

Greater Sage-Grouse Range-Wide Compensatory Mitigation Framework

On March 23, 2010, the U. S. Fish and Wildlife Service (Service) determined that the Greater Sage-Grouse (*Centrocercus urophasianus*) warranted the protections of the Endangered Species Act of 1973, as amended, 1531 et seq. (ESA). The 2010 Finding determined that the Greater sage-grouse (hereafter, sage-grouse) was warranted for listing 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.

Currently, many states and conservation groups are developing conservation and mitigation programs to address inadequacies in local regulatory mechanisms to protect sage-grouse from potential impacts of development actions. The Service will evaluate the efficacy of mitigation programs through two different lenses: 1) when assessing the status of the sage-grouse and the overall conservation value of mitigation programs; and 2) with regard to the use of pre-listing conservation actions to serve as mitigation for future development should the species become listed (**advance credit acquisition**).

Recognizing that state wildlife agencies have management expertise and management authority for sage-grouse and given the variability in ecological conditions across the range of the species, this document outlines the Service’s conceptual recommendations to assist states and stakeholders in deciding how to implement a **compensatory mitigation** program, optimize conservation value to the species, and provide relevant information the Service can use when evaluating mitigation programs.

Background

In 2012 a Sage-Grouse Task Force was created and directed to develop recommendations on how to best advance a coordinated, multi-state, range-wide effort to conserve the sage-grouse. Recognizing the management expertise and authority the states have for sage-grouse, a Conservation Objectives Team (COT) of state and Service representatives was created to identify conservation objectives to ensure the long-term viability of the species range-wide. The February 2013 Greater Sage-grouse Conservation Objectives: Final Report (COT Report¹) was the outcome of the team’s efforts. Following up on the Task Forces goal to advance conservation of sage-grouse range-wide, the Service established an internal Mitigation Technical Team (MTT) in early 2013. The charge for the MTT was to develop a range-wide mitigation strategy and a menu of turnkey mitigation opportunities for developers, such as energy producers, whose activities in sagebrush habitat may adversely affect sage-grouse.

This document is the result of that effort. The recommendations provided here are consistent with the information and conservation objectives provided in the COT Report, which urges an avoidance first strategy for potential impacts to Priority Areas for Conservation (PACs) and other important habitat to sage-grouse. Appendix 1 provides overarching goals and standards for any mitigation program. When complete impact avoidance is not possible, meaningful minimization, rectification, and compensatory mitigation for remaining unavoidable impacts is recommended. The foundational elements of mitigation in Appendix 1 will also form the basis by which the Service evaluates the relative value of different mitigation programs across the range for the sage-grouse.

¹<http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf>

Compensatory Mitigation Program Elements

When avoidance and minimization of impacts to sage-grouse are insufficient to prevent a net loss to the species, and these disturbances are unavoidable, project developers may offset their impact (a **debit** to be mitigated) through identified eligible conservation actions (**credits** that mitigate debits). Employing offsets, or compensatory mitigation, within an overall mitigation program requires a consistent set of rules to be successful.

Demand for a compensatory mitigation program may originate from regulatory, risk management, market speculation, or philanthropic drivers. State or local regulatory policy may require mitigation for proposed or existing disturbances. The potential for future regulation can also be a driver. Developers, especially those in the energy industry, have expressed interest in advance credit acquisition. By securing credits early, future impacts for as yet to-be-determined activities may be covered by present conservation actions.

The following list provides recommendations for specific elements to consider, in addition to the goals and standards listed in Appendix 1, when developing a mitigation program with a compensatory mitigation component.

1. Types of Development

→ Develop a table that shows major development sectors and activities by state that may impact sage-grouse, preferably ranked by degree of potential direct and indirect impacts to the species. Describe the process that would be used to refine each state's table.

A mitigation program should clearly identify the types of developments that will be addressed, and the avoidance, minimization, and restoration standards for addressing each phase of an existing development (i.e., addressing ongoing indirect effects) or new development (i.e., design standards to avoid highest priority habitat; minimization measures applied during construction). Assuming these avoidance and minimization standards are consistently applied to ongoing and new development projects, and result in limited impacts to the highest quality and types of sage-grouse habitat, the mitigation program then should describe an impact assessment methodology that will be applied to assess a development project's remaining direct and indirect effects to sage-grouse and habitat over the life of a development's effects, and quantify the potential direct and indirect impact "debits" that likely accrue from each of the specific development types.

Based on the main threats identified in the COT Report, the following types of developments likely will cause direct and indirect to sage-grouse and its habitats, and therefore should be addressed within each sage-grouse mitigation program: Energy Development; Agricultural Conversions; Mining; Ex-urban Development; and Infrastructure. The COT Report provides initial guidance on impact avoidance, minimization, and mitigation for each of these development activities that should be applied in the mitigation program.

Several of these development types will have different sectors (e.g., energy development may include oil and gas, wind, and geothermal developments) that may cause different direct and indirect effects to

sage-grouse. Additionally, each development sector may have different associated activities (e.g., a new wind development will likely have upgraded or new roads and a new transmission line) that may cause different direct and indirect effects. As appropriate, these different development project sectors and/or activities may necessitate the mitigation program to define different avoidance and minimization measures and different impact assessment methods to determine offsets for unavoidable impacts. The mitigation program should provide additional focus on development actions with higher likelihood of larger scale, higher intensity adverse impacts.

As a first step in developing a mitigation program, the Service recommends identifying the major development sectors and associated activities that may impact sage-grouse in the area that the mitigation program covers (see Table xx as a partial example). Note the type of impact by activity, the specific impact to the bird (e.g. removal of wintering habitat, lek disturbance), and the relative rank (as indicated by number or descriptors such as “high, medium, low”) of potential impact.

Table xx.

Development Type	Activity	Direct & Indirect Effects	Qualitative Impact Rank
Oil and Gas	Development of roads, pads, storage areas, pipelines, etc.	Habitat Removal (all types) and Fragmentation	High
	Project- and public-related road use on upgraded and new roads	Disturbance and Displacement	Low
	Noise, lighting and anthropogenic activities at above-ground development features	Disturbance and Displacement	High
	Power lines to and from well sites	Habitat Removal (all types), displacement, increased predation	Low
Wind			

2. Federal/State/Tribal/Local Regulatory Mechanisms

→ Based on the major threats to greater sage-grouse in your state as identified in the COT Report, identify existing authorities and processes currently used by agencies to permit major development project types. Note where there is overlap and where efficiencies can be realized in a short timeframe.

States hold the primary responsibilities for the protection and management of non-federally listed species such as sage-grouse. State laws and regulations impact the species in three main ways: 1) they provide specific authority for conservation activities over lands which are state-owned, 2) they provide broad authority to regulate and protect wildlife on all lands within their borders, and 3) they provide an indirect mechanism for conservation through the regulation of threats to the species (e.g., invasive plants).

The combination of increased energy and other natural resource development and a lack of regulatory mechanisms to responsibly site development to avoid impacts and adequately mitigate for unavoidable impacts is a pressing issue for sage-grouse conservation and was cited as a major factor in the 2010 Finding. The Service recognizes that federal, state and local laws vary across the landscape. However, when determining the adequacy of regulatory mechanisms, those that alleviate threats and can show certainty in doing so for the long term are better. Regulatory mechanisms are the strongest and most consistent drivers of supply for mitigation programs, as they are mandatory and not voluntary. Discretionary measures by the BLM and state conservation agencies will have a significant impact on development in sage-grouse habitat and therefore a significant impact on the future of conservation of the species.

The Service recommends clearly identifying the regulatory mechanisms for siting and permitting for each major development types that impact sage-grouse (as noted in the exercise above). Note where environmental review is triggered for each development and land ownership type (specific to sage-grouse) and how that review may result in avoidance, minimization and mitigation recommendations. Also identify any plans, guidance, policy, or legislation that protects or conserves sage-grouse or habitat. Identify deficiencies where regulatory mechanisms do not adequately protect sage-grouse.

Internal Considerations: *Should we rank” the strength or preference for these mechanisms? For example:*

The Service views the following regulatory mechanisms from strongest to most conservative: legislation, executive order, memorandum of agreement...

3. Regulatory Predictability with Respect to ESA

→Develop a list of ways the Service could provide regulatory certainty for both purchasers and suppliers of mitigation. Include conditions needed for the Service to be comfortable allowing crediting for actions to provide benefits in the future (advance credit acquisition).

Both the purchasers and suppliers of compensatory mitigation may wish to receive regulatory predictability from the Service that their actions contribute to precluding the need to list sage-grouse. In addition, suppliers of compensatory mitigation credits may seek to receive regulatory predictability that, should the species become federally listed, the management they agreed to in order to provide credits would not change and incidental take coverage would be provided for these previously agreed upon management actions. Developers may seek regulatory certainty from the Service that mitigation they implement or acquire in advance will “count” if a listing should occur and potentially provide them with incidental take coverage commensurate with the level of offset that they have purchased or developed.

In order to be considered favorably in precluding the need to list the species, any program must clearly show how it directly reduces the imminence, intensity, or magnitude of threats or indirectly reduces or eliminates threats through regulatory mechanisms (*Policy Point – is this correct language?*). For conservation programs in early stages of implementation, the Service evaluates efforts according to the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE policy) to determine if it provides certainty of implementation and effectiveness and thereby improves the status of the species such that it does not meet the ESA’s definition of a threatened or endangered species.

A program that utilizes advanced credit acquisitions, designed to lock in the credit value at the time of acquisition well in advance of a proposed development, could be a major market driver for a compensatory mitigation program. In the case of a listing, the Service would assess full impacts at the time the development is planned and implemented. This may result in either an overage or shortage of advanced credits needed to fully mitigate those impacts.

If a species is proposed for listing, robust mitigation programs implemented before listing provide many benefits. Most importantly, the program will be contributing to conservation and recovery. In addition, program participants may benefit from relaxation of normal ESA restrictions (*Policy Point – is this correct language?*). For example, under section 4(d) of the ESA the Service may propose a special rule to allow for take incidental to activities conducted pursuant to a conservation program that has been determined by the Service to provide a net conservation benefit.

For mitigation providers, existing tools such as Candidate Conservation Agreements with Assurances (CCAAs), Habitat Conservation Plans (HCPs), or Conservation Banking Agreements may be ideal vehicles to provide regulatory predictability to both the Service and the agreement holders. Programmatic agreements between the Service and mitigation program administrators (e.g. state agencies, others), which step down coverage to individual mitigation providers, may also be adequate. From the development side, regulatory predictability may come through NEPA, consultation with the Service (e.g. resulting in a conference opinion), or through a programmatic agreement.

4. Governance and Administration

→Describe the range of possibilities for program administration and agreement types that the Service finds acceptable.

A program administered by an entity with enforcing authority for the establishment, operation and management of mitigation lands will increase the Service's confidence that conservation benefits from compensatory mitigation will persist. The administrator(s) must have the ability to reconcile funding (e.g. separately manage, collect, distribute funds), perform or enforce management actions, incorporate adaptive management, track credits, report results, etc. An agreement developed with stakeholders, including major land managers such as the BLM, and signed by the Service, will be strongest.

While technically any entity with capacity to perform these functions can govern a mitigation program, the Service recognizes that state agencies are positioned to execute more of these duties and also have a direct connection to the regulatory drivers that require compensatory mitigation. In lieu of a mitigation program being governed by a state agency, approval by the state is recommended. (*BLM regional mitigation plans language?*)

A legally binding agreement with offset providers will increase the Service's confidence that conservation benefits from compensatory mitigation will persist. Agreements can demonstrate durability of a mitigation program. Agreements do not have to be directly with the Service, especially for individual agreements in a programmatic setting, though a Service agreement with the program administrator is strongest. Compliance and performance of any agreement the Service is party to will be verified by the Service through regular monitoring and reporting.

Conservation banking agreements² with the Service have a proven track record of implementation and represent a familiar and durable type of mitigation program. Conservation banking, however, may not be a feasible option in all situations. For example, conservation banks are traditionally protected by permanent conservation easements and are not located on public land. While some deviations may be needed to develop a commercially viable and biologically relevant sage-grouse mitigation program, the closer the elements in a mitigation program line up with those in conservation banking, the more likely the program is provide certainty of implementation and effectiveness in improving the status of the species such that a listing may not be warranted.

All mitigation lands should have an active management plan that includes goals and objectives specific to maintaining the habitat for the continued use of sage-grouse for the life of mitigation credits. Each plan should also identify performance standards, which are measurable attributes used to determine if the management plan meets the agreed upon goals and objectives, and address uncertainties. Monitoring should be designed to contribute to knowledge gaps and improve the program. Provisions to require existing participants to adopt improved conservation strategies in the future would strengthen the program.

The mitigation program must identify an adequate funding source to provide for interim and long-term operation, management, monitoring, and documentation costs. The recommended vehicle for long-term funding is a non-wasting management endowment (i.e., a fund that generates enough interest each year to cover the costs of the yearly management).

The Service recognizes that some participants in voluntary agreements, whether directly with the Service or indirectly through a program administer, may object to potential for public disclosure of their information. However, the Service must be able to evaluate individual actions to properly assess the effectiveness in the program in adequately reducing threats the species. The Service therefore recommends that any mitigation program provide for a transparent review process of the entire program and that individual agreement holders are clear about the process.

5. Scope/Service Area

→ Describe the recommended considerations to use when identifying mitigation service areas where eligible conservation project types may be implemented.

Identifying priority areas where offsets can and should be focused is key to ensuring that unavoidable impacts are adequately offset by mitigation. In traditional mitigation terms, this is known as a **service area**, the geographic area within which impacts to species' habitat can be offset at a particular site. In general, larger service areas provide more flexibility to conduct trades and thus are more commercially viable. However, it may not be in the best interest of the sage-grouse to offset impacts to one population in another population some distance away. Landscape, economic, and regulatory realities will inform and constrain decisions on service areas.

² **Internal consideration:** *Should we provide an appendix describing the elements specific to conservation banks, in lieu programs and general habitat credit trading programs?*

States have already undertaken considerable efforts to identify and map key habitats necessary for sage-grouse conservation in the development of their state management plans. These areas are also broadly identified in the COT report as PACs - key areas across the landscape necessary to maintain redundant, representative, and resilient populations. Generally, compensatory sage-grouse mitigation efforts should be targeted in PACs and other essential habitats to the extent possible followed by general sage-grouse habitats (particularly those adjacent to PACs and/or with high potential to facilitate connectivity). Local sage-grouse population considerations should factor strongly into mitigation siting decisions; 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, population expansion opportunities, and flexibility in managing habitat changes that may result from climate change.

Jurisdictional issues must also be addressed. Many large-scale development projects cross state and county boundaries. Where offset programs line up across jurisdictions, efficiencies can be realized. The BLM, for example, is taking a regional approach to mitigation with its 2013 draft MS-1794 policy which focuses on attaining the highest mitigation benefit, regardless of land ownership. Bundling of credits from multiple debit sources may provide more concentrated conservation benefits on the landscape. If policy requires that offsets occur locally, and local opportunities are limited or do not fit well into a given sage-grouse conservation strategy, higher mitigation ratios may be used to compensate for spatial deficiencies.

The Service recommends working with stakeholders such as the BLM to clearly define service areas early in the mitigation program development process. The geographic extent of a service area should be guided by the COT report and recent state sage-grouse conservation plans. PACs should be used as a starting point. Justification should be provided for service areas that include jurisdictional or policy considerations.

6. Eligible Offset Project Types and Conservation Measures

→ Using the COT Report as a guide, describe the process to be used to identify and rank by preference eligible project types and conservation measures.

CONTEXT for this internal version of the framework: *The Service wants to encourage compensatory mitigation that will maximize the benefit to sage-grouse. Actions that might provide limited benefit to individual sage-grouse but that are not identified in the COT Report and also listed in the framework will not be considered compensatory mitigation. A process to add eligible offset project types should be developed to allow for inclusion of new high impact actions that are developed. The Eligible Project List will shape and drive the development of suggestions for Baseline and Additionality.*

This is an initial draft with broad categories and preliminary, in no way yet comprehensive, examples (next draft will provide more detail). The list of project examples and ranking would need to be vetted by experts prior to sharing with audiences outside the Service. The Service will develop and rank in priority order eligible projects types at the range wide scale. Compensatory mitigation programs would be encouraged to use the eligible project type list and rank the eligible project types based on threats identified in the COT Report for each PAC. Offset projects should address select conservation objectives

identified in the COT Report and also meet the test for additionality (i.e. actions proposed as mitigation must provide benefits beyond those that would be achieved anyway under applicable regulations and/or land-use management plans).

Inside PACs

- Targeted habitat management (actions that help retain habitat) or habitat restoration (*not in priority order now, but it will be later*)
 - improve grazing systems so that they are consistent with the ecological conditions that maintain or restore healthy sagebrush shrub and native perennial grass and forb communities and conserve the essential habitat components for sage-grouse. Proper functioning Conditions (PFCs) for riparian; Rangeland Health Standards (RHS) for uplands
 - Reduce the likelihood of catastrophic wildfire
 - Cheatgrass control
 - Where habitat in PAC is lost to catastrophic events
 - Restoration of areas adjacent to burned habitat
 - Restoration of degraded habitat in PACs
 - Prioritized use of mechanical treatments for removing pinyon and/or juniper infill (Phase I or II)
 - Reduce phase I and II juniper cover to less than 5%, but preferably eliminate entirely
 - Remove or modify range management structures that are contributing to negative impacts
- Avoided threats
 - Fee title purchases so that property can be managed for sage-grouse
 - Conservation easements that reduce threats that are identified for the PAC

Outside of PACs

- Conservation Easements
 - Buffering PACs
 - to increase connectivity between PACs
- Targeted habitat restoration
 - to increase connectivity between PACs
 - Buffering PACs
 - Expand opportunities for recovery areas for sage-grouse

Indirect Greater Sage-Grouse Benefits

- Address shortage of locally-adapted seed and storage capabilities
- Monitor and control invasive vegetation post-wildfire
- Research that improves restoration or understanding of limiting seasonal habitats for the population, or improves our understanding the underlying mechanisms of know threats to the species such that future project impacts can be avoided or minimized in the future (e.g. transmission line research).

*If an insurance pool is the approach used to address unintentional reversals, only project types that directly provide conservation benefit should be eligible for the pool.

**Actions that require very lengthy time lags shouldn't be prioritized for mitigation. Out of kind compensatory mitigation may be appropriate in some cases if rationalized through quantitative analysis

(e.g. development of nesting habitat to replace loss of wintering habitat where nesting habitat is a limiting condition).

7. Additionality

→ Develop a list of concrete examples of how additionality could be measured or judged.

Actions proposed as mitigation must provide benefits beyond those that would be achieved anyway under applicable (non-mitigation related) regulations and/or land-use management plans. Corrective actions applied to existing sage-grouse management requirements that are not being met (on public lands, for example), would not be considered “additional” to normal requirements or management. Some temporal credit consideration may be appropriate for contributions to substantively accelerated management actions on a case-by-case basis, such as restoration of a large burned area in a shorter timeframe, where benefits can be quantified. Additionality and potential credit associated with proposed restoration and enhancement activities should be evaluated in comparison with both baseline and projected future condition of a given site that would be expected in the absence of the proposed mitigation activity. Additionality at preservation projects should be evaluated, and credits proportionately assigned, according to the magnitude and likelihood of existing and future threats to the habitat at hand. Restoration, enhancement, and preservation projects should also consider the potential for future development and disturbance at these sites if they were managed as mitigation sites.

Table XX below provides some examples of mitigation actions likely and unlikely to provide additionality.

Table XX – Additionality Examples

Additionality Likely Provided	Additionality Unlikely Provided
Perpetual conservation easement on suitable sage-grouse habitat on private land with high potential for agricultural conversion within a PAC	Preservation of suitable sage-grouse habitat within a PAC on a BLM ACEC on which development is currently prohibited.
Funding and enacting a grazing management plan with sage-grouse habitat objectives and standards on denuded private land in sage-grouse habitat within a PAC	Enforcing corrective grazing management actions on BLM allotments that are not meeting Rangeland Health Standards and/or sage-grouse habitat objectives.
Funding sage-grouse habitat restoration on denuded State School Trust lands in a PAC	Funding sage-grouse habitat restoration on a National Wildlife Refuge in a PAC
Conservation easement and restoration of private lands in a PAC that are leaving CRP or WRP programs	Entering lands in a PAC into the CRP or WRP programs
Funding substantively accelerated implementation of post-fire restoration of sage-grouse habitat on BLM lands	Implementing post-fire restoration of sage-grouse habitat on BLM lands according to RMP schedule and existing funding

Additionality Likely Provided	Additionality Unlikely Provided
Restoration of denuded sage-grouse habitat in a project area in advance of or concurrent with project construction	Reclamation of a disturbed project footprint through sage-grouse habitat following project construction
Conservation bank, with a conservation easement, proposing restoration of sage-grouse habitat on private land	Conservation bank proposing preservation of sage-grouse habitat in a State wildlife management area.

The Step Down Key below also provides general guidance for evaluating additionality as it pertains to proposed offset projects. It should be noted that the key does not address every potential situation, is only intended to assist with the concept of additionality, and is not inclusive of all parameters discussed in this document that are necessary to evaluate the viability, appropriateness, or credits that may be associated with a given proposed mitigation project.

Additionality Step Down Key

1. Does the proposed offset project consist of required reclamation /rectification of temporary direct project impacts only?
 - a. Yes: the activity is not an offset project, and would not be considered additional.
 - b. No: go to 2.
2. Is the offset project site proposed on private (go to 3) or public (go to 5) land?
3. Does the proposed project site on private land contain a conservation easement purchased with public funds, or lands restored, enhanced, or managed with public funds?
 - a. Yes: go to 4.
 - b. No: proposed offset project could be considered additional and resultant credits may be available for private landowner or third party use. Continue evaluation.
4. Does the proposed site on private land contain potential for additional easements, restoration and/or enhancement beyond that achieved with public funds that could measurably benefit sage-grouse?
 - a. Yes: new proposed offset project could be considered additional and resultant credits may be available for private landowner (original measures plus new offset project) or third party use (new offset project only). Continue evaluation.
 - b. No: proposed offset project would not be considered additional; credits from original measures could be considered for private landowner use only.
5. Is the public offset project site currently managed for sage-grouse, with development / disturbance excluded?
 - a. Yes: proposed offset project is not considered additional.
 - b. No: go to 6.
6. Is restoration and/or enhancement of the public offset project site (whether accomplished or not) required under existing management (statute, land management plan, etc.)?
 - a. Yes: go to 7.
 - b. No: proposed offset project could be considered additional and resultant credits may be available for agency or third party use. Continue evaluation.
7. Is there opportunity to substantively accelerate implementation to measurably benefit sage-grouse?
 - a. Yes: proposed offset project could, on a case-by-case basis, be considered additional and resultant credits may be available for agency or third party use. Continue evaluation.

- b. No: (or already implemented); proposed offset project would not be considered additional.

8. Durability

→ Describe acceptable credit duration(s) in the context of conservation project type, mitigation ratios, and financial and real estate assurances.

Mitigation should achieve targeted biological conditions in a timeframe that benefits sage-grouse. 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 also begin to accrue as early in the life of the project as possible. Actions or plans proposed as mitigation should be accompanied by appropriate legal 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.

Ideally, compensatory mitigation should be implemented, and its projected benefits verified via standardized monitoring, prior to enactment of activities and associated impacts to which the intended offset pertains. This is especially important when attempting to offset unavoidable impacts in PACs and other locally-identified important sage-grouse habitats. If mitigation success is demonstrated prior to impacts occurring, ecological risk is minimized. In addition, lower credit to debit mitigation ratios may be warranted. Offset projects implemented commensurate with implementation of impact-inducing projects should generally be subject to higher mitigation ratios due to the time lag between when impacts are incurred and offset benefits are realized (and the associated risk of offset project failure). Offset projects proposed for implementation subsequent to implementation of impact-inducing projects should generally not be considered due to uncertainty of implementation and time lag effects. In addition to such temporal considerations, ratios should be influenced by the offset project's anticipated: a) ecological durability; and b) protective durability.

A compensatory mitigation project should be designed such that it's ecological durability. The length of time the intended improvements persist on and influence the landscape should meet or preferably exceed the length of time that the projected impacts negatively affect greater sage-grouse. Consistently striving to maximize biological durability of such projects can facilitate the "no net loss" and "net benefit" standards discussed in Appendix 1. Strong projected ecological durability should therefore favorably influence mitigation ratios.

Equally important is an offset project's protective durability. An ecologically sound plan offers limited (or perhaps no) ecological value if subject to or affected by future development or disturbance, or if necessary adaptive management actions identified by monitoring are inappropriately limited by lack of funds. Protective durability should be demonstrated in the form of real estate protections and plans (e.g. conservation easements, fee title transfers, habitat management agreements) and financial (e.g. bonding, non-wasting management endowment) protections. Lower levels of protective durability should result in higher mitigation ratios.

Regarding durability, projects intended to offset unavoidable greater sage-grouse impacts, particularly in PACs and other locally-identified important habitats, should, prior to authorization/implementation of such impacts: 1) provide sound rationale for their projected ecological durability in comparison with projected impacts; 2) be perpetually protected, or protected commensurate with the duration of

impacts; 3) demonstrate financial ability to manage and maintain the project throughout its life; and 4) be implemented and demonstrated successful (or substantively trending toward meeting agreed-upon objectives) via monitoring. Risk and uncertainty associated with durability can be addressed to a degree with higher mitigation ratios; however, the point at which risk and uncertainty render an offset project as unsuitable should be determined at the project level.

9. Land Ownership/Management

→ List the sideboards under which compensatory mitigation may be recognized under various land ownership/management types.

Mitigation can occur on either private or publicly managed land. Generally, conservation actions used as mitigation should be limited to those identified as the most critical for sage-grouse conservation in the applicable geography and that will yield the most substantial benefit, regardless of ownership. BLM's 2013 draft MS-1794 policy echoes this consideration:

"Mitigation site, projects, and measures should be focused where the impacts of the use authorization can be best mitigated and BLM can achieve the most benefit to its resource and value objectives, regardless of land ownership. The most appropriate area for mitigation projects may be on Federal lands (the BLM or another agency) or on non-Federal lands."

However, criteria related to additionality and durability present challenges with use of public lands and lands with split estate ownerships, which often involve public lands.

For public lands, if the biological values expected to occur from public programs is the same as those required for mitigation purposes those lands may not meet the additionality test. Durability is difficult to guarantee because of rules and policies (e.g. FLPMA) that preclude many legal land protection mechanisms to assure protection and management commensurate with the life of project impacts. Use of public lands for mitigation purposes could also limit attainment of broader goals for sage-grouse conservation, specifically those related to providing economic benefits to landowners and increasing incentives for private landowners to engage in conservation actions. For lands with split estate ownerships, laws and policies (e.g. mining laws) may also prevent a particular site from meeting the durability test if land-use management instruments (e.g. conservation easement) cannot be applied.

The Service recommends that mitigation programs clearly define how additionality and durability will be addressed on various land ownership types. Close coordination with public land managers such as the BLM will be necessary in most states so that BLM regional mitigation strategies and state or local mitigation strategies line up.

To show that offsets will be protected, the agency responsible for oversight of any public lands on which the mitigation occurs should be responsible for providing alternative adequate mitigation if subsequent changes in management direction result in incompatible uses on those lands. Similarly, if subsurface development occurs on split estate lands, alternative mitigation should be provided so as not to result in any net loss of conservation benefit. This contingency responsibility should be identified in the administrative and regulatory documents (e.g. Records of Decision, etc.) that enable the original mitigation. In order to guarantee no net loss of original mitigation, a >1:1 ratio should be used in determining the alternative offsets.

10. Baseline

→ Describe how to develop recommendations for a process to document and establish a baseline for each project type so that additionality can be measured.

Baseline refers to the habitat and/or species population conditions at any given point in time against which conservation actions are measured to determine uplift (additionality). Baseline conditions should be assessed and measured using the same methodology employed to predict future conditions (uplift, or credits) during project planning stages and ultimately verify project conditions and associated credits during periodic and final monitoring. Ideally, this same methodology should be applied in order to predict impacts to sage-grouse and sage-grouse habitat and factor into the determination of compensatory mitigation needs (see *Metrics*, below).

The Service has not developed nor endorsed any one specific methodology for determining baseline conditions at a given site. States or other management entities may find it useful to cooperatively develop, adapt, or adopt methods that can be consistently applied across larger landscapes. Existing conservation banking agreements and similar documents (*lesser prairie chicken cooperative plan, other good examples?*) are available to facilitate such efforts.

11. Reversals

→ Present a range of options that would help address the risk of reversals.

Compensatory mitigation should persist for the duration required by a mitigation program. The Service will evaluate how programs address reversals when the benefits of compensatory mitigation do not persist for the full duration. Reversals may be caused by natural disturbances (unintentional reversal) or anthropogenic disturbances (intentional reversal).

Intentional Reversals: The Service recommends that mitigation programs have a requirement that intentional reversals be compensated for directly by the party responsible for the reversal. A policy should be established such that the conservation benefits from a compensatory mitigation project are not diminished due to replacements made necessary by intentional reversals.

Unintentional Reversals: Unintentional reversals could also be addressed by requiring the party providing the compensatory mitigation credit to replace any credits due to natural disturbances. However, making the credit provider responsible for unintentional reversals would likely make administration of a program more complex and decrease interest in providing credits. Another approach to address unintentional reversals is to establish an insurance pool. The following are two examples of how insurance pools could be established.

1. Each individual mitigation provider sets aside a small portion of credits in reserve, never to be sold. In the event of an unintentional reversal, the mitigation program administrator could draw from the pool of credits to make up for the lost conservation.

2. After determining the level of compensatory mitigation needed to offset debits, the compensatory mitigation program administrator would use best available science to estimate the likelihood that natural disturbance might lead to an unintentional reversal. An insurance premium, based on the likelihood of unintentional reversal, would be 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. This would allow the compensatory mitigation program to seamlessly maintain conservation integrity.

12. Metrics, Equivalence and Accounting Systems

→Describe the characteristics of an acceptable metric system. Address issues of scale, habitat quality, habitat quantity, and practicality. →Describe the general rules to follow for developing and implementing a transparent accounting system.

The methodologies, or metrics, used to determine the expected impacts of actions (debits) and the measures necessary to avoid, minimize, restore and/or offset those impacts (credits) should be based solely on biological conditions/information and upon reliable and repeatable methods. Debits result from actions that negatively impact sage-grouse and generally occur in situations where sage grouse habitat has been, or will be destroyed or severely impaired. Credits are generated by conservation actions that benefit sage-grouse and are given in situations where sage grouse habitat(s) has been deemed to be improved or preserved. The credits and debits are based on a common metric or “currency.” Ultimately, metrics must tie back to populations and show, preferably, a net conservation benefit to the species. Programs that provide only no net loss will be treated more conservatively by the Service.

A formal, consistent, rigorous but relatively simple methodology should be used and applied to all land development activities that impact sage-grouse³. The methodology should address direct impacts (habitat removal), indirect impacts and disturbance, and ecological site conditions. Approaches such as sound propagation, distance-based disturbance bands, habitat weighting, and ratios are acceptable, especially in conjunction with defined thresholds of allowable impact.

Credits and debits should use the same metric (or be able to crosswalk). Credits must be reasonably likely to deliver expected conservation benefits. Monitoring and adaptive management should be important components of mitigation programs to ensure success. The Service recommends providing phased credit releases based on ecological and administrative performance.

Mitigation ratios may be determined based on several factors including temporal considerations (impact versus mitigation timing), functional quality / importance of proposed impacted areas, projected

³ Refer to *Measuring Up* document for examples of developing robust metrics:

<http://willamettepartnership.org/measuring-up/Measuring%20Up%20w%20appendices%20final.pdf>

functional quality of proposed mitigation areas, chances of restoration project success, degree of threat to proposed preservation areas, durability, etc. If the Service is going to assess mitigation program in a listing decision and provide future impact coverage allowances for credits that are acquired in the present, we need to be able to examine and compare programs (credits, debits, ratios) across the sage-grouse range.

Internal Considerations for Equivalence and Metrics: *It is reasonable and likely to assume that states will have different metrics for debits and credits. If states do have different metrics, it is more challenging to: 1) roll up the overall conservation value of mitigation programs when assessing the status of the sage-grouse (something the Service must do); and 2) allow for the exchange of advanced credit acquisition debits and credits between states with different metrics. If states were willing and a method was developed that would allow the exchange of debits and credits between states, purchased credits could be used to fund the highest range wide priority conservation actions. If states were not willing to allow the exchange of debits and credits between states, purchased credits could be directed toward the highest priority conservation actions within a state.*

Options to achieve equivalence between states:

1. *Pull together a technical committee with representatives from each state. Develop an agreed upon metric system that will facilitate the flow of credits and debits between states.*
2. *Value could be assessed on how “close” the PAC is to securing the maximum amount percent disturbance that is tolerated by sage-grouse (3 to 5%, as qualified by density of disturbance). For example, PACs within 1 % of meeting the minimum disturbance threshold may be a higher priority for mitigation than one that is 10% from meeting that minimum threshold. This would need to be caveated by local seasonal habitat or connectivity information, if available, particularly where sage-grouse populations cross state lines.*

A mitigation program should provide an accounting system whereby credits and debits can be tracked. The accounting system should foster transparency, accountability, and credibility and facilitate the connections between mitigation providers at the lowest transaction costs⁴.

⁴ See Willamette Partnership, General Crediting Protocol, for an example of a complete ecosystem credit accounting system.

APPENDIX 1

Foundations for a Sage-Grouse Mitigation Program

Conservation success for wide ranging species such as the Greater Sage-Grouse requires implementation of conservation and mitigation tools within landscape-level conservation planning efforts. The Service does not currently have a mitigation policy that addresses non-listed species such as sage-grouse. However, established principles from sources of recognized regulatory and management authorities are available as guides. The following are general goals and basic mitigation standards that the Service considers foundational for a successful mitigation program that would cover the full spectrum of the mitigation hierarchy (avoid, minimize, rectify, offset) for sage-grouse in any state or local area.

Goals

1. The Service's primary goal for any sage-grouse mitigation program is to work with others to support conservation of the species by reducing or stopping threats, protecting populations, and reversing declines. Implementation of a mitigation program should contribute to reducing the need to list the species or reduce adverse regulatory implications of a listing while allowing for well-sited actions to move forward smoothly.
2. The program should represent a collaborative, unified approach between the Service, the State, federal land managers and other stakeholders, and should utilize existing regional, state, and local-level processes as the primary authorizing, implementing and enforcing mechanisms to the greatest extent practicable.
3. Benefits derived from the mitigation program should include: (a) streamlined and expedited project review/permitting, (b) utilization across multiple local, state and federal regulatory frameworks, (c) regulatory predictability, (d) increased public transparency and confidence, (e) increased economic incentives for landowners engaged in conservation actions, (f) a foundation for incorporating mitigation into other conservation programs, and (g) legal, scientific, political, and economic defensibility and credibility of actions and entities covered under the program.
4. The program should be developed with (a) state-of-the-science conservation strategies and plans, and (b) generally-accepted scientific principles, standards and practices for mitigation.
5. The program will need to be based on criteria that reliably and predictably (a) determine the types, amounts, and locations of impacts and associated avoidance, minimization and offset obligations, (b) result in selection of habitat restoration, enhancement, protection and other management actions that satisfy any compensatory mitigation obligations, and (c) result in measurable conservation outcomes for the species.
6. The program should apply regionally and consistently to each of the land-development activities that affect sage-grouse (e.g. energy, transmission, roads and transportation, agricultural conversion, commercial and residential development, and mining).
7. The program should positively influence expanded use of mitigation as a conservation tool for other listed and imperiled species by demonstrating its viability and by increasing public understanding of associated principles, standards, and policies.

Standards

The following list includes overarching standards to consider when developing a mitigation program for sage-grouse. This list is based on existing regulatory authorities and experience in mitigation for wetlands and listed species but purposefully general so that we may work with our partners to find the best solution for sage-grouse and our stakeholders.

1. **Landscape Planning**
A mitigation program should be developed in conjunction with, or guided by, a landscape-level conservation plan to ensure the viability of the species and the ecosystem upon which it depends over time.
2. **Mitigation Hierarchy**
New and ongoing activities should be designed, sited and implemented to adhere to the basic hierarchy of avoidance, minimization, rehabilitation, and compensatory mitigation (also referred to as “offset”) as guided by a conservation/mitigation strategy.
3. **Location**
Compensatory mitigation actions should be sited in locations that have been identified in conservation strategies to most benefit from the types of conservation actions targeted in the mitigation program.
4. **Additionality**
Actions proposed as mitigation must provide benefits beyond those that would be achieved anyway under applicable regulations and/or land-use management plans.
5. **Effectiveness**
Actions should be measurable and proven to be reasonably likely to deliver expected conservation benefits. Monitoring and adaptive management will be important components to ensure success.
6. **Timeliness**
Mitigation actions should achieve targeted biological conditions in a timeframe commensurate with the life of the associated biological impacts.
7. **Durability**
Actions or plans proposed as mitigation should be accompanied by appropriate legal and financial assurances.
8. **Metrics**
Determining the expected impacts of actions and the measures necessary to avoid, minimize, restore and/or offset those impacts should be based solely on biological conditions/information and upon reliable and repeatable methods.
9. **Species Benefit**
Including mitigation, overall outcomes should result in no net loss to the species; a net benefit will assure overall net conservation status improvement and assist in precluding the need to list.