATION PROGRAM GOALS & GENERAL CONSIDERATIONS

MITIGATION PROGRAM GOALS

As described above, the Service expects mitigation approaches across the range to be flexible and innovative in how unavoidable impacts from development are mitigated. However, we recommend that all mitigation programs strive for the following goals and incorporate the principles and standards outlined in this document to increase likelihood of contributing to successful sage-grouse conservation.

1. **Achieve net positive conservation**. Mitigation programs should be strategically designed to result in net overall positive outcomes for sage-grouse. This is accomplished by employing avoidance, minimization, and *compensatory mitigation* actions that are based on accepted mitigation principles and standards, use best available science for sage-grouse conservation, and address population-level threats within landscape-level plans. Programs that are structured with a goal of only *no net loss* will be evaluated more conservatively by the Service.
2. **Don't reinvent the wheel, integrate existing processes**. To the extent practical and where national management and reporting goals are supported, the program should integrate existing regional, state, and local-level processes as the authorizing, implementing, and enforcement tools for a mitigation program. Partnerships should result in mitigation implementation strategies that site mitigation actions to prevent fragmented landscapes, restore core areas, and provide connectivity necessary to sustain sage-grouse populations regardless of land ownership or jurisdictional borders.
3. **Make sage-grouse an asset, not a liability**. The mitigation program should provide economic incentives for private landowners and industry to conserve and restore sage-grouse and its habitat. The program should allow for well-sited, well-designed, and appropriately mitigated actions to move forward smoothly and quickly.
4. **Be consistent and fair**. Structure mitigation programs to apply the mitigation hierarchy consistently across anthropogenic activities that impact sage-grouse (including energy, infrastructure development, land conversion, ex-urban development, mining, and others as appropriate).

Generally, a mitigation program for sage-grouse should address how impacts will be avoided and how a *net conservation gain* will be achieved by compensatory mitigation for unavoidable impacts to sage-grouse across all habitats.

Before developing a mitigation program, the Service recommends that one first consider the types of development activities that will be covered, how avoidance will be assessed, the regulatory mechanisms that relate to those activities, and if regulatory predictability within the context of the ESA is desired. Each of these topics will be covered in this section. See Appendix 2 for specific questions to consider.

Covered Activities

A robust mitigation program will clearly identify the development activities and the associated direct and indirect impacts that may negatively affect sage-grouse; the avoidance, minimization, and compensatory mitigation standards for addressing those impacts; and the consequences of mitigation failure. Mitigation processes should provide proponents the ability to incorporate mitigation objectives into the design of projects. At a minimum, mitigation programs should cover anthropogenic development actions which:

- Negatively impact sage-grouse habitat, especially those identified as threats in the COT report;
- Create spatially discreet, measurable impacts; and
- Are implemented, funded, or permitted by federal, state or local agencies.

Activities such as irregular off-road recreational vehicle use or over-grazing may be difficult to both measure and address in mitigation programs due to the diffuse nature of these impacts.

The mitigation program should describe the impact assessment methodology that will be used to measure a development activity's remaining and unavoidable direct and indirect effects to sage-grouse over the life of a development and its impacts, and quantify the potential direct and indirect impacts that likely accrue from each of the specific development types. The COT Report describes the types of developments that cause the greatest direct and indirect impacts to sage-grouse and provides initial guidance on impact avoidance, minimization, and to a lesser extent compensatory mitigation for these development activities. It can be used as a starting point to further refine and identify local impacts to be considered in a mitigation program.

Avoidance

The Service strongly recommends avoidance of direct and indirect impacts to sage grouse habitat, especially in PACs and other habitats identified as important (see COT Report). Compensatory mitigation should only be considered if efforts to avoid and minimize the direct, indirect, and cumulative impacts of a development project are not possible.

Indirect effects are those that are reasonably certain to occur, and affect some aspect of the species' ecology which negatively influences another important aspect. For example, tall anthropogenic structures can cause avoidance behavior of sage-grouse to leks and brood rearing areas well beyond their direct disturbance footprints.

Cumulative effects result from the incremental or synergistic impact of an action when added to other past, present, and reasonable foreseeable future actions. For example, outside of the direct footprint a development may, over time, result in a loss of suitability of surrounding habitat through isolation, acceleration of invasive species colonization, degraded water quality inputs, or other factors.

Avoidance mechanisms can include moving a project, the use of exclusion areas, and caps on habitat disturbance to prevent further impacts. True avoidance is only achieved when sage-grouse and/or their habitat have no exposure to the activities associated with the action or the activities will have no effect on sage-grouse behavior or habitat use over time.

Minimization mechanisms can include, for example, timing stipulations for noise or other activities which may disturb sage-grouse, removing water sources to reduce exposure to West Nile virus, limiting activities or practices that may result in wildfires, best management practices for construction projects to prevent invasive plant issues, predator attractant management, co-location or burying of necessary support utilities, or marking fences to minimize direct mortality of birds. Most minimization actions will still have temporary (e.g. construction-related) or residual effects (e.g. reducing noise may not eliminate all effects) that should be accounted for and offset through compensatory actions.

By fully avoiding impacts up front, there is no need to take additional mitigation hierarchy steps. When disturbances are proven unavoidable, minimization does not equate to complete avoidance, or avoidance and minimization cannot achieve the best possible conservation outcome for the species, project developers must offset or compensate for their impacts through identified eligible conservation actions. For the purposes of this document, we borrow from habitat credit trading and mitigation banking terminology and refer to any impact as a *debit* and any compensatory mitigation action as a *credit*.

Regulatory Mechanisms

The combination of increased development and the inadequacy of regulatory mechanisms in requiring proposed development to avoid impacts is a pressing issue for sage-grouse conservation. Even in areas where the primary threat is not development, providing adequate regulatory mechanisms to address anthropogenic impacts and other threats is necessary to ensure long-term protection of the species.

States hold the primary responsibilities for the management of sage-grouse, while federal agencies manage almost two-thirds of the species total sagebrush habitat. The Service recommends clearly identifying the federal, state, local and tribal regulatory mechanisms for siting and permitting each major development type that impacts sage-grouse. It is important to note if environmental review is triggered for each development type and how that review may result in avoidance, minimization, and offset requirements. A lack of clear regulatory incentives to follow the mitigation hierarchy will decrease the Service's ability to assess the long-term likelihood of successful implementation.

Regulatory Predictability and ESA

While mitigation programs should be designed first with an eye towards conserving sage-grouse, and thus be able to function outside the ESA, users and suppliers of compensatory mitigation may still wish to know from the Service that that any mitigation actions produced in advance of a potential listing will count in a post-listing scenario.

Programs with pre-listing mitigation options that wish to have these credits treated as measures to minimize and mitigate the impact of incidental take, should sage-grouse be listed, will need to enter into a pre-listing mitigation agreement with the Service.

A program that utilizes *pre-listing mitigation* credits could provide a major incentive to get conservation on the ground now and may also be a market driver for mitigation programs. Pre-listing mitigation refers to explicit recognition from the Service that actions or

credits developed or acquired both in advance of impacts, and in advance of a listing decision, will be considered as a conservation action in a status review and may be used as compensatory mitigation through ESA consultations, should the species be listed. Additionally, suppliers of compensatory mitigation may be able to attain regulatory predictability that, should the species become federally listed, the management to which they agreed will not change and/or *incidental take* coverage will be provided for these management actions.

Securing mitigation prior to project development should not act as a substitute for avoiding and minimizing impacts. Developers should design their projects to avoid and minimize direct, indirect, and cumulative biological impacts regardless of whether compensatory mitigation credits have already been acquired.

If sage-grouse is listed, robust mitigation programs endorsed by the Service and implemented prior to the listing decision can provide benefits to participants and sage-grouse alike. Most importantly, such programs will more likely be designed to contribute to recovery. In addition, if the species is listed as threatened, the Service may propose a special rule under section 4(d) of the ESA to allow for take incidental to activities conducted pursuant to an adequate local mitigation program. The Service will work closely with interested states or other stakeholders to provide greater regulatory predictability, to the extent possible, for these advanced implemented mitigation actions.

PART II

PRINCIPLES, STANDARDS, AND MITIGATION PROGRAM ELEMENTS

PRINCIPLES OF MITIGATION

Any mitigation program for sage-grouse which includes compensatory mitigation is best developed consistent with the goals outlined in the beginning of this document and with the following principles, which are meant to provide clarity and guidance in cases where the Framework is silent or unclear:

- **Observe an appropriate mitigation sequence**: Compensatory mitigation is only considered after all avoidance and minimization measures have been explored. Avoidance is the most desirable approach to preventing impacts to sage-grouse from development.
- **Attain net conservation gain**: Overall outcomes must result in no net loss to the species at the population or landscape scale; to achieve this, striving for a net conservation gain would improve overall conservation status.
- **Use a landscape-scale approach to inform mitigation**: Develop mitigation programs in conjunction with, or guided by, a landscape-level conservation plan. Cross-jurisdictional partnerships are better positioned to design mitigation strategies that will prevent fragmented landscapes and restore core areas and connectivity necessary to sustain the sage-grouse.
- **Ensure transparency, consistency, and participation**: Use timely and transparent processes that provide predictability and uniformity through the consistent application of standards, protocols, and metrics developed to achieve effective mitigation. Appropriate and effective stakeholder participation in mitigation recommendations and decisions should be facilitated.

- **Base mitigation decisions in science**: Use the best available science in formulating mitigation recommendations and decisions, consistent with all applicable policy.

STANDARDS OF MITIGATION

Approaches to compensatory mitigation that follow these principles and adhere to the standards below are expected to achieve the best outcomes for conservation through effective management of the risks associated with compensatory mitigation. Application of equivalent standards across all compensatory mitigation sources will better ensure conservation goals are met.

- **Siting:** The mitigation sequencing hierarchy should be applied in the context of conservation objectives derived by a landscape-scale approach. Compensatory mitigation actions should be sited in locations that have been identified in conservation plans to most likely successfully and fully compensate losses to sage-grouse.
- **Duration:** Compensatory mitigation actions should achieve targeted biological conditions in a timeframe commensurate and proportional with the biological impacts which are offset.
- **Additionality:** Actions proposed as compensatory mitigation should provide benefits beyond those that would be achieved if the mitigation actions had not taken place.
- **Effectiveness:** Compensatory mitigation actions should be measurable, proven to be reasonably likely to deliver expected conservation benefits, and should target those actions that will provide the greatest benefit to sage-grouse.
- **Durability:** Actions or plans proposed as compensatory mitigation must be accompanied by management, legal, and financial assurances that ensure the action or plan will be in place and effective for the intended duration. Assurances should address the unintentional loss as well as the intentional loss of a compensatory mitigation action.
- **Metrics**: Determining the expected impacts of actions and the measures necessary to avoid, minimize, or compensate for those impacts should be based on biological conditions and upon reliable and repeatable quantitative science-based methods.

MITIGATION PROGRAM ELEMENTS

With these principles and standards in mind, the following discussion provides specific information to consider when developing a compensatory mitigation program. With sage-grouse it is important that the program's rules governing *additionality*, effectiveness, and *durability* are designed in a way that is equitable between public and private lands and can address potential issues with properties of *split estate* ownership. The information provided below, plus the list of detailed questions in Appendix 2, are designed to help entities develop thoughtful and robust mitigation programs and processes in the context of the full mitigation hierarchy.

1. PROGRAM GOVERNANCE

The Service encourages our state and federal partners to integrate mitigation planning into a broader ecological landscape context, which means moving away from project by project mitigation to a more programmatic approach. Whether mitigation requirements occur through a local (e.g. county) permit

process or a larger state or regionally administered program covering many permitting agencies, a mitigation program requires a broad array of elements and functions to operate. Program goals, covered activities, requirements, and administrative roles should be clearly defined. The program should address how the mitigation hierarchy will be implemented, account for avoidance, and clearly demonstrate when and why impacts are deemed unavoidable. To improve operational certainty in compensatory mitigation, programs should clarify up front the manner in which mitigation obligations will be quantified, the types of actions that will qualify as mitigation, and the consequences of mitigation failure. Because sage-grouse is a landscape-scale species, a process for coordinating mitigation programs both intra- and inter-state should be outlined within programs.

Mitigation Program Types

Traditional compensatory mitigation mechanisms include *permittee responsible mitigation*, *conservation banks*, *in-lieu fee,* and other third party mitigation programs (e.g. *habitat credit trading systems* or exchanges). The mitigation mechanisms differ by who is ultimately responsible for the success of the mitigation site (the permittee or a third party) and when mitigation actions occur relative to impacts.

Preference is for mitigation programs that promote compensatory mitigation achieved prior to impacts, aggregate mitigation as part of a larger landscape approach, and provide long term protection and management of mitigation sites. Regardless of the type of mitigation mechanism utilized, mitigation actions or types should be held to equivalent standards for siting, duration, additionality, effectiveness, and durability and utilize consistent metrics.

The Service has a proven track record with conservation banking agreements and such agreements represent a familiar and durable type of mitigation program. While some deviations may be needed to develop a commercially viable and biologically relevant sage-grouse compensatory mitigation program, the closer the requirements of a compensatory mitigation program track those of conservation banking, the more likely the program is to provide certainty of implementation and effectiveness in improving the status of the species.

Program Administration

The program administrator will be the entity with enforcing authority for the establishment, operation, and management of a mitigation program. The administrator or their designee(s) must have the ability to enforce management actions, reconcile funding issues, incorporate adaptive management, track debits and credits, report results, etc. The degree of authority granted to the administrator ensures that conservation benefits from compensatory mitigation will persist. Since successful habitat conservation will require coordination across Federal, state, tribal, and private interests, the program administrator should be recognized through a formal agreement developed with major stakeholders including Federal, state, and tribal partners. The agreement should clearly articulate the selection process for any third party responsible for administration of various elements of the program.

The entity handling monetary funds must have the ability to separately manage, collect, and distribute funds. Prior to collection of any funds, plans should be in place that explain the maximum time funds can be held before spent, how funds will be invested (including inflation protection), tracing and

accounting for benefits generated by funds, guidelines for avoiding potential conflicts of interest between collecting and spending funds, and responsibility for performance of mitigation projects.

Compliance and Enforcement

Compliance can be traced several ways, including through a credit verification process, tracking system, and review of periodic monitoring reports. Processes to verify that mitigation actions meet program standards and are releasable for offsetting impacts provide assurance that compensatory mitigation sites are delivering benefits. A system to track both debits and credits is essential in ensuring compliance, increases transparency, and allows the administrator to determine the success of mitigation efforts in achieving conservation.

Monitoring reports at both the program and site level should be required at least annually. Monitoring should be structured to provide feedback on which compensation projects and actions successfully yield intended results and which have a higher likelihood of failure. Site level reports should document site conditions, attainment of administration and ecological *performance standards (*measurable attributes used to determine if the management plan meets the agreed upon goals and objectives), and management actions taken and expected to be taken in the future.

Enforcement structure and procedures should be developed at the program level. At the site level, agreements should include clear enforcement provisions that dictate the consequences of non-compliance, including a requirement that if the compensation fails to meet performance standards, the mitigation provider should provide equal compensation through other means. If the agreement holder does not satisfy the mitigation requirements, the regulating entity should have the ability to suspend or terminate credit releases, credit sales, or the agreement itself and pursue penalties for violations as appropriate.

Role of the Service

The exact nature of the Service's involvement in any given mitigation program will vary and may include the following roles:

- Provide ongoing expertise and advice to state mitigation programs and state wildlife agencies as requested;
- Participate as a member of the BLM "WAFWA Management Zone Greater Sage-Grouse Conservation Team" or similar regional team;
- Provide, as necessary, any conferencing or consultations which may result from mitigation projects or programs on federal lands;
- Accept and evaluate annual reports from mitigation programs, including evaluation of the effectiveness of any mitigation performed in relation to both sage-grouse and mitigation program functionality monitoring;
- Approval or endorsement of programs that seek to provide pre-listing mitigation credits.

Confidentiality

The Service recognizes that some participants in mitigation programs, especially private land compensatory mitigation providers, may be concerned about potential for public disclosure of their

information through local, state, or federal rules. We recommend that any mitigation program provide for a transparent review process of the entire program and that individual agreement holders be made aware of any potential for information to be publicly disclosed by participation in these programs.

2. Developing Service Areas

Identifying geographic areas where compensatory mitigation can best be located and successfully implemented is critical to ensuring that unavoidable impacts are adequately offset. In traditional mitigation terms this is known as a *service area*, the geographic area within which impacts to species' habitat can be compensated for from impacts in a given area. Service areas are mapped geographies with unique ecological and sometimes political significance. In general, larger service areas provide greater flexibility to exchange credits and debits. Landscape, economic, and regulatory realities inform and constrain decisions on service areas.

The geographic extent of a service area should be guided by the conservation needs of sage-grouse. Populations, as identified in the COT Report, are a recommended starting point. The location of PACS, other key habitats defined in local plans, and the current and potential for future threats to a population should factor strongly into designation and size of service areas. For larger populations, PACs may be a more appropriate scale for services areas so that PACs are kept as strongholds. For small populations, offsets may be most appropriately kept within that population. For small or large populations with positive population trends, offsets may be best directed at connecting habitat. If a particular area is under heavy development pressure, it may be best to focus offsets on an area removed from possible cumulative effects of those impacts. Service areas should reflect these more local population-based conservation needs.

To meet conservation goals and provide flexibility in mitigation programs, secondary service areas may be devised. A secondary service area is a larger area within which mitigation would be acceptable if more preferable options at the primary service area do not exist. Typically, a proximity factor (i.e. additional mitigation in the form of a multiplier or increased mitigation ratio) is added to mitigation going outside the primary service area. These tools can provide for flexibility of trades between service areas while encouraging offsets to stay within certain areas.

Jurisdictional issues should also be considered when developing service areas. Many large-scale development projects cross state and county boundaries. Service areas that span such ecologically invisible boundaries can provide efficiencies and greater conservation benefits for sage-grouse.

The determination of service areas should be defined early in the compensatory mitigation program development process and developed collaboratively with all land ownerships and management agencies. The service area is an important component for third party mitigation providers, who need to evaluate the marketability of their credits. An appropriate mix of public and private lands for compensatory mitigation is essential to implement a landscape approach to mitigation of habitat that is so widely distributed and intermixed. For service areas that are delineated based on jurisdictional or policy considerations, provide justification for the service area boundary.

3. Site Selection, Conservation Actions and Management

Compensatory mitigation may be established on private, public, or tribal lands. Identification of priority areas to place mitigation actions should be integrated among private and public land ownerships. However, maintaining the same classification of land ownership between the impact and mitigation site (e.g. mitigating impacts to private land on other private land) may be important in preventing a long term net loss in conservation to sage-grouse.

A mitigation program should require that all lands being used for compensatory mitigation comply with program goals and objectives for managing habitat for the continued use of sage-grouse for at least the life of the impacts for which the mitigation actions are offsetting.

Minimum requirements for establishment and operation of mitigation areas include:

1. a site-level mitigation agreement which defines the roles and responsibilities of the mitigation provider, the agencies, and any other parties and which, including attachments, provides an operational framework for development, implementation, monitoring, and compliance of the project;
2. real estate assurances that will protect the mitigation area for the designated duration, including restriction of incompatible uses;
3. financial assurances to fund establishment and management of the mitigation area for the designated duration; and
4. a management plan that will provide for the habitat management, monitoring, and continued adaptive management of the mitigation area.

Site-level agreements should include a description of the amount of mitigation (or credits) to be provided, including a brief explanation of the metric used for this determination, and a process for adaptive management that will address uncertainties, including new information and unforeseen and unregulated situations (e.g. weather, fire). Each agreement should identify discrete performance standards, how both ecological and administrative performance standards are to be met, and possible contingencies and consequences for not meeting standards. Monitoring should be designed to validate the effectiveness of the mitigation, answer program questions, contribute to knowledge gaps, and provide data to inform adaptive management decisions.

Compensatory mitigation should target projects in areas providing the greatest benefit and reducing the greatest threats to sage-grouse given jurisdictional and other constraints. States and federal land management agencies have already undertaken considerable efforts to identify and map key habitats necessary to maintain redundant, representative, and resilient populations in the development of their state and federal management plans (i.e. PACs). Additional finer scale planning efforts by states or federal land management agencies may be necessary to determine if other essential habitats exist, particularly for connectivity, range or population expansion opportunities, and flexibility in managing habitat changes that may result from climate change.

Site selection criteria should outline the types of sites that are ecologically suitable for providing the desired habitat conditions and functions. In determining the ecological suitability of the project site, consider the following factors, to the extent practicable:

- physical characteristics of the site;

- landscape-scale features such as habitat diversity, function, and connectivity;
- juxtaposition of the compensatory mitigation site relative to other areas of suitable habitat and ecological features;
- ecological and legal compatibility with adjacent land uses;
- compatibility with existing conservation plans and assessments;
- development trends;
- anticipated land use changes;
- habitat status and trends;
- the relative locations of the impact and compensation sites; and
- local or regional goals for the protection or restoration of particular habitat types or functions.

Efforts to offset unavoidable impacts through compensatory mitigation are most effective if they target the highest priority conservation actions for a population (or at the PAC scale for larger populations). The Service recommends following the broadly identified project types and conservation measures identified in the COT Report, based on local conditions and threats. Measurement of outcomes should be achieved using standard methods that link to sage-grouse population size to improve consistency and efficiencies and demonstrate that actions provide the necessary level of conservation benefit.

At a site-level scale, the mitigation actions taken on a given site should measurably offset impacts (from another site) and programmatically provide a net benefit to sage-grouse at the population or PAC (for larger populations) scale. For example, marking fence line and removing invasive juniper may not provide enough uplift to adequately offset permanent habitat impacts. However, these actions, in combination with other actions, permanent protection, and active management of a site may collectively provide the net benefit. Research and education, although very important to the conservation of sage-grouse, should not be considered for compensatory mitigation as they are not actions that replace actual impacts to the species.

4. Addressing Additionality

Actions proposed as compensatory mitigation, regardless of land ownership, should provide benefits additional to those that would be achieved if the mitigation actions had not taken place. The additional value may result from conservation benefits to sage-grouse associated with restoration or enhancement of habitat, management actions that protect, maintain or create habitat (*e.g.*, fire protection measures, legal and financial site protections), other activities (*e.g.,* reduction of threats from disease or predation), and most likely a combination of all three categories.

Program and Regulatory Considerations: Compensatory actions must comply with all applicable federal, state, and local laws and exceed all existing regulatory or policy obligations associated with the project site. Lands already designated for conservation purposes cannot be used as compensatory mitigation unless the proposed compensatory mitigation project would add additional conservation benefit above and beyond that attainable under the existing land designation. This includes public lands with conservation designations, private lands enrolled in government programs that compensate landowners who permanently protect, restore, or create habitat for sage-grouse, or lands protected by a habitat management agreement with the Service or similar programs. For example, because the Service is mission-committed to species conservation, compensatory mitigation on National Wildlife Refuges is

unlikely to be considered additional. Private lands enrolled in short term sage-grouse related conservation agreements with public entities, such as the Service's Partners for Fish and Wildlife Program or USDA Natural Resources Conservation Service Sage Grouse Initiative (SGI), may be eligible as mitigation lands if additional conservation benefits are provided above and beyond the terms and conditions of the agreement. Mitigation programs may set local program starting points.

Public Funds: Except for projects where federal funding is specifically authorized to provide compensatory mitigation, federally-funded conservation projects undertaken for purposes other than mitigation will not be considered additional. However, compensatory mitigation credits may be generated by activities undertaken in conjunction with, but supplemental to, such programs in order to maximize the overall ecological benefits of the restoration or conservation project (e.g. SGI). Where federal funds have been used in the establishment of a mitigation area, the allocation of credits should be proportionate to the non-federal contribution.

Ecological Considerations: *Credit stacking* occurs when there is more than one resource or credit type on spatially overlapping areas. Stacking of mitigation credits within a mitigation site is allowed, but the stacked credits may not be used to provide mitigation for more than one environmental impact action even if all the resources included in the stacked credit were not needed for that impact action. However, compensatory mitigation projects may be designed to holistically address requirements under multiple programs and authorities for the same action and may use stacked credits to accomplish this goal. For example, a single credit may satisfy compensatory mitigation needs of an impact site where habitat for mule deer and sage-grouse overlap. The processes for use and accounting of stacked credits should be transparent across the entities that regulate the credits.

To ensure ecological benefits are measurably additional, programs should identify when or if it is appropriate to trade impacts to one form of sage-grouse habitat for offsets to another form. For sage-grouse, while *in kind* mitigation for habitat types (e.g. an impact to nesting habitat offset with restoration of nesting habitat functions and values) is preferred, *out of kind* compensatory mitigation for sage-grouse habitat may be appropriate where priority recovery needs can be addressed (e.g. loss of wintering habitat may be offset with brood rearing habitat in areas where the latter is a limiting factor).

Baselines

In order to determine ecological uplift (for mitigation sites) and potential impacts (for development sites), pre-project *baselines* must be assessed. Pre-project baseline refers to the habitat and/or species population conditions at any given point in time against which conservation actions are measured to determine ecological gain or loss. Baseline conditions should be assessed and measured using the same methodology employed to predict future conditions during project planning stages and ultimately to verify project conditions and associated credits during periodic and final monitoring of mitigation sites. The Service strongly recommends that a consistent methodology also be applied to predict impacts to sage-grouse and sage-grouse habitat (*see* Metrics). For mitigation sties, baseline measures should explicitly acknowledge the potential threat of anthropogenic and natural disturbance, as well as the overall landscape resiliency of the site. Baseline methods should be consistently employed across the area covered by the mitigation program, unless variation of conditions and available data justify differences.

The Service has not developed or endorsed any one specific methodology for determining baseline conditions. States and other management entities may find it useful to cooperatively develop, adapt, adopt, or align methods that can be consistently applied across larger landscapes. The methods that will be used for measuring these types of baselines should be determined as part of early mitigation program development. Consider including information about scale (e.g. plan-level, state level), vegetation base layers, existing disturbance layers, lek data, sage-grouse occupied habitat, etc.

Candidate Conservation Agreements

Landowners enrolled in *Candidate Conservation Agreements* (CCAs) or *Candidate Conservation Agreement with Assurances* (CCAAs) can provide compensatory mitigation if the actions related to mitigation are additional to the minimum conservation measures required by the CCA/CCAA. Providing a menu of conservation options for landowners and reducing risk and uncertainty in conservation actions by securing them under mitigation agreements may contribute to an overall positive conservation goal for a species that operates on a landscape scale and for which preservation and management of existing habitat is key to its survival.

In order to tract conservation actions and ensure additionality, conservation measures should be independently accounted for and reported to each respective program. For landowners enrolled in CCAAs that enter either directly into a pre-listing mitigation agreement with the Service or indirectly through a program administrator who has a pre-listing mitigation agreement with the Service, the CCAA permit will be transferred. Both agreements provide regulatory predictability regarding how actions are treated in a status review and, should sage-grouse be listed, assurances that their conservation efforts will not result in future regulatory obligations in excess of those they agreed to at the time they entered into the agreement. The pre-listing agreement would also provide certainty about the ability of credits to be used in a post-listing scenario. Switching from a CCAA to a pre-listing agreement provides clearer accounting from a both program and conservation actions standpoint (to ensure actions are not double-counted).

Mitigation actions managed in perpetuity through mitigation agreements would provide both additionality and durability to the actions provided under often shorter term candidate agreements. The ability to fund additional conservation measures on individual CCA/CCAA properties through mitigation dollars could further guarantee implementation of positive conservation actions By keeping open the ability for those in CCA/CCAAs to later market their additional conservation uplift to others needing to offset unavoidable impacts, more landowners will be encouraged to enroll in candidate agreements now.

5. Demonstrating Effectiveness & Durability

Effectiveness may be compromised when the benefits of compensatory mitigation either do not come to fruition or do not persist for the full duration that is required based on the impact that is intended to be offset. Effective actions or plans proposed as compensatory mitigation will demonstrate timeliness (i.e. achieve targeted biological conditions in a timeframe that benefits sage-grouse), biological effectiveness (i.e. ecological durability), and will be accompanied by durable site protections and financial assurances that secure and protect the conservation status of the mitigation site and credits for at least as long as associated impacts persist. In order to ensure that obligations for compensatory

mitigation are durable, when a project requires compensatory mitigation, the regulating entity should include the compensatory mitigation requirement as one of the conditions in the project's permit or other required authorization.

Duration

The length of time compensatory mitigation actions persist on and influence the landscape should meet or exceed the length of time that projected impacts will negatively affect sage-grouse. Duration includes the time extent of the direct, indirect, and cumulative effects of an impact as well as the time period for an impact site to be fully restored.

Because most impacts typically begin to occur in the early stages of projects (i.e., construction and initial operations) benefits of proposed mitigation actions should accrue before or as early in the life of the project as possible. When the success of compensatory mitigation is demonstrated prior to impacts occurring, ecological risk (due to uncertainty of implementation and time lag) is reduced. These benefits should be verified via standardized monitoring.

On the impact side, the effect to a species may vary widely based on the size, location, quality of habitat affected, temporal nature of the impact, and other factors. Impacts to the species may be generally separated into short term and permanent impacts. Short term impacts are those impacts that have an impact with a known conclusion date, whereby the adverse effects to the species are removed and the result of the impact to the species has been completely remediated through natural or active restorative processes. Short term impacts should be predictable, justified by the current knowledge of the species and its habitat, and be concluded by documentation of the habitat functioning for the species at the same or greater level than before the impact.

Short term impacts are often mitigated through permanent compensation actions, either at the same or a reduced amount of permanent impacts (e.g. a short term impact may require 1 permanent credit as offset where they same impact that is permanent may require 5 credits to fully compensate). This is preferable to limited-term credits given the economies of scale gained from the longer term management and protections of permanent mitigation sites. Potential scenarios where limited-term credits may effectively be used as an offset include: 1) applying higher ratios for limited-term credits; 2) limiting use of limited-term credits within a service area or program to a small percentage of total credits available; 3) use of limited-term credits on restored habitats instead of preserved areas to reduce risk of net loss of intact existing habitat; 4) setting the duration of the offset to include the restoration period of the impacted site plus additional time to recover lost productivity; and 5) using only a portion of limited-term credits in a given area and permanently retiring the rest to address risk and uncertainty. In any situation, the rationale for development of temporary compensation should be biologically justified.

Biological Effectiveness

Compensatory mitigation actions must have a high likelihood of success based on the biophysical setting. Actions should be supported by sound science. Actions that are unproven, especially those where time lags in providing conservation benefits are not adequately addressed, should not be prioritized for compensatory mitigation. However, such unproven actions can be encouraged without causing significant environmental risk by allowing a portion of credit to be released for implementation

of actions, and holding back the majority of credit until defined and observable performance criteria related to habitat quality are achieved (*see* Credit Release Schedules).

Conservation actions are also more likely to be meaningful if they are aggregated. Compensatory mitigation areas are most effective if they are large enough so that they will, either in themselves or in conjunction with adjacent landscape conditions, provide the targeted biological benefits long term. Compensatory mitigation is not effective if it occurs in areas impacted by a development project (i.e. on site), where future development is likely to occur, or in areas where benefits are likely to be reduced over time by incompatible land-uses and surrounding landscape edge effects. Bundling of credits from multiple debit sources may provide more concentrated landscape level conservation benefits.

Potential credit associated with proposed *restoration* and *enhancement* activities should be evaluated on a given site in comparison with both pre-project baseline and projected future condition that would be expected in the absence of the proposed mitigation activity. *Preservation* projects should be evaluated, and credits proportionately assigned, according to the magnitude and likelihood of existing and future threats to the habitat and/or the value of that site to conservation of the species. Crediting for such avoided loss may be acceptable if it reduces primary threats, is discounted according to the likelihood of loss, and includes actions above and beyond closure to development (e.g. permanent conservation easement).

Durability – Site Protection

An ecologically sound compensatory mitigation plan offers limited value if the area may be affected by future disturbance. Durability can be reached with site protections (e.g., real estate-related designations and management plans) and financial protections (e.g., bonding for construction, endowment for management). The Service recognizes that durability is a relative concept and that certain land protection designations are more subject to modifications over time than others, therefore it is important that compensatory mitigation programs clearly define how durability will be addressed across various land ownership types.

A site protection (or real estate) instrument or agreement is a written description of the legal arrangements including ownership, management, and enforcement of any restrictions that will be used to ensure the protection of a compensatory mitigation site, whether the mitigation is placed on federal or nonfederal lands. Real estate instruments most commonly used include conservation easements, deed restrictions, transfer of title, multiparty agreements, contractual documents such as conservation land use agreements, and regulatory mechanisms governing management of federal lands such as federal land management plans. Where possible, a site protection instrument should designate an appropriate third party the right and resources to enforce site protections.

Durability on public lands will require layering of tools available to an individual agency to preclude conflicting uses and assure protection and management of the mitigation uplift commensurate with the scope, scale, and duration of the life of project impacts (including direct, indirect and cumulative impacts). Designations made through land use plans alone will not be adequate to provide durability as they are subject to modification before conservation goals may be met. One or more tools such as right of way grants, withdrawals, conservation easements, cooperative agreements, and contractual documents with thirds parties (e.g. conservation land use agreement or multiparty agreement), in combination with land use plans, can assist in providing durable site protections.

Lands with split estate ownership and laws and policies governing existing rights (e.g. mining laws) may prevent a particular site from meeting the durability test when durable land protection instruments (e.g. permanent conservation easements) cannot be applied. The Service recommends that the risk of using split estate properties be carefully considered in siting compensatory mitigation. Layering several site protection tools or using risk management tools such as pooled *reserve accounts* and *retired credits* can be used to bolster durability on split estate ownership (*see* Reversals).

Written into any instrument or agreement and identified in the administrative and regulatory documents (e.g. NEPA Records of Decision) that enable the original mitigation should be provisions for alternative adequate mitigation if subsequent changes in management direction result in incompatible uses on the land. Site protection instruments should also have written agreement that provides for alternative and adequate mitigation should the site fail.

For any site protection instrument, the following information should be included:

1. express reference to the mitigation program and its purpose to protect a compensatory mitigation site under federal, state, and/or local law
2. survey/legal description and identification of other property rights or interests;
3. baseline description of conservation resources on the site, including any state or federally listed or imperiled species;
4. (preferably) third-party right of enforcement by the regulating agency;
5. amendment and transfer notification requirements;
6. any prohibited and acceptable uses;
7. subordination clause requiring any preexisting easement, liens, or encumbrances to take second priority to the use of the property as a compensatory mitigation site
8. any information required by applicable state or other laws (e.g., conservation easements).

<u>Durability - Financial Protections</u>

The mitigation program should require sufficient financial assurances connected to each compensatory mitigation project to ensure a high level of confidence that the compensatory mitigation will be successfully completed in accordance with applicable performance standards and for the full duration of the project's intended life. To demonstrate stability, adequate funding sources to provide for interim and long-term operation, management, monitoring, enforcement, documentation costs, and contingencies or remediation (if the project fails to meet performance standards) should be identified.

The amount of financing to deliver the mitigation is best determined by an appropriate cost-analysis for all elements of the mitigation, including acquisition, easement, restoration or enhancement, and long-term maintenance. Typical cost estimate components include land purchase price; taxes; site protection instrument; project planning; permits; construction activities; restoration materials; as built surveys; operation and maintenance costs; management, monitoring and reporting activities; reasonably foreseeable remedial actions; contingencies; and legal and administrative costs.

Examples of financial assurances include performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, endowments, and legislatively enacted dedicated funds for government-operated mitigation sites.

In cases where an alternative mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g. a formal, documented commitment from a government agency or public authority) financial assurances may not be necessary or may be reduced.

For any funding vehicle, proper portfolio management is critical to providing sufficient investment growth to keep pace with inflation. Overall success will be determined by establishing appropriate risk and return objectives, asset allocation guidelines and suitable investments for funding, and a framework for ongoing monitoring of investment performance. All funds should be held in dedicated accounts and managed based on agreed-to terms to assure that target ecological conditions will be attained and maintained as necessary. Public agencies are generally limited in their ability to protect long-term funds for being used for other purposes, thus the Service recommends any mitigation funds be held by third parties.

Dedicated funds to maintain and monitor the conservation action will ensure transparency and maximize the potential to attain and maintain ecological durability. The Service recommends that the program specify the conditions under which financial assurances are to be released to any party including, as appropriate, linkage to achievement of performance standards, adaptive management, or compliance with special conditions.

6. Determining Metrics and Accounting Systems

The methodologies, or metrics, used to determine the expected impacts of actions (debits) and the measures necessary to mitigate those impacts (credits) must be based on biological and/or habitat conditions and upon reliable, consistent, and repeatable methods and analysis resulting in a common "currency" between credits and debits. Ultimately, the metrics used must clearly tie back to species conservation.

A formal, consistent, rigorous but relatively simple methodology[3] to assess impacts should be used and applied to all land development activities that impact sage-grouse. The methodology should address direct impacts (habitat removal), indirect impacts and disturbance, potential significant cumulative effects, and ecological site conditions. Metrics that are comparable or the same across jurisdictional boundaries will allow for more biologically meaningful exchanges in a landscape context. Approaches such as distance-based disturbance bands, habitat weighting, and ecological potential are acceptable, especially in conjunction with defined thresholds of allowable impact in defined geographies.

Verification, monitoring, and adaptive management of metrics are important components of mitigation program accounting necessary to ensure success.

- Verification is the process(es) used to confirm that program rules have been followed and provides a standardized process for reporting and monitoring that is needed by agencies that oversee mitigation programs and must certify credits for sale or use. Complete, consistent, and

[3] Refer to *Measuring Up* document submitted to USDA for key considerations when developing robust metrics: http://willamettepartnership.org/measuring-up/Measuring%20Up%20w%20appendices%20final.pdf

accurate verification provides the public and credit buyers with evidence that the mitigation program is in compliance and delivering benefits.

- Monitoring of actions generating credits ensures practices are implemented and maintained and may be necessary throughout the life of the project, though frequency may vary based on the management needs of specific projects (e.g. restoration projects may require more frequent monitoring than preservation projects).
- To adaptively manage metrics, the program should establish clear thresholds to trigger future adjustments and include criteria and processes for making adjustments in a way that will not undermine existing credits or mitigation agreements.

A robust compensatory mitigation program will provide an accounting system[4] whereby credits and debits can be tracked. Registries developed for other environmental markets which function to issue, transact, and retire serialized credits represent current examples of robust accounting mechanisms. The accounting system should foster transparency, accountability, and credibility and facilitate the connections between compensatory mitigation providers at the lowest transaction costs.

7. Managing Risk to Achieve Net Conservation Gain

Predictions about effects and the effectiveness of compensatory mitigation measures carry varying degrees of risk and uncertainty. Programs should target mitigation measures that are expected to achieve a net gain for sage-grouse commensurate with the degree of risk and uncertainty associated with predicted effects. Increasing uncertainty of impacts from climate change means we need new approaches to assess multiple future scenarios, resilience of mitigation plans, to provide for adaptive management, and to ensure risk is properly managed. Overall, reducing uncertainty within a mitigation program increases regulatory predictability. The following risk management tools, in conjunction with site and financial protections, should be considered in a mitigation program.

Adaptive Management: Adaptive management is an iterative approach to decision-making, providing the opportunity to adjust decision in light of learning with an overarching goal of reducing uncertainty over time. Incorporating adaptive management strategies into mitigation area management plans can help to manage risk and uncertainty for any type of mitigation area. Adaptive management processes require establishment of management benchmarks to ensure progress towards goals, protocols to monitor progress related to these benchmarks, and the resources and ability to make adjustments as needed to ensure mitigation objectives are achieved. The adaptive management plan should include triggers for identifying when corrective actions should be taken.

Credit Release: One way to manage risk and uncertainty is by creating release schedules that only allow use of mitigation actions when specific success criteria are met. Success criteria should be designed to identify when risk and uncertainty have been substantially reduced. For third party mitigation sites, the Service recommends providing phased credit releases based on both ecological and administrative performance. A legally binding credit agreement should be in place between any party generating credits and the program administrator. The mitigation agreement should provide a schedule for credit

[4] See Willamette Partnership's *General Crediting Protocol* for an example of an ecosystem credit accounting system.

releases as appropriate milestones are achieved. Failure to meet these milestones should result in suspension of credit release to ensure compliance.

Administrative criteria which may allow for initial credit release could include: site agreement and management plan have been approved, the site has been secured with an appropriate real estate instrument, and appropriate financial assurances have been established. Subsequent credits can be released for meeting ecological milestones (as determined through site monitoring) and financial milestones (e.g. endowments partially funded by portions of each credit sale). The credit release schedule should reserve a significant share of the total credits for release only after full achievement of performance standards.

Ratios: *Mitigation ratios* (trading ratios, multipliers, proximity factors) may be used to address uncertainty or implement policy decisions to ensure net gain. Ratios can enable offset transactions to achieve net benefit for the species by ensuring the credit acquired is functionally greater than the debit.

Ratios may be determined based on several factors including temporal considerations (impact versus mitigation timing), functional quality and importance of proposed impacted areas, projected functional quality of proposed mitigation areas, likelihood of restoration success, degree of threat to proposed preservation areas, durability, etc.

For example, multipliers can be built in to the debiting or crediting side of the metrics to create incentives for avoidance of impacts or preservation of habitat in high priority areas. Reserve ratios or retirement ratios can be used to set aside credits for unexpected events or to permanently retire a proportion of credits, never to be used as offsets, to insure net gain.

However, we must be cautious in the over-use of ratios to make up for limited understanding of sage-grouse habitat restoration and our inability to accurately measure and compare the value of habitat types. Ratios should be reserved for dealing with the true uncertainty of any mitigation program and also for policy-based incentives (e.g. increasing trading ratios for acquiring credits outside an impact's service area). Any mitigation ratio used must be based on sound biological rationale that is easily explained, readily understood, and consistently applied. Documentation and justification for ratio values is important.

Reversals may be caused by natural disturbances (unintentional reversal, such as wildfire) or anthropogenic disturbances (intentional reversal, such as development) which shorten the intended duration of compensatory mitigation. For intentional reversals, the Service recommends compensation by the party responsible for the reversal. To address this issue up front, the Service recommends establishing policies such that intentional reversals are prohibited to the extent possible, and the conservation benefits from a compensatory mitigation project are not diminished due to replacements made necessary by unforeseen intentional reversals.

Requiring the credit provider to be responsible for reversals outside of their control would likely make administration of a program more complex and decrease interest in providing credits. One recommended approach to address unintentional reversals is to establish insurance or a *reserve pool* where the amount of funding each site contributes to the pool is directly related to the amount of risk

(e.g. from fire) of the site not providing habitat in the future. Reserve pools can be established several ways, including:

- The compensatory mitigation program administrator requires that each individual mitigation provider sets aside a percentage of credits in reserve, never to be sold. In the event of an unintentional reversal, the administrator could draw from the pool of credits to make up for the lost conservation.
- An insurance premium, based on the number of credits sought and the likelihood of unintentional reversal (i.e. a natural disturbance that may lead to loss of habitat function), is added to the cost of compensatory mitigation for the debits requested. The insurance premium would then be used to generate additional compensatory mitigation projects that generate credits for the insurance pool. In the event of an unintentional reversal that generates unintentional debits, the compensatory mitigation program administrator would draw down credits from the pool to offset the debits.

CONCLUSION

The Service's primary goal for any sage-grouse compensatory mitigation program is to support conservation of the species by working with others in managing threats, protecting populations, and reversing declines. Implementation of robust and transparent compensatory mitigation programs and processes could contribute to reducing the need to list the species or simplify the effects of a listing and allow for well-sited actions that participate in the mitigation program to move forward smoothly. This will take a collaborative, unified approach between all stakeholders.

If we are able to work together on landscape scale mitigation strategies for sage-grouse, we anticipate many benefits to accrue, including a streamlined permit process, increased public transparency and confidence, increased economic incentives and opportunities for landowners, and legal and scientific defensibility for actions taken under such strategies. Most importantly, we can reduce threats to the species in a manner consistent with the socio-economic needs of the local communities and states where sage- grouse occur.

APPENDIX 1

GLOSSARY

Note: The Service does not have formal definitions for a majority of these terms. Definitions were derived from existing policy and guidance where available but modified for the purposes of this document.

Additionality - A property of compensatory mitigation where the conservation outcomes are demonstrably above and beyond results that would have occurred if the mitigation had not taken place.

Baseline – the pre-existing condition of a defined area that can be quantified by an appropriate metric or metrics to determine the level of function or value and re-measured at a later time to determine if the same area has increased, decreased, or maintained the same level of function or value.

Candidate Conservation Agreement (CCA) – a formal agreement between the USFWS and one or more Federal or non-Federal parties to address the conservation needs of proposed or candidate species, or species likely to become candidates for listing under the Endangered Species Act, in which participants voluntarily commit to implementing specific actions that will help remove or reduce the threats to these species.

Candidate Conservation Agreement with Assurances (CCAA) – a formal agreement between the USFWS or NMFS and one or more non-Federal parties who voluntarily agree to manage their lands or waters to remove threats to candidate or proposed species and in exchange receive assurances that their conservation efforts will not result in future regulatory obligations in excess of those they agreed to at the time they entered into the Agreement.

Conservation Bank- a site or suite of sites established under a Conservation Bank Agreement that provides ecological functions and services expressed as credits that are conserved and managed in perpetuity for specified evaluation species and used to offset impacts occurring elsewhere to the same evaluation species. The establishment, operation, and use of a conservation bank requires a conservation bank agreement between the Service and the bank sponsor (USFWS – 2003 Conservation Banking Guidance). Ensuring that the required compensatory mitigation activities are completed and successful is the responsibility of the bank sponsor. The permittee transfers their liability for success of the mitigation to the bank sponsor through the transfer of credits. Conservation banks generally provide mitigation in advance of impacts.

Conservation Bank Agreement (CBA) - the legal document for the establishment, operation and use of a conservation bank. At a minimum, the USFWS and a bank sponsor (the individual or entity in charge of establishment and operation of a conservation bank) enter in to a CBA. This document may also be referred to as a Mitigation Bank Instrument (MBI), Conservation Bank Instrument (CBI), Conservation Bank Enabling Instrument (CBEI), or Bank Enabling Instrument (BEI).

Compensatory Mitigation (Offset) - the preservation, enhancement, restoration and/or establishment of a resource to compensate for or offset unavoidable adverse impacts to the resource elsewhere.

Credit - a defined unit of trade representing the accrual or attainment of functions or value at a compensatory mitigation site. For example, a credit may be expressed as a measure of surface area (e.g., an acre or hectare), linear distance, number of individuals, stage of maturity of a particular habitat type, or other appropriate metric that can be consistently quantified and traded.

Debit - a defined unit of trade representing the loss of resource functions or value at an impact or project site. The unit of measure should be the same as that for a credit within a specific mitigation system.

Durability - ability for mitigation measures to be effective at least as long as the impacts those measures are designed to offset. Durability is often addressed through legal, financial and management mechanisms.

Enhancement – manipulation of existing habitat to heighten, intensify, or improve a specific resource function(s). Enhancement results in a gain of selected resource function(s).

Habitat Credit Trading Systems (Habitat Credit Exchange) - A market-based system that facilitates the exchange between interested parties of credits that represent habitat that has been restored, enhanced, established, preserved or otherwise conserved for the purpose of offsetting losses of at-risk species habitat, habitat function, or habitat value elsewhere with the goal of achieving net species conservation benefits.

Incidental Take – take of listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity. Incidental take is prohibited under the Endangered Species Act and its implementing regulations, but may be authorized pursuant to section 7 or 10 of the Endangered Species Act.

In-lieu Fee - a site established as part of an in-lieu fee program that provides ecological functions and services expressed as credits that are conserved and managed in perpetuity for specified evaluation species and are used to offset impacts occurring elsewhere to the same evaluation species. In-lieu fee programs are sponsored by government agencies or environmental not-for-profit organizations that collect funds that are used to establish in-lieu fee sites. The establishment, operation, and use of an in-lieu fee program requires an agreement between the regulating agency and the in-lieu fee sponsor. Responsibility for ensuring that the required compensatory mitigation activities are completed and successful is transferred from the permittee to the in-lieu fee program sponsor through the transfer of credits. In-lieu fee programs generally do not provide mitigation in advance of impacts.

In Kind – (for sage-grouse) habitat of a similar structural and functional type to the habitat impacted.

Landscape-scale – for the purposes of this document, a landscape is defined as a large area encompassing an interacting mosaic of ecosystems and human systems that is characterized by a set of common management concerns.

Net Conservation Gain - the actual benefit or gain above baseline conditions, after deductions for impacts, in habitat function or value to species covered by a mitigation program.

No Net Loss - impacts caused by the project are balanced or outweighed by measures taken to avoid and minimize the project's impacts and compensate (offset) any residual impacts so that no loss remains.

Off Site an area that is neither located on the same parcel of land as the impact site, nor on a parcel of land contiguous to the parcel containing the impact site.

Out of Kind – (for sage-grouse) habitat of a different structural and functional type from the impacted.

Permittee Responsible Mitigation - a permanently conserved and managed mitigation site that provides ecological functions and services established as part of the conservation measures associated with a permittee' s action and that meets the mitigation standards set in this policy. The permittee retains

responsibility for ensuring that the required compensatory mitigation activities are completed and successful. Permittee-responsible compensatory mitigation may be on-site or off-site, and each permittee-responsible mitigation site is linked to the specific activity that required the offset. Permittee-responsible mitigation approved for a specific action is not transferable and cannot be used for other mitigation needs.

Priority Areas for Conservation (PACs) - key areas that states have identified as crucial to ensure adequate representation, redundancy, and resiliency for conservation of its associated population or populations of greater sage-grouse.

Performance Standards - observable or measurable physical, chemical, or biological attributes that are used to determine if a compensatory mitigation project meets the agreed upon objectives.

Preservation – maintenance or retention of existing habitat with specific resource function(s) for covered species. This term usually implies legal protection of existing and functioning habitat, for example a parcel of land protected under a conservation easement.

Pre-listing Mitigation - conservation measures undertaken to benefit a non-federally listed species provided that such measures: 1) are undertaken prior to the determination that the species to be benefited is a federally endangered or threatened species, 2) are not required by any federal, state, or local law, regulation, condition of a permit, or similar legal requirement, and 3) are part of a Service-approved program.

Mitigation Ratio - the relationship between compensatory offset for, and impacts to, individuals of species or habitat for species.

Reserve Account (Pool) - a pool of issued credits, managed by the Program Administrator, intended to cover risks in the market from intentional or unintentional reversals.

Restoration – returning a site to its natural/historic habitat type with the same or similar functions.

Retired Credits (retirement ratio) – proportion of credits set aside not ever to be used as compensatory mitigation.

Reversal – compensatory mitigation that does not persist for the full duration due to unplanned circumstances, whether through natural or man-made intentional or unintentional causes.

Service Area - the geographic area within which impacts to covered species' habitat can be offset at a particular habitat offset site as designated in an agreement or program; specific to third party mitigation, the geographic area within which habitat credit trading occurs.

Stacking (Credit Stacking) - generating multiple mitigation credit types on the same parcel of land

Split Estate - surface rights and subsurface rights (such as the rights to develop minerals) for a piece of land are owned by different parties.

APPENDIX 2

QUESTIONS GUIDE

*These questions, in conjunction with the principles, standards, and program elements outlined in the Framework, are intended to guide development of individual sage-grouse mitigation program*s.

I. MITIGATION PROGRAM GOALS AND OBJECTIVES

1. How does the mitigation program aim to avoid impacts to sage-grouse and achieve a net conservation gain by mitigating for unavoidable impacts to sage-grouse across all habitats? At what scale(s) will this be measured?
2. How does the mitigation program address equitability (i.e. how will the mitigation hierarchy be applied across impact types and land ownerships in an equitable manner)?
3. What are other basic objectives of the program (e.g. implementable regardless of listing, cover other resources)?

II. COVERED ACTIVITIES

1. How are sage-grouse habitat classifications defined for the covered area (e.g., core, low density, occupied habitat, seasonal)?
2. Will any sage-grouse habitat type not be included in the mitigation program (and why)?
3. How will the program account for non-surveyed and/or unclassified habitats?
4. Will any other regulated resources be covered by the program (e.g. big game winter range, Bald and Golden Eagle Act, wetlands/Clean Water Act, etc.)?
5. What types of development activities will be covered?
6. What existing regulatory mechanisms relate to covered activities (e.g. permit requirements)?
7. Which development activities have been identified as threats to sage-grouse (e.g. see 2013 COT Report)?
8. How much demand for compensatory mitigation are development activities expected to create?
9. Does there need to be a process to include other development activities in the future?

III. MITIGATION PROGRAM GOVERNANCE

1. Is the program a stand-alone state-managed effort, or a jointly managed effort between state, federal, tribal and/or other agencies?
2. Who is in charge of administering different parts of the mitigation program?
3. What mechanism (agreement, legislation, etc.) identifies the responsible parties for managing the mitigation program?
4. How are relationships among different agencies and stakeholders managed?
5. How will the program operations be funded?
6. What compensatory mitigation transaction models will be supported (e.g. conservation banking, permittee-sponsored mitigation, credit exchange, fee-in-lieu)?
7. How will any compensatory mitigation funds be managed and by whom?

8. What trigger points can be identified that would indicate that changes to the program are needed and how will changes be implemented?
9. Is the mitigation program transparent and does it inform participants of the potential for information to be publicly disclosed by participation in these programs"?
10. How will information on impacts, offsets, and any credit trading be tracked?
11. How are the results reported to the Service or others?
12. Will the Service play a role in any part of the program (development, review, etc)?
13. Will pre-listing mitigation (for potential use in a post-listing scenario) be part of the program and if so, what will the agreement with the Service look like?
14. How will the program provide for coordination across jurisdictions (including, across states)?

IV. Mitigation Hierarchy

A. Avoiding Impacts

1. What triggers review and entry into the mitigation hierarchy process?
2. Are there any avoidance or exclusion areas (e.g. NSO, lek buffers, etc.)?
3. What measures are used to determine if habitat is avoided? Do they include direct and/or indirect impact measures?
4. What criteria or regulatory mechanisms are used to emphasize, require, and/or enforce avoidance? Specifically, what compliance measures are in place to ensure avoidance (e.g. permit denial)?
5. Is there a cap on disturbance, and at what scale and in which sage-grouse habitat types does it apply? Does it include direct and/or indirect impacts? What are the data source and methods?

B. Minimizing Impacts

1. Under what circumstances will minimization measures be employed?
2. What practices can developers use to minimize impacts?
3. What criteria or regulatory mechanisms are used to require and/or enforce minimization? Specifically, what compliance measures are in place to ensure impacts are minimized (e.g. permit denial)?
4. How are minimization measures monitored and are there triggers for adaptive management?

C. Rectifying/Restoring Impacts

1. Is there an identified timeframe that rectification must occur?
2. How will the time lag between impact and rectification be offset?
3. What baseline will be used to determine whether rectification has occurred?
4. How are rectification measures monitored?
5. If rectification measures are not adequate who enforces compliance?
6. Who verifies that rectification is complete and adequate?

D. Compensating (Offsetting) for Unavoidable, Residual Impacts

a) <u>Impact (Debit) Assessment</u>

- How should impacts generally be measured, in other words, what constitutes a "debit" (e.g. functional acres, acres, number of birds)?
- Will habitat measures take in to account rarity, vulnerability, or conservation priority?
- Will impact assessments take in to account duration (i.e. temporary versus permanent impacts)?
- From what baseline will impacts be calculated (e.g. current condition)?
- How will the impact assessment method address direct impacts, indirect impacts, and cumulative effects?
- Who can measure impacts? Will these calculations be verified?

b) Offset (Credit) Assessment

1. How should offsets generally be measured, in other words, what constitutes a "credit"(e.g. functional acres, acres, number of birds)?
2. From what baseline will offsets be calculated? In other words, are credits awarded on the difference between current and future condition (emphasizes enhancement and restoration), or just on future condition (emphasizes preservation), or on future condition with a minimum enhancement requirement?
3. How will risk and uncertainty of restoration and management factor into offset calculations?
4. How will duration of impacts (e.g. temporary versus permanent) factor into offset calculations?
5. Who can measure offsets? Will these calculations be verified?

c) Impact to Offset (Debit to Credit) Relationship

1. Will the quantification methods (metrics) for debits and credits be the same? If not, why?
2. How will the outcomes of the debit and credit metrics combine into a credit quantity to ensure that impacts are offset such that there is a net gain to sage-grouse (e.g. via ratios, multipliers)?
3. How will the timing of mitigation implementation (e.g. in advance of, concurrent with, or subsequent to impacts) factor into offset calculations (e.g. with ratios, caps on actions that result in time lags in critical areas, etc.)?
4. Under what circumstances would demonstration of functional mitigation in advance of impacts be required?
5. What criteria will be used to determine when in-kind or out-of-kind mitigation for habitat types (e.g. brood rearing, wintering, nesting) is more appropriate?
6. What process is in place to adaptively manage the metrics?
7. What process is in place to approve new metrics?
8. How are service areas defined?
9. Will there be a mechanism to allow for trades to occur outside of service areas?
10. What mechanisms are in place to provide for or use credit available in other programs or states?

d) Criteria for Compensatory Mitigation (Offset) Projects

1. What criteria are used for locating and prioritizing sites for compensatory mitigation?
2. Is there a preference for compensatory mitigation on a particular land ownership type (e.g. public, private) and why?
3. What pre-conditions must a site meet before being able to provide mitigation credits?
4. Will there be a minimum number of credits or site functionality before any credits are released?
5. How do other agreements (e.g. CCA, CCAA, SGI) affect eligibility to sell credits?

6. What constitutes on site versus *off site* mitigation, and when is onsite mitigation preferred to off site?
7. Does less than permanent protection count? If yes, how?
8. What is the process when impacts are proposed near or on compensatory mitigation sites?
9. Is credit provided for avoided loss? Under what circumstances?
10. What constitutes additionality (e.g., above and beyond legal requirements, above business as usual, etc.)? Does this differ by land ownership and if so, why?
11. What are the mechanisms for ensuring durability of protection on various land ownership types? How are split estates handled?
12. What conservation types (e.g., preservation, enhancement action, etc.?) and actions (e.g. juniper removal, fence marking) can generate credits?
13. How will preservation or restoration effect timing of the release of credits? Are credits released up front or based on administrative or ecological performance standards?
14. Who verifies credits (e.g., permitting agencies, third parties, etc.)?
15. Who approves the final mitigation instrument for a site and certifies release of credits?
16. How do you ensure that the credits represent the right conservation in the right locations?
17. What role, if any, can public funds or restricted conservation dollars play in mitigation (e.g., Farm Bill dollars)?
18. Can other resources be stacked (e.g. carbon, wetlands)?
19. How will ongoing stewardship be ensured (e.g., proof of endowment or maintenance funds, when funds should be set aside, designation of a steward, qualifications of a steward)?
20. For each eligible conservation practice, what criteria will make sure it's implemented and maintained correctly?
21. What performance standards and monitoring techniques/durations will be applied at mitigation sites? Will there be standardized defaults, or will everything be site-specific?
22. What happens if performance standards are not being met either because of force majeure or things within a credit developer's control? Specifically, how will wild fire be addressed?
23. What content needs to be in the monitoring reports and how often and to who are they submitted?
24. What constitutes success? Does it include presence of the species?