

From: [Herrmann, Betsy](#)
To: [FW6 ES Salt Lake City](#)
Subject: Re: Draft Revised Service Mitigation Policy for Review and Comment - due Feb 12
Date: Friday, January 16, 2015 9:40:08 AM
Attachments: [059114 signed2_20141223163822.pdf](#)
[NTR Service Mitigation Policy 1-5-15.docx](#)
[USFWS Mitigation Policy - DRAFT 12-9-2014.docx](#)

Right, the attachments...

Betsy Herrmann

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On Fri, Jan 16, 2015 at 9:38 AM, Herrmann, Betsy <betsy_herrmann@fws.gov> wrote:
Utah FO biologists -

Attached is the new draft Service Mitigation Policy, replacing the grand old 1981 policy. It is out for internal (FWS-only) review. You may recall this was discussed at the R6 Bio meeting in November. The revision looks at new threats/challenges such as invasive species and climate change, incorporates updated conservation science that developed in the last 30 years, and is not afraid to mention section 7 in the same sentence as mitigation (formerly known as the "M" word in section 7).

I will consolidate our office's comments and submit them to the Region . If you have any comments, please provide them to me by Feb. 12. Put any comments in a Word doc, with page #, section title, and comment as the format.

Thanks -
Betsy

Betsy Herrmann

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On Thu, Jan 15, 2015 at 3:00 PM, Boroja, Maria <maria_boroja@fws.gov> wrote:

Good afternoon,

Attached please find the request for review of the draft mitigation policy, please provide your Office's consolidated comments to me here in the Regional Office by 2/17/15.

If you have any questions please don't hesitate to call.

----- Forwarded message -----

From: **Thabault, Michael** <michael_thabault@fws.gov>

Date: Tue, Dec 30, 2014 at 7:56 AM

Subject: Re: DCN: 059114 - Draft Revised Service Mitigation Policy for Review and Comment

To: Annette Nylon <annette_naylon@fws.gov>

Cc: Bridget Fahey <Bridget_Fahey@fws.gov>, Nicole Alt <Nicole_Alt@fws.gov>, Maria Boroja <maria_boroja@fws.gov>, Drue DeBerry <drue_deberry@fws.gov>

Maria, can you take the lead. Please work with Drue on consistency with sage grouse mitigation framework. Thanks.

Michael Thabault
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On Tue, Dec 30, 2014 at 7:54 AM, <annette_naylon@fws.gov> wrote:

DCN: 059114

ES has the lead to coordinate with all other appropriate programs to collect comments.

Due 2-25-15

--

Maria T. Boroja
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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



In Reply Refer To:
FWS/AES/DER/BCP/059114

DEC 23 2014

Memorandum

To: Service Directorate
From: **ACTING** Director *Rouan W. Gould*
Subject: Draft Revised Service Mitigation Policy for Review and Comment
(Comments due: February 27, 2015)

A revised draft of the U.S. Fish and Wildlife Service's (Service) 1981 Mitigation Policy (1981 Policy) is ready for your review and or comments. The revision process was coordinated by the Ecological Services Program in Headquarters (HQ) and biologists from HQ and Regional programs participated in the development and/or drafting these revisions.

The Service's 1981 Mitigation Policy established recommendations on mitigating the adverse impacts of land and water developments. It was written to help ensure consistent and effective recommendations by outlining policy for the levels of mitigation needed and the various methods for accomplishing mitigation. Intended effects of the policy included protecting and conserving the most important and valuable fish and wildlife resources, while facilitating balanced development of the Nation's natural resources.

The revision of the 1981 Policy provides an opportunity to create a policy for the 21st century. Since 1981, loss of habitat and ecological function has accelerated and the effects of climate change have caused significant impacts to our trust resources. We are revising our policy to renew its relevance in light of these changes and to reflect contemporary tools and practices.

The draft revised policy applies to all Service authorities that provide the opportunity to either recommend or require mitigation. This creates a single, umbrella policy for the Service that includes all authorities directly, or by reference, and lays the groundwork for future, more detailed policy products. Notably, the draft policy reverses the exclusion of the Endangered Species Act from the 1981 Policy. It also establishes a landscape-level approach to mitigation that aligns our recommendations with landscape-level conservation goals to improve ecological outcomes in development processes. In addition, we establish that the Service's mitigation planning goal is to ensure no net loss towards achieving conservation objectives for affected resources. Effectively incorporating these elements required a comprehensive revision of the 1981 Policy however we have retained many concepts and much of the logic and structure of the original policy.

Please distribute as appropriate for review and comment within your Region. Please do not disseminate this draft revised policy externally. Please provide your comments in a single

compiled response no later than February 27, 2015. Your input at this stage will be of great value in preparing a draft for public review.

Please note that webinars will be scheduled to present and discuss the Mitigation Policy revisions with Service staff. The webinars will be conducted in mid or late January. Scheduling and access information for the webinars will be forthcoming.

If you have any questions, please contact Mr. Craig Aubrey, Chief, Division of Environmental Review, at (703) 358-2442.

Attachment

Ecological Services
Division of Environmental Review
NOTE TO REVIEWERS

- The enclosed memo distributes a draft revised Service Mitigation Policy to Regional Directors and Assistant Directors for review and comment.
- The Ecological Services program has coordinated biologists from across programs and all Regions in the development or drafting of revisions to our 1981 Mitigation Policy. The revision of the 1981 Policy is an opportunity to create a 21st century policy with renewed relevance, in recognition of changes since 1981 that include accelerating loss of habitat and the consequences of the effects of climate change.
- The Service's Mitigation Policy, published in 1981, established policy for Service recommendations on mitigating the adverse impacts of land and water developments. It helped assure consistent and effective recommendations and was intended to conserve the most important resources while facilitating balanced development.
- The draft Policy broadens the scope to integrate all Service authorities that provide opportunity to either recommend or require mitigation, creating an umbrella policy for the Service that lays groundwork for future policy products. Notably, the draft Policy reverses the 1981 Policy's exclusion of the Endangered Species Act.
- The draft Policy establishes a landscape-level approach to mitigation that aligns our recommendations with landscape-level conservation goals to improve ecological outcomes in development processes.
- The draft Policy establishes that the Service's mitigation planning goal is to ensure no net loss toward achieving conservation objectives for affected resources.
- Effective incorporation of the elements above required a comprehensive revision of the 1981 policy, but we have retained concepts and structure from the original, including:
 - The draft reaffirms the hierarchy in the CEQ definition of mitigation, recognizing that circumstances may warrant departures from sequence that may lead to improved conservation outcomes. The revisions provide a framework to consistently make such choices.
 - The concept of Resource Categories has been retained and revised.
- Please limit current distribution to Service staff. **Regions and Programs are requested to provide their comments in a single, collated response by Friday, February 27, 2015.**

Staff Contact: Jason Miller
Telephone: (703) 358-1756
Date: January 5, 2015

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U.S. Fish and Wildlife Service Mitigation Policy Revisions

BACKGROUND

The U.S. Fish and Wildlife Service (Service) is revising its Mitigation Policy, which has guided Service recommendations on mitigating the adverse impacts of land and water developments on fish, wildlife, plants and their habitats, and uses thereof since 1981. The primary impetus for revising the Service's mitigation policy is the need to apply this tool in a strategic manner that ensures an effective linkage with conservation strategies at appropriate scales, particularly landscape-scale conservation strategies. Within this context, our objectives for revising the 1981 Mitigation Policy (1981 Policy) are to: (a) broaden its scope to address all resources for which the Service has authorities to recommend or require mitigation for impacts to resources; and (b) provide an updated framework for mitigation measures that will maximize their effectiveness at multiple geographic scales.

The conservation of fish, wildlife, and plants depends on functional ecosystems. Restoring lost or impaired ecosystems is far more difficult and expensive than protecting them; therefore, effective mitigation is a powerful tool for sustaining and recovering species and the habitats upon which they depend.

The Secretary of the Interior's Secretarial Order 3330 entitled "Improving Mitigation Policies and Practices of the Department of the Interior" (October 31, 2013) established a Department-wide mitigation strategy to ensure consistency and efficiency in the review and permitting of infrastructure development projects and in conserving natural and cultural resources. The Order charged an Energy and Climate Change Task Force with developing a coordinated Department-wide mitigation practices strategy. The first report of the Task Force in April 2014 describes guiding principles for landscape-scale mitigation. The report also lists several expected outcomes for bureaus implementing a landscape approach to mitigation, including a proposed revision of the Service's Mitigation Policy consistent with its guiding principles.

DISCUSSION

The Service's motivations for revising the 1981 Policy include:

1. Accelerating loss of habitats and subsequent loss of ecosystem function since 1981;
2. Threats that were not fully evident in 1981, such as effects of climate change, the spread of invasive species, and outbreaks of epizootic diseases, are now challenging the Service's conservation mission;
3. The science of fish and wildlife conservation has substantially advanced in the past three decades;
4. The federal statutory, regulatory, and policy context of fish and wildlife conservation has substantially changed since the 1981 Policy; and
5. A need to clarify the Service's definition and usage of mitigation in various contexts, including the conservation of species listed as threatened or endangered under the Endangered Species Act, which was expressly excluded from the 1981 Policy.

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Mitigation Defined

In the context of environmental impacts resulting from proposed actions, “mitigation” is a general label for measures that a proponent takes to avoid, moderate, and compensate for such impacts. The 1981 Policy adopted the definition of mitigation codified in the Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations (40 CFR §1508.20), which states that “Mitigation includes:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.”

This definition is reiterated in our revised policy, and the use of its components in various contexts is clarified. The 1981 Policy further stated that the Service considers the sequence of the CEQ mitigation definition elements to represent the desirable sequence of steps in the mitigation planning process. The Service generally reaffirms this statement in this policy, e.g., we advocate avoiding impacts that critically impair our ability to achieve conservation objectives for affected resources. However, the Service recognizes with this policy that action- and resource-specific circumstances may warrant departures from the traditionally preferred mitigation sequence, as when impacts to a species may occur at a location that is not critical to achieving the conservation objectives for that species, or when current conditions are likely to be altered substantially due to the effects of a changing climate. In such circumstances, compensating for the impacts at another location that is critical to achieving the objectives could represent a better outcome than other choices in the mitigation sequence. This policy provides a logical framework for the Service to consistently make such choices.

Scope of the Revised Mitigation Policy

The Service is the primary federal agency with the mission to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. This mission includes a responsibility to make mitigation recommendations and requirements during the review of actions based on numerous authorities related to specific covered plant and animal species, habitats, and broader ecological functions. Our authority to engage actions that may affect these resources extends to all U.S. States and territories, on public and on private lands as appropriate. This unique standing necessitates that we clarify our integrated interests and expectations when seeking mitigation for impacts to fish, wildlife, plants and their habitats.

This policy serves as over-arching Service guidance applicable to all actions for which the Service has specific authority to recommend or require the mitigation of impacts to fish, wildlife, plants, and their habitats. As necessary and as budgetary resources permit, we intend to adapt Service program-specific policies, handbooks, and guidance documents, consistent with the applicable statutes, to integrate the spirit and intent of this policy. For example, we are

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simultaneously preparing revisions to the Service policy on compensatory mitigation under the Endangered Species Act (ESA) that will align with the guidance described herein.

New Threats and New Science

Since the publication of the Service's 1981 Policy, land use changes in the U.S. have reduced the habitats available to fish and wildlife. By 1982, approximately 71 million acres of the lower 48 states had already been developed. Between 1982 and 2007, the American people developed an additional 40 million acres for a total of 111 million developed acres. Of all historic land development in the lower 48 states, over a third has occurred just since 1982. Much of this newly-developed land had been existing habitats, including 17 million acres converted from forests.

A projection that the U.S. population will increase from 310 million to 439 million between 2010 and 2050 suggests that land conversion trends like these will continue. In that period, development in the residential housing sector alone may add 52 million (42% more) units, plus 37 million replacement units. By 2060, a loss of up to 38 million acres (an area the size of Florida) of forest alone is possible. Attendant pressures on remaining habitats will also increase through fragmentation, isolation, and degradation through myriad indirect effects. The loss of ecological function will radiate beyond the extent of direct habitat losses. Given these projections, the near-future challenges for conserving ecological space are clear. As more land is converted for human infrastructure needs, it is incumbent on the Service to help developers accomplish projects in sustainable ways that successfully and strategically mitigate impacts to fish and wildlife and do not contribute to systemic losses of ecological function.

The Service also recognizes accelerating climate change is resulting in impacts that pose a significant challenge to conserving species, habitat, and ecosystem functions. Climatic changes can have direct and indirect effects on species abundance and distribution, and may exacerbate the effects of other stressors, such as habitat fragmentation and diseases. The conservation of habitats within ecologically functioning landscapes is essential to sustaining fish, wildlife, and plant populations in the face of climate change impacts, new diseases, invasive species, habitat loss, and other threats. Therefore, the policy emphasizes integration of mitigation planning with approaches that address ecological processes at appropriate scales, most notably landscape approaches to conservation.

Over the past 30 years, the concepts of adaptive management (resource management decision making under uncertainty) have gained general acceptance as the preferred science-based approach to conservation. Adaptive management is an iterative process that involves: (a) formulating alternative actions to meet measurable objectives; (b) predicting the outcomes of alternatives based on current knowledge; (c) conducting research that tests the assumptions underlying those predictions; (d) implementing alternatives; (e), monitoring the results; and (f) using the research and monitoring results to improve knowledge and adjust actions and objectives accordingly. Adaptive management further serves the need of most natural resources managers and policy makers to provide accountability for the outcomes of their efforts, i.e., progress toward achieving defensible and transparent objectives.

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Working with many partners, the Service is increasingly applying the principles of adaptive management in a landscape approach to conservation. Mitigating the impacts of actions for which the Service has advisory or regulatory authorities continues to play a significant role in accomplishing our conservation mission under this approach. Our aim with this policy is to align mitigation planning with conservation strategies at appropriate scales, particularly the landscape scale, so that it most effectively contributes to achieving the conservation objectives we are pursuing with our partners.

A Focus on Habitat Conservation

Although many Service authorities pertain to specific taxa or groups of species, most recognize that these resources rely on functional ecosystems to survive and persist for the continuing benefit of the American people. Mitigation can be a powerful tool for sustaining and recovering species and the habitats upon which they depend; therefore, the Service's mitigation policy must effectively deal with impacts to the ecosystem functions, properties, and components that sustain fish, wildlife, plants and their habitats. The 1981 Policy focused on habitat: "the area which provides direct support for a given species, population, or community." The 1981 Policy defined criteria for assigning the habitats of project-specific evaluation species to one of four resource categories, based on the relative scarcity of the affected habitat type and its value (suitability) to the evaluation species, with mitigation guidelines for each category. We maintain a focus on habitats in this policy by using evaluation species and resource categories for their affected habitats, because habitat conservation is still generally the best means of achieving conservation objectives for species. However, our revisions of the evaluation species and resource category concepts are intended to address more explicitly the landscape context of species and habitat conservation to improve mitigation effectiveness and efficiency.

Applicability to the Endangered Species Act

The Service's 1981 mitigation policy states that it does not apply to the conservation of species listed as threatened or endangered under the Endangered Species Act (ESA). Excluding listed species from the policy was based on: 1) a recognition that all federal actions that could affect listed species and designated critical habitats must comply with the consultation provisions of section 7 of the ESA; and 2) a position that "the traditional concept of mitigation" did not apply to such actions. This policy reverses this exclusion. The Service recognizes that mitigation, as broadly defined in this policy, is a necessary and essential component of achieving key purposes of the ESA: to conserve listed species and the ecosystems upon which they depend. Effective mitigation prevents further declines in populations and habitat resources that would otherwise slow or impede recovery of listed species.

The 1982 amendments to the ESA created incidental take permitting provisions for non-federal actions (Section 10(a)(1)(B)) with specific requirements (Sections 10(a)(2)(A)(ii) and 10(a)(2)(B)(ii)) for mitigating impacts to listed species, and amended section 7(b) to include an incidental take statement provision for federal agency actions that do not violate section 7(a)(2). These amendments provide a legal means by which non-federal and federal actions can be exempted from the prohibition against takings in section 9. Mitigation is an integral component of the section 7 and 10 processes and allows the Service the flexibility to authorize take for actions that would otherwise be likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

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Under ESA section 7(b) the Service has consistently acknowledged and accepted or applied mitigation in the form of:

1. conservation measures of a proposed federal action to mitigate unavoidable impacts;
2. components of a reasonable and prudent alternative to avoid jeopardizing the continued existence of listed species or destroying or adversely modifying designated critical habitat; and
3. reasonable and prudent measures within an incidental take statement to minimize the impacts of taking on the affected listed species, provided such measures involve no more than minor changes to the action.

Under section 10(a)(2)(A), a non-federal applicant is required to take steps “to minimize and mitigate such impacts...to the maximum extent practicable,” among other requirements to receive an incidental take permit. In addition, issuance of an incidental take permit under section 10 is a federal action subject to the consultation requirements of Section 7(a)(2). We discuss these contexts for mitigation in the ESA section 7 process below.

Conservation Measures

All forms of mitigation are potential conservation measures of a proposed federal action in the context of section 7 consultation and are factored into Service analyses of the effects of the action, including any mitigation measures proposed by an applicant that are above and beyond those required by an action agency. Failure to implement proposed conservation measures constitutes a change in the proposed action that triggers the need to reinitiate consultation per the requirements of 50 CFR §401.16(c). Service regulations at 50 CFR §402.14(g)(8) affirm the need to consider “any beneficial actions” in formulating a biological opinion, including those “taken prior to the initiation of consultation.” Because jeopardy analyses weigh effects in the affected area relative to the status of the species throughout its listed range, “beneficial actions” may also include proposed conservation measures for the affected species within its range but outside of the affected area (e.g., compensation).

Reasonable and Prudent Alternatives

The Service may apply all forms of mitigation in formulating a reasonable and prudent alternative to avoid jeopardy or adverse modification of critical habitat, provided it is consistent with the intended purpose of the action and the scope of the federal agency’s authority, and is economically and technologically feasible (50 CFR §402.02). It is preferable to avoid or minimize impacts to listed species or critical habitat before rectifying, reducing over time, or compensating for such impacts. Under some circumstances, however, the latter forms of mitigation may provide all or part of the means to achieving the best possible conservation outcome for listed species consistent with the purpose-, authority-, and feasibility-requirements of a reasonable and prudent alternative.

Reasonable and Prudent Measures

When a federal action and associated incidental taking of listed species would not violate the ESA section 7(a)(2) prohibitions against jeopardy and adverse modification, section 7(b)(4)(C)

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of the ESA authorizes the Secretary (Interior or Commerce, depending on the species) to provide federal agencies and applicants with a written statement that:

- (i) specifies the impact of such incidental taking on the species, [and]
- (ii) specifies those reasonable and prudent measures that the Secretary considers necessary or appropriate to minimize such impact.

Service regulations at 50 CFR §402.02 define reasonable and prudent measures as “those actions the Director believes necessary or appropriate to minimize the impacts, i.e., amount or extent, of incidental take.” Further, reasonable and prudent measures and their implementing terms and conditions “cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes” (50 CFR §402.14(i)(2)).

I. PURPOSE

This document establishes U.S. Fish and Wildlife Service (Service) policy applicable to all actions for which the Service has specific authority to recommend or require the mitigation of impacts to fish, wildlife, plants, and their habitats. This policy provides guidance for Service personnel, but variations appropriate to action- and resource-specific circumstances are permitted. It will help to assure consistent and effective recommendations by outlining policy for determining the levels of mitigation needed and the various methods for accomplishing mitigation. It will help align Service-recommended mitigation with conservation objectives for affected resources and the strategies for achieving those objectives. It will allow action agencies and proponents to anticipate Service recommendations and plan for mitigation measures early, thus avoiding delays and assuring equal consideration of fish and wildlife resources with other action features and purposes. This policy supersedes the Fish and Wildlife Service Mitigation Policy (46 FR 7644-7663) published in 1981.

II. AUTHORITY

The Service has jurisdiction over a broad range of fish and wildlife resources. Service authorities are codified under multiple statutes that address management and conservation of natural resources from many perspectives, including, but not limited to the effects of land, water, and energy development on fish, wildlife, plants, and their habitats. We list below the statutes that provide the Service, directly or indirectly through delegation from the Secretary of the Interior, specific authority for conservation of these resources and that give the Service a role in mitigation planning for actions affecting them. We further discuss the Service’s mitigation planning role under each statute and list additional authorities in Appendix A.

Bald and Golden Eagle Protection Act, 16 U.S.C. §668 et seq. (Eagle Act)

Endangered Species Act of 1973, as amended, 16 U.S.C. §1531 et seq. (ESA)

Federal Land and Policy Management Act, 43 U.S.C. §1701 et seq. (FLPMA)

Federal Power Act, 16 U.S.C. §791-828c

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Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §1251 et seq (CWA)

Fish and Wildlife Conservation Act, 16 U.S.C. §2901-2912

Fish and Wildlife Coordination Act, as amended, 16 U.S.C §661-667(e) (FWCA)

Marine Mammal Protection Act of 1972, as amended, 16 U.S.C. §1361 *et seq.* (MMPA)

Migratory Bird Conservation Act, 16 U.S.C. §715 et seq.

Migratory Bird Treaty Act, 16 U.S.C. §703-7120 (MBTA)

National Environmental Policy Act, 42 United States Code (U.S.C.) §4371 et seq. (NEPA)

National Fish and Wildlife Foundation Establishment Act, 16 U.S.C. §3701 et seq.

National Wildlife Refuge System Administration Act, 16 U.S.C. §668dd et seq.

III. SCOPE

A. Coverage

1. Actions

This policy applies to all Service activities related to evaluating the effects of proposed actions and subsequent recommendations or requirements to mitigate impacts to resources, defined below. For purposes of this policy, actions include: 1) activities conducted, authorized, licensed, or funded by federal agencies; 2) non-federal actions to which one or more of the Service's statutory authorities apply to make mitigation recommendations or specify mitigation requirements; and 3) the Service's provision of technical assistance to partners in collaborative mitigation planning processes that occur outside of individual action review.

2. Resources

This policy may apply to specific resources based on any federal authority or combination of authorities, such as treaties, statutes, regulations, or Executive Orders, that empower the federal government to manage, control, or protect fish, wildlife, plants, and their habitats that are affected by proposed actions. Such federal authority need not be exclusive, comprehensive, or primary, and in many cases, may overlap with that of states or tribes or both.

This policy applies to those resources identified in statute or implementing regulations that provide the Service authority to engage actions described above for purposes of making mitigation recommendations or specifying mitigation requirements. This is inclusive of, but not limited to, the trust resources concept.

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The Service has traditionally described its trust resources as migratory birds, federally endangered and threatened species, some marine mammals, and inter-jurisdictional fish. Some authorities narrowly define or specifically identify covered taxa, such as threatened and endangered species, marine mammals, or the list of avian species protected by the Migratory Bird Treaty Act. This policy applies to trust resources; however, Service Regions and field stations retain discretion to engage actions on an expanded basis.

The types of resources for which the Service is authorized to recommend or require mitigation also include those that contribute broadly to ecological functions that sustain species. The definitions of the terms “wildlife” and “wildlife resources” in the Fish and Wildlife Coordination Act include birds, fishes, mammals and all other classes of wild animals, and all types of aquatic and land vegetation upon which wildlife is dependent. Section 404 of the Clean Water Act (33 CFR 320.4) codifies the significance of wetlands and other waters of the U.S. as important public resources for their habitat value, among other functions. The Endangered Species Act envisions a broad consideration when describing the purposes of the Act as providing a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and when directing federal agencies at §7(a)(1) to utilize their authorities in furtherance of the purposes of the Act by carrying out programs for the conservation of listed species. The purpose of the National Environmental Policy Act (NEPA) also establishes an expansive focus, in promoting efforts that will prevent or eliminate damage to the environment while stimulating human health and welfare. In NEPA, Congress recognized the profound impact of human activity on the natural environment, particularly through population growth, urbanization, industrial expansion, resource exploitation, and new technologies. NEPA further recognized the critical importance of restoring and maintaining environmental quality, and declared a federal policy of using all practicable means and measures to create and maintain conditions under which humans and nature can exist in productive harmony. These statutes address systemic concerns and provide authority for protecting habitats and landscapes.

B. Exclusions

This policy does not apply retroactively to completed actions or to actions specifically exempted under statute from Service review. It does not apply where the Service has already agreed to a mitigation plan for pending actions, except where new activities or changes in current activities would result in new impacts, or where new authorities, new scientific information, or failure to implement agreed upon recommendations warrant new mitigation planning. Service personnel may elect to apply this policy to actions that are under review as of the date of its final publication.

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C. Relationship to Service Actions

1. National Environmental Policy Act

This policy applies to actions that the Service proposes, including those for which the Service is the lead or co-lead federal agency for compliance with NEPA. However, it applies only to the mitigation of impacts to fish, wildlife, plants and their habitats that are likely to result from such proposed actions. As an action agency, the Service is responsible for considering effects and mitigating impacts to resources besides fish, wildlife, plants and their habitats (e.g., cultural resources such as lifeways and traditional practices, historical resources, environmental justice, health impacts, potential loss of public use for impacts to Service land if mitigation is on private land, other socio-economic issues, etc.), for which this policy does not provide guidance. NEPA requires the action agency to evaluate the environmental effects of alternatives, including the environmental effects of proposed mitigation (e.g., effects on historic properties resulting from habitat restoration). Considering impacts to resources besides fish and wildlife requires the Service to coordinate with entities having jurisdiction by law, special expertise, or other applicable authority.

Statutes that compel the Service to address the possible environmental impacts of mitigation activities for fish and wildlife resources commonly include the National Historic Preservation Act of 1996 (NHPA) (16 U.S.C 470 et seq.), as amended in 1992, the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. 1251 – 1376), Fish and Wildlife Coordination Act (16 U.S.C §661-667(e)), as amended (FWCA), and the Clean Air Act (42 USC 7401-7661). Service mitigation decisions should also comply with all applicable Executive Orders, including E.O. 13514, Federal Leadership in Environmental, Energy, and Economic Performance (October 5, 2009), E.O. 13653. Preparing the United States for the Impacts of Climate Change (November 1, 2013), and E.O. 12898 addressing environmental justice in minority and low income populations. DOI Environmental Compliance Memorandum (ECM) 95-3 provides additional direction regarding responsibilities for addressing environmental justice under NEPA, including the equity of benefits and risks distribution. Appendix B further discusses the relationship and integration of this policy into the Services' compliance with NEPA.

2. Tribal Trust Responsibilities

For purposes of this discussion, the terms “tribal” or “tribe(s)” refers generally to Native Americans, Alaska Natives, and Native Hawaiians. The Service has overarching Tribal Trust Doctrine responsibilities under the Eagle Act, the National Historic Preservation Act (NHPA), the American Indian Religious Freedom Act (AIRFA) (42 U.S.C. 1996), Religious Freedom Restoration Act of 1993 (RFRA) (42 U.S.C. 2000bb et seq.), Secretarial Order 3206, American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, the Endangered Species Act (June 5, 1997), Executive Order 13007, Indian Sacred Sites (61 FR 26771, May 29, 1996), and the USFWS Native American Policy. Government-wide statutes with requirements to consult with tribes include the Archeological Resources Protection Act of 1979 (ARPA) (16 U.S.C. 470aa-mm), the Native American Graves Protection and

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Repatriation Act (NAGPRA) (25 U.S.C. 3001, et. seq.), and AIRFA. Regulations with requirements to consult include NAGPRA, NHPA, and NEPA. When government-to-government consultation takes place, the consultation process will be guided by and consistent with the Service *Tribal Consultation Handbook*.

IV. DEFINITIONS

Definitions in this section apply to the implementation of this Policy and were developed to provide clarity and consistency within the policy itself, and to ensure broad, general applicability to all mitigation processes in which the Service engages. Some Service authorities define some of the terms in this section differently or more specifically, and the definitions herein do not substitute for statutory or regulatory definitions in the exercise of those authorities.

Affected area: the spatial extent of all effects, direct and indirect, of a proposed action to fish, wildlife, plants and their habitats.

Action: an activity or program implemented, authorized, or funded by federal agencies; or a non-federal activity or program for which one or more of the Service's authorities apply to make mitigation recommendations, specify mitigation requirements, or provide technical assistance for mitigation planning.

Conservation: In the context of this policy, the noun "conservation" is a general label for the collective practices, plans, policies, and science that are used to protect and manage species and their habitats to achieve desired outcomes.

Conservation objective: a measurable expression of a desired conservation outcome. Population objectives are expressed in terms of abundance, trend, vital rates, or other measurable indices of population status. Habitat objectives are expressed in terms of the quantity, quality, and spatial distribution of habitats required to attain population objectives, as informed by knowledge and assumptions about factors influencing the ability of the landscape to sustain species.

Effects: changes in environmental conditions that are relevant to the resources covered by this policy

Direct effects: are caused by the action and occur at the same time and place.

Indirect effects: are caused by the action at a later time and/or another place.

Cumulative effects: are caused by other actions and processes, but may refer also to the collective effects on a resource, including direct and indirect effects of the action. The causal agents and spatial/temporal extent for considering cumulative effects varies according to the authority(s) under which the Service is engaged in mitigation planning (e.g., refer to the definitions of cumulative effects and cumulative impacts in ESA regulations and NEPA, respectively), and the Service will apply statute-specific definitions in the application of this policy.

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Evaluation species: fish, wildlife, and plant resources in the affected area that are selected for effects analysis and mitigation planning.

Habitat valuation parameters: three attributes -- scarcity, suitability, and importance -- of an affected habitat in a landscape context relevant to the evaluation species that determine its Resource Category. The three parameters are assessed independently, but are sometimes correlated. For example, rare or unique habitat types of high suitability for evaluation species are also very likely of high importance in achieving conservation objectives.

Habitat: an area with spatially identifiable physical, chemical, and biological attributes that supports one or more life-history processes for evaluation species. Mitigation planning should delineate habitat types in the affected area using a classification system that is applicable to both the region(s) of the affected area and the selected evaluation species in order to facilitate determinations of habitat scarcity, suitability, and importance.

Impacts: In the context of this policy, impacts are adverse effects relative to achieving conservation objectives for the affected resources.

Importance: the relative significance (low, moderate, or high) of the affected habitat, compared to other examples of a similar type in the landscape context, to achieving conservation objectives for the evaluation species. Habitats of high importance are irreplaceable or difficult to replace, or are critical to evaluation species by virtue of their location on the landscape within or near hubs or links in a conservation network. Areas containing habitats of high importance are generally, but not always, identified in regional or species-specific conservation plans addressing resources under Service authorities (e.g., recovery plans) or when appropriate, resources under authorities of partnering entities (e.g., state wildlife action plans, Landscape Conservation Cooperative conservation “blueprints,” etc.).

Landscape context: the geographic area that is relevant to the conservation of the evaluation species. For the purposes of this policy, the landscape is not defined by the size of the area, but rather by the interacting elements that are meaningful to the management objectives.

Mitigation: In the context of this policy, the noun “mitigation” is a label for all types of measures (see Mitigation Types) that a proponent would implement towards achieving the Service’s mitigation planning goal.

Mitigation Types: general classes of methods, listed below, for mitigating the impacts of an action (Council on Environmental Quality, 40 CFR Part 1508.20(a-e)):

- a) avoid the impact altogether by not taking the action or parts of the action;
- b) minimize the impact by limiting the degree or magnitude of the action and its implementation;
- c) rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- d) reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action; and
- e) compensate for the impact by replacing or providing substitute resources or environments.

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The Service's Resource Categories under this policy determine the mitigation types that are appropriate for an affected resource, and the preferred sequence of applying these mitigation types to achieve the mitigation planning goal. Section V.B.9 (Mitigation Means and Measures) of this policy provides clarification for each of the five mitigation types, and guidance for identifying circumstances under which it is appropriate to follow a different sequence.

Mitigation Planning Goal: The Service's goal for mitigation planning is to ensure that an action results in no net loss toward achieving conservation objectives for the affected resources.

Mitigation Planning: the process of assessing the effects of an action and formulating mitigation measures that would achieve the mitigation planning goal.

Mitigation Sequence: the Service's preferred sequence of mitigation types, relative to Resource Categories, for achieving the mitigation planning goal.

Proponent: the agency(s) proposing an action, and if applicable, any applicant(s) for agency funding or authorization to implement a proposed action.

Resources: fish, wildlife, plants and their habitats for which the Service has authority to recommend or require the mitigation of impacts resulting from proposed actions.

Resource Category: the category to which an affected habitat is assigned based on the habitat valuation parameters, which determines the generally preferred set and sequence of mitigation types for mitigating impacts to evaluation species (see Mitigation Sequence). When more than one evaluation species uses an affected habitat, the highest valuation determines the category assignment.

Scarcity: the relative spatial extent (rare, common, or abundant) of the habitat type in the landscape context.

Suitability: the relative ability (low, moderate, or high) of the affected habitat, which may vary over time, compared to other examples of a similar type in the landscape context, to support one or more life-history processes for the evaluation species (reproduction, rearing, feeding, dispersal, migration, hibernation, or resting protected from disturbance, etc.).

V. MITIGATION POLICY OF THE U.S. FISH AND WILDLIFE SERVICE

A. General Policy

The mission of the Service is working with others to conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people.

In furtherance of this mission, the Service has a responsibility to ensure that impacts to fish, wildlife, plants and their habitats in the United States, its territories, and possessions are

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considered when actions are planned, and that such impacts are mitigated so that these resources may provide a continuing benefit to the American people.

Consistent with Congressional direction through the statutes listed in the “Authority” section of this policy, the Service will provide timely and effective recommendations to conserve, protect, and enhance fish, wildlife, plants and their habitats when proposed actions may reduce the benefits thereof to the public.

Fish and wildlife and their habitats are public resources which provide commercial, recreational, social, and ecological value to the Nation. For Tribal Nations, specific fish and wildlife resources and associated landscapes have traditional cultural and religious significance. Fish and wildlife resources are conserved and managed for the people by State, Federal, and Tribal Governments. If impacts of proposed actions may reduce or eliminate the public benefits that are provided by such resources, these governments have shared responsibility or interest in recommending means and measures to mitigate such losses.

Accordingly, in the interest of serving the public, it is the policy of the U.S. Fish and Wildlife Service to seek to mitigate losses of fish, wildlife, plants, their habitats, and uses thereof resulting from proposed actions.

The following fundamental principles shall guide Service-recommended mitigation, as defined in this policy, across all Service programs.

- The goal is no net loss. The Service’s mitigation planning goal is to ensure that, at a minimum, an action results in no net loss toward achieving conservation objectives for the affected resources. Effective mitigation prevents an action’s impacts from increasing the gap between the current and desired status of a resource.
- Observe an appropriate mitigation sequence. The Service recognizes it is generally preferable to avoid, minimize, rectify, and reduce adverse effects to resources, in that order, before compensating for their loss. However, to achieve the best possible conservation outcomes, the Service shall determine and prioritize the applicable mitigation types according to a valuation of the affected resources as described in this policy.
- A landscape-scale approach shall inform mitigation planning. The Service shall integrate mitigation planning into a broader ecological context with applicable landscape-level conservation planning by steering mitigation efforts in a manner that will best contribute to achieving conservation objectives. The Service shall consider climate change and other trends that may affect ecosystem integrity and functions, which shall inform the scale, nature, and location of mitigation measures necessary to achieve the best possible conservation outcome. The Service will foster partnerships to design mitigation strategies that will prevent fragmented landscapes and restore core areas and connectivity necessary to sustain species.

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- Ensure consistency and transparency. The Service will use timely and transparent processes that provide predictability and uniformity through the consistent application of standards and protocols as may be developed to achieve effective mitigation.
- Base mitigation decisions in science. The Service shall use the best available science in formulating and monitoring the long-term effectiveness of its mitigation recommendations and decisions, consistent with all applicable Service science policy.
- Durability. The Service will recommend or require that mitigation measures are durable, and at a minimum, maintain their intended purpose for as long as impacts exist on the landscape. The Service will recommend or require that implementation assurances, including financial, be in place when necessary to assure the development, maintenance and long-term viability of the mitigation measure.

B. Mitigation Planning Policies

1. Conservation Outcomes

The Service's goal for mitigation planning is to ensure that an action results in no net loss toward achieving conservation objectives for the affected resources. We define conservation objectives as measurable expressions of desired conservation outcomes, i.e., population and/or habitat. In the context of this policy, "no net loss" means that when the action is completed, including all associated mitigation activities, the status of the affected resources in the relevant landscape context is no farther from the condition desired for those resources than when the action was initiated.

When appropriate, the Service will also seek a net gain in conservation outcome. It is consistent with the Service's mission to identify and promote opportunities for a net gain towards achieving conservation objectives during mitigation planning. A net gain that decreases the gap between the current and desired status of a resource is resource enhancement. Mitigation planning often presents practicable opportunities to implement mitigation measures in a manner that outweighs impacts to affected resources. When resource enhancement is also consistent with the mission, responsibilities, and/or authorities of action proponents, the Service shall cooperate with proponents to develop means and measures that result in a net gain towards achieving conservation objectives for the resources affected by their actions. Examples of such proponents include federal agencies and others when the following responsibilities apply to their actions:

- carry out programs for the conservation of endangered and threatened species (Endangered Species Act, section 7(a)(1));
- consult with the Service regarding both mitigation and enhancement in water resources development (Fish and Wildlife Coordination Act, Section 2);
- enhance the quality of renewable resources (National Environmental Policy Act, section 101(b)(6)); and/or
- restore and enhance bird habitat (Executive Order 13186, section 3(e)(2)).

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Conservation objectives are typically aimed at maintaining or increasing measures of species abundance and/or the habitat resources necessary to secure these, but many that are also relevant to mitigation planning are aimed at reducing threats (e.g., controlling or reducing populations of exotic, invasive, or other overabundant species). Mitigation addresses impacts, and we define impacts in this policy as adverse effects relative to achieving conservation objectives. For example, an action that would decrease the abundance of a species for which the conservation objective seeks an increase is an impact, but an action that would decrease the abundance of an invasive species may be a beneficial effect.

Because the enormous diversity of resources of conservation interest generally exceeds resource agency capacity for biological planning, conservation objectives vary widely in specificity. The spectrum of specificity ranges from agency recognition that a species warrants conservation action due to apparent population declines, to spatially-explicit population abundance/productivity targets with associated estimates of the quantity, quality, and distribution of habitat types needed to support those targets. This policy applies to the full range of this spectrum, but will achieve greater efficiency (impact reduction per unit mitigation effort) when informed by conservation planning of greater specificity.

In particular, spatially-explicit habitat objectives for achieving population objectives provide a direct basis for identifying areas that are most important for avoiding and minimizing impacts, improving habitat suitability, and compensating for unavoidable impacts to species. Mitigation planning is just as essential for species with more general conservation objectives, e.g., stop, reverse, or prevent a documented population decline, but without biological planning of greater specificity, the most effective means and measures to achieve no net loss are less apparent. For this reason, and because some actions affect a large number of species of conservation interest, mitigation planning under this policy focuses on evaluation species (section V.B.4). Evaluation species may serve as surrogates to represent other affected species or aspects of the environment. Species that are addressed in conservation plans relevant to the affected area and for which habitat objectives are articulated provide significant advantages as evaluation species.

2. Collaboration

- a. The Service will coordinate activities with the appropriate state and federal agencies and tribes with responsibilities for fish and wildlife resources when developing mitigation recommendations for resources of concern to those entities. This coordination will develop compatible approaches and avoid duplication of efforts.
- b. The Service will collaborate with other federal and state agencies, tribes, and stakeholders in the formulation of landscape-level mitigation strategies.
- c. Service programs will coordinate with partners to develop, maintain, and disseminate tools and conduct training.

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3. Assessment Principles

Effects are changes in environmental conditions that are relevant to the resources covered by this policy. This policy addresses effects to fish, wildlife, plants and their habitats. We define impacts as adverse effects, which are losses relative to achieving conservation objectives for the affected resources. Mitigation is the general label for all measures implemented as part of an action to avoid, minimize, rectify, reduce, and/or compensate for its predicted impacts. The goal of Service mitigation planning under this policy is to formulate mitigation measures that ensure an action will result in no net loss toward achieving conservation objectives for the affected resources. Predictions about the effectiveness of mitigation measures carry varying degrees of risk and uncertainty. The Service should design mitigation measures to achieve no net loss for affected resources that is commensurate with the degree of risk and uncertainty associated with predicted effects and predicted outcomes of the mitigation measures. The following principles shall guide the Service's assessment of effects and mitigation measures:

- a. The determination as to whether predicted effects are adverse (impacts) or beneficial depends on the conservation objectives for the affected resources and is therefore, the responsibility of the Service and other federal and state resource agencies of applicable jurisdiction.
- b. The Service shall consider action effects and mitigation outcomes within a planning horizon that is commensurate with the expected duration of the action's net impacts. In predicting whether mitigation measures will achieve the no net loss goal for affected resources during the planning horizon, the Service shall recognize that predictions about the more-distant future are more uncertain and adjust the mitigation recommendations accordingly. For actions with long-term net impacts, the Service shall adopt a planning horizon of reasonable duration and consistent with accepted practice for the predictive methodologies employed.
- c. Action proponents should provide reasonable predictions about environmental conditions relevant to the affected area both with and without the action. If such predictions are not provided, the Service shall assess the effects of a proposed action over the planning horizon considering: 1) the full spatial and temporal extent of resource-relevant direct and indirect effects, including resource losses in the interim between implementation of the action and mitigation measures; and 2) any cumulative effects to the affected resources resulting from existing or anticipated activities in the landscape context. When assessing the affected area without the action, the Service will also evaluate 1) expected natural species succession; 2) implementation of approved restoration/improvement plans; and 3) reasonably foreseeable conditions resulting directly or indirectly from climate change.
- d. The Service will use the best available effect assessment methodologies that:

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- i. Display data in a manner that allows decision-makers, action proponents, and the public to compare present and predicted future conditions for affected resources.
 - ii. Measure adverse and beneficial effects using common metrics to predict the mitigation that is necessary to provide for no net loss relative to conservation objectives for the affected resources.
 - iii. Predict effects over time, including changes to affected resources that would occur with and without the action, changes induced by climate change, and changes resulting from reasonably foreseeable actions.
 - iv. Are practical and cost-effective commensurate with the scope and scale of resource effects.
 - v. Are sufficiently sensitive to estimate the type and relative magnitude of effects across the full spectrum of anticipated beneficial and adverse effects.
 - vi. May integrate predicted effects with data from other disciplines such as cost or socioeconomic analysis.
 - vii. Allow for incorporation of new data or knowledge, as action planning progresses.
- e. Where appropriate effects assessment methods or mitigation technologies are not available, Service employees shall apply best professional judgment supported by best available science to develop mitigation recommendations.

4. Evaluation Species

Selecting evaluation species varies according to action-specific circumstances and conservation objectives for species and habitats in the affected area. Because the purpose of Service mitigation planning is to develop a set of recommendations that, if implemented with the proposed action, would result in no net loss towards achieving conservation objectives for affected resources, the Service should select evaluation species for which conservation objectives have the greatest overlap with action effects.

An evaluation species must occur within the affected area for at least one stage of its life history, but as other authorities permit, the Service may consider species that are not currently present as evaluation species if:

- 1) the species is identified in approved state or federal fish and wildlife conservation, restoration, or improvement plans that include the affected area; or
- 2) the species is likely to occur in the affected area during the reasonably foreseeable future with or without the proposed action due to natural species succession.

Evaluation species may or may not occupy the affected area year-round or when direct effects of the action would occur.

The Service should select the smallest set of evaluation species necessary to relate the effects of an action to the full suite of affected species and applicable authorities, including all species for which the Service is required to issue opinions, permits, or other regulatory determinations. When actions would affect a large number of species of conservation interest, evaluation species should serve as surrogates to represent other affected species or aspects of the environment. Mitigation measures formulated for the

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evaluation species will likely also mitigate impacts to other similarly affected species. Depending on the action's effects and the conservation objectives for affected species, characteristics of evaluation species that are useful in mitigation planning may include, but are not limited to the following:

- Species that are addressed in conservation plans relevant to the affected area and for which habitat objectives are articulated.
- Species strongly associated with an affected habitat type.
- Species for which habitat limiting factors are well understood.
- Species that perform a key role in ecological processes (e.g., nutrient cycling, pollination, seed dispersal, predator-prey relations), which may therefore serve as indicators of ecosystem health.
- Species that require large areas of contiguous habitat, connectivity between disjunct habitats, or a distribution of suitable habitats along migration/movement corridors, which may therefore serve as indicators of landscape-scale ecosystem functions.
- Species that belong to a group of species (a guild) that uses a common environmental resource.
- Species for which sensitivity to one or more anticipated effects of the proposed action is documented.
- Species with special status (e.g., species of concern in E.O. 13186, Birds of Conservation Concern).
- Species of cultural or religious significance to tribes.
- Species that provide monetary and non-monetary benefits to people from consumptive and non-consumptive uses including, but not limited to fishing, hunting, bird watching, and educational, aesthetic, scientific, or subsistence uses.
- Species with characteristics such as those above that are also easily monitored to evaluate the effectiveness of mitigation actions.

5. Mitigation and the Landscape Approach

The Service recognizes that a landscape-scale approach to habitat conservation is essential for the long-term protection of fish, wildlife, and plant resources. Conservation efforts at larger scales are more likely to be effective at sustaining functional ecosystems. Functional ecosystems can enhance the resilience of fish and wildlife populations challenged by the wide-spread stressors of climate change, invasive species, and continuing human alteration of the landscape. Ensuring the continued benefits of these resources to the American people depends on functional ecosystems containing the quantity, quality, and spatial distribution of habitats at scales (e.g., watershed, ecoregion, flyway, species' range) that support the full life-cycle needs of sustainable biotic communities. In light of observed and accelerating changes in climate and related impacts, a variety of climate adaptation measures are expected to be part of federal agency landscape approaches to conservation to manage lands and waters for climate preparedness and resilience (E. O. 13653):

- “preparedness” means actions taken to plan, organize and otherwise build and sustain capabilities necessary to prevent, protect against, ameliorate the effects of,

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respond to, and recover from climate change related damages, including such damages to ecosystems;

- “adaptation” means adjustment in natural or human systems in anticipation of or response to a changed environment in a way that effectively uses beneficial opportunities or reduces negative effects; and
- “resilience” means the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.

Consistent with our authorities to serve the public interest in fish and wildlife resources, the Service is working continuously with partners at various landscape scales to establish conservation objectives for populations and species, and to develop and implement strategies for achieving such objectives. A primary purpose of this policy is to align Service-recommended mitigation for impacts to fish and wildlife resources with these landscape-scale conservation strategies. Mitigation planning that is informed by a landscape approach will assist in achieving our goal of a no net loss in conservation objectives and can help guide efforts to provide a net gain in conservation outcomes. At the same time, the Service recognizes that the landscape-scale approach to conservation will sometimes need to be augmented by consideration of a finer scale approach to attain conservation objectives for affected species in situations where the needs of the species cannot be adequately addressed at the landscape scale, e.g., a species with a highly restricted range.

The goal of Service mitigation recommendations under this policy is to ensure that actions result in no net loss toward achieving conservation objectives for the affected species and their habitats. Meeting this goal involves identifying conservation objectives that are relevant to the proposed action, selecting evaluation species, assigning affected habitats to one of four Resource Categories, and formulating mitigation measures according to the guidance for each Category. Resource Categories 1 through 4 represent a spectrum that emphasizes impact avoidance measures for the most important, suitable, and scarce habitats, and encourages compensatory measures for habitats of lesser conservation importance, suitability, and greater abundance.

The criteria for selecting evaluation species and making Resource Category assignments are designed to place mitigation planning in a landscape conservation context by applying the various types of mitigation where they are most effective at achieving the no-net-loss goal, and when practicable and consistent with proponents’ authorities, a net gain in conservation outcomes. The Service recognizes the inefficiency of a rigid application under all circumstances of the traditional mitigation sequencing hierarchy of avoiding losses to the maximum extent practicable, followed by measures to minimize, rectify, and reduce over time, and lastly by compensatory measures for any remaining impacts. For example, the cost and effort involved in avoiding impacts to a habitat that is likely to become isolated or otherwise unsuitable in the foreseeable future may achieve a greater conservation benefit by being directed toward locating off-site compensatory mitigation in an area(s) that would contribute more toward achieving the conservation objectives for the affected resources. Conversely, on-site avoidance is the priority where impacts would

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substantially impair progress toward achieving conservation objectives. The policy for Category 1 resources is to recommend avoidance of all impacts.

Landscape-scale conservation planning is a process of identifying and conserving those features on a landscape necessary for the long-term conservation of biodiversity and ecological function along with consideration of existing and projected community infrastructure needs. Landscape-scale mitigation plans may significantly contribute to conservation strategies (e.g., a watershed-wide program for removing the threat of invasive species) that can lead to net gains in conservation outcomes. Through such plans, agencies may coordinate site-scale mitigation actions to achieve landscape-scale conservation objectives that are otherwise not possible.

Existing conservation plans based on a landscape approach can be used to assist mitigation planning, provided these plans reflect the best available scientific information, incorporate climate change adaptation considerations, and contain specific goals aimed at the biological needs of the affected resources. Where existing conservation plans are not available or have not yet been updated to incorporate consideration of the best scientific information available, Service personnel should develop appropriate mitigation recommendations and requirements based on this policy and other relevant guidance. The Service supports the development of advance mitigation plans to achieve such efficiencies, particularly in areas where multiple similar actions are expected to adversely affect a similar suite of species.

Features of Advance Mitigation Planning at Larger Scales

Advance mitigation plans should complement or tier from existing conservation strategies for the affected resources. Effective and efficient advance mitigation plans identify the highest-priority resources and areas on a regional or landscape scale, prior to and without regard to specific actions, in which to focus both: 1) resource protection for avoiding impacts; and 2) resource enhancement for compensating unavoidable impacts. Developing advance mitigation plans should involve stakeholders in a transparent process for defining its objectives and the means to achieving those objectives. Plans should establish standards for determining the appropriate scale, type, and location of mitigation for impacts to specific resources within the planning area. Adopted plans that incorporate these features are likely to substantially shorten the time needed for action review and regulatory approval as actions are subsequently proposed. Advance mitigation plans developed as programs under the NEPA decision-making process will provide efficiencies for project-level federal actions and will also better address potential cumulative impacts.

Procedurally, advance mitigation planning should draw upon existing land-use plans and databases associated with human infrastructure, including transportation, water and energy development, as well as ecological data and conservation plans for floodplains, water quality, high-value habitats, and key species. Stakeholders and Service personnel process these inputs to design a conservation network that considers needed community infrastructure and clearly prioritizes the role of mitigation in conserving natural features

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that are necessary for long-term maintenance of ecological functions on the landscape. As development actions are proposed, an effective advance regional mitigation plan will provide a transparent process for identifying appropriate mitigation opportunities within the regional framework, and selecting the mitigation projects with the greatest aggregated conservation benefits.

6. Resource Categories

Species conservation relies on functional ecosystems, and habitat conservation is generally the best means of achieving species population objectives. This policy structures the Resource Categories in recognition of the Service's overall goal for mitigation planning, to ensure that an action results in no net loss toward achieving conservation objectives for the affected resources. Section V.B.4 provides the guidance for selecting evaluation species to represent these resources. The single mitigation planning goal applies to all Resource Categories but application of the mitigation hierarchy may vary based on the Resource Category determination.

Service assessment of an affected habitat's scarcity, suitability, and importance for evaluation species shall determine its Resource Category (Figure 1), which specifies the general mitigation types (avoid, minimize, rectify, reduce, compensate) that are applicable to achieving the planning goal, and the Service's preferred emphasis for these types. This policy does not supply detailed thresholds for valuation levels (i.e., high, medium, low, or rare, common, abundant) within the three parameters used in making a Resource Category determination. The Service has flexibility in applying appropriate methodologies for determining those levels, but a responsibility to communicate the rationale applied in both the parameter valuation level and Resource Category determination, as described in section V.B.8 (Documentation Standards). In making Resource Category assignments, habitat scarcity serves to distinguish only Category 1 habitats from Category 2 habitats, but may influence the relative emphasis for mitigation types in Categories 2, 3, and 4 that are applied to achieve the mitigation planning goal, as noted below.

By incorporating the valuation parameter of an affected habitat's importance, this policy reinforces that Resource Category determinations are linked to landscape-scale conservation objectives.

When more than one evaluation species uses an affected habitat, the highest valuation determines the category assignment. The Service recognizes that final mitigation recommendations may involve a combination of components of the mitigation hierarchy.

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Figure 1. Resource Categories

	High Importance	Moderate Importance	Low Importance
High Suitability	CATEGORY 1 <i>When Rare or Common (not Abundant)</i>	CATEGORY 2	CATEGORY 2
	CATEGORY 2 <i>When Abundant</i>		
Moderate Suitability	CATEGORY 2	CATEGORY 3	CATEGORY 3
Low Suitability	CATEGORY 2	CATEGORY 3	CATEGORY 4

Category 1

Scarcity: rare or common (not abundant); and
Suitability and Importance: both are high.

Applicable Mitigation Types: avoid impacts. Due to the high suitability and importance of the affected habitat to the conservation of evaluation species, which is of a type that is not abundant in the landscape context, the Service shall seek to avoid impacts.

Category 2

Scarcity: abundant; and Suitability and Importance: both are high;
-or-
Scarcity: rare, common, or abundant; and
Suitability and Importance: one is high.

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Applicable Mitigation Types: the full mitigation hierarchy is applicable. The Service shall seek to avoid, minimize, rectify, and reduce impacts, in that order, to the maximum extent reasonable and practicable, before considering compensating for impacts to achieve the mitigation planning goal. An abundant habitat type of moderate or low importance in this category may justify a preference for compensating for impacts in an area of higher importance to evaluation species.

Category 3

Suitability and Importance: both are moderate or one is moderate.

Applicable Mitigation Types: the full mitigation hierarchy is applicable. The Service shall give equal consideration to compensating for impacts along with reasonable and practicable measures to avoid, minimize, rectify, and reduce impacts to achieve the mitigation planning goal. An abundant habitat type in this category may justify a preference for compensating for impacts in an area of higher importance to evaluation species. A rare habitat type in this category may justify a preference for avoiding and minimizing impacts.

Category 4

Suitability and Importance: both are low.

Applicable Mitigation Types: compensate for impacts. The Service shall give primary consideration to compensating for impacts to achieve the mitigation planning goal. A rare habitat type in this category may justify avoiding or minimizing impacts, particularly when there is a lack of data for species using the habitat.

7. Mitigation Recommendations

a. General Provisions.

Consistent with applicable authorities, the policy's fundamental principles, and the mitigation planning principles described herein, the Service shall provide recommendations to mitigate the impacts of proposed actions to fish, wildlife, plants and their habitats at the earliest practicable stage of action planning to assure maximum consideration. The Service will develop mitigation recommendations in cooperation with the action proponent and/or the applicable authorizing agency, considering the cost estimates and other information that the proponent/agency provide about the action and its effects. Service mitigation recommendations shall be based on the best scientific information available, and shall represent our best judgment as to the most practicable means of ensuring that a proposed action results in no net loss toward achieving conservation objectives for the affected resources. However, because actions vary substantially in scope and complexity, the depth and breadth of Service analysis and documentation supporting mitigation recommendations should be commensurate with the significance of the potential impacts to resources. The Service will provide mitigation recommendations under an explicit expectation that the action proponent or the applicable authorizing agency is fully responsible for implementing or enforcing the recommendations.

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It is not the Service's role to support or oppose lawful actions for which the primary purpose is unrelated to our conservation mission, and the Service respects the rights and authorities of action proponents and other agencies. The Service shall strive to provide mitigation recommendations, including reasonable alternatives to the proposed action, that if fully and properly implemented would achieve the best possible outcome for affected resources while also achieving the stated purpose of the proposed action. However, on a case-by-case basis, the Service may recommend the "no action" alternative. For example, when reasonable and practicable means of avoiding significant impacts to Category 1 habitats and associated species are not available, the Service may recommend the "no action" alternative.

b. Preferences

i. Compensatory mitigation timing preferences

The preferred timing for conducting or securing Service-recommended or required compensatory mitigation measures is before the impacts of the action occur. The scale of compensatory measures that are not completed until after action impacts occur shall account for the interim loss of resources consistent with the Assessment Principles (section V.B.3).

ii. Preferred characteristics of compensatory mitigation projects

The Service will give preference to compensatory mitigation options with the following characteristics that are intended to ensure successful implementation and durability:

1. A restoration or habitat development plan that: describes baseline conditions of the site and surrounding area; discusses habitat goals; describes methodologies to be used; establishes ecological performance standards to gauge success; and discusses monitoring and reporting schedules, including the handling of any necessary corrective actions.
2. A long-term management plan that describes activities to be conducted after performance standards have been met; identifying the maintenance, management and monitoring steps necessary to ensure permanence of the compensatory mitigation.
3. Real estate protections that ensure a compensatory mitigation site will continue to mitigate impacts for the full period specified in the relevant permit, consultation, license, or other agreement. Conservation easements must be held by a qualified third party.
4. Financial assurances that guarantee that construction and establishment of habitat occurs and performance standards are met in the short-term and that ensure that long-term stewardship of a site is appropriately funded. Funds established must be held by a qualified entity.

iii. Preferences for mitigation in relation to landscape-level plans

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The preferred location for Service-recommended or required compensatory mitigation measures is within the boundaries of an existing strategically planned, interconnected conservation network that serves the conservation objectives for the affected resources in the relevant landscape context. Compensatory measures should enhance habitat connectivity or contiguity, or strategically improve targeted ecological functions important to the affected resources.

Similarly, Service-recommended or required mitigation should emphasize avoiding impacts to habitats located within a planned conservation network, consistent with the Resource Categories guidance (section V.B.6).

Where existing conservation networks or landscape-scale conservation plans are not available in the landscape context relevant to the affected resources, Service personnel should develop mitigation recommendations and requirements based on principles of a landscape approach described in section V.B.5 that would maximize the effectiveness of the mitigation measures for the affected resources.

iv. Preferences for locating mitigation on public or private lands

The Service may recommend or require that compensatory mitigation be established on private, public, or tribal lands. The Service will generally recommend or require that compensatory mitigation be established on lands with the same classification of ownership as the project site for which the mitigation is needed. For example, impacts to evaluation species on private lands are generally mitigated on private lands. Maintaining the same classification of land ownership between the impact and mitigation site may be important in preventing a long-term net loss in conservation to the evaluation species. Because most private lands are not already permanently protected for conservation and are more vulnerable to development, mitigating impacts to any type of land ownership on private lands is usually acceptable. Mitigating impacts to private lands on public lands is generally not acceptable if the public lands are designated as conservation lands for natural resources. Lands already designated for conservation purposes cannot be used as compensatory mitigation, unless the proposed compensatory mitigation project would provide additional conservation benefit above and beyond that attainable under the existing land designation.

In general, the Service does not support compensatory mitigation on public land that is already permanently protected for the purpose of conserving natural resources. In the case of federal lands, there is an expectation that the government will adequately fund all future conservation requirements. In particular, the Service does not support compensatory mitigation on public lands for impacts to evaluation species on private lands due to the risk of facilitating a long-term net loss of conservation for evaluation species. Also, the Service will not support a mitigation arrangement in which federal funds are used to subsidize a federal compensatory mitigation requirement for private project proponents.

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The Service recognizes that under certain circumstances, compensatory mitigation on public lands may be appropriate. The Service will consider locating compensatory mitigation on public lands already protected for the purpose of conservation to be appropriate only when: (1) all appropriate sequencing for mitigation of impacts has occurred in accordance with this policy; (2) the public land location will provide the greatest contribution towards achieving conservation objectives for the evaluation species; (3) the additional conservation benefit above and beyond that attainable under the existing land designation can be demonstrated and quantified; (4) the durability of the compensatory mitigation has been adequately addressed; (5) it is consistent with and not otherwise prohibited by all relevant statutes, regulations, and policies; (6) private lands suitable for achieving the identified conservation objectives through compensatory mitigation are unavailable; and (7) the overall conservation strategy specifically calls for actions on public lands. For compensatory mitigation proposed for siting on National Wildlife Refuge (NWR) lands, additional considerations covered in the Service's Final Policy on the NWR System and Compensatory Mitigation Under the section 10/404 Program (64 FR 49229-49234) may apply.

Ensuring the durability of compensatory mitigation on public lands may require multiple tools beyond land use plan designations, including right-of-way grants, withdrawals, disposal or lease of land for conservation, conservation easements, cooperative agreements, and agreements with third parties. Mechanisms to ensure durability of land protection for compensatory mitigation on public lands varies among agencies, but should preclude conflicting uses and ensure protection and management of the mitigation land is commensurate with the magnitude and duration of impacts.

c. Coordination with action agencies and applicants

The Service should engage agencies and applicants during the early planning and design stage of actions. The Service is encouraged to engage in early coordination during the NEPA process, to resolve issues in a timely manner (516 DM 8.3). Coordination during early planning, including participation as a cooperating agency or on interdisciplinary teams, can lead to more effective mitigation outcomes. The Federal Highway Administration (FHWA) is most likely to adopt alternatives that avoid or minimize impacts when the Service provides early comments under Section 4(f) of the Transportation Act of 1966 relative to impacts to refuges or other Service-supported properties. When, in the course of Service review, staff identify potential impacts to tribal interests, the Service, in coordination with affected tribes, may recommend mitigation measures to adequately address those impacts. Recommendations will carry more weight when the Service and tribe have overlapping authority for the resource in question and when coordinated through government-to-government consultation.

d. Policy Flexibility

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This policy provides a framework and guidance for the Service in recommending mitigation for impacts to resources resulting from proposed actions, but variations appropriate to action-specific circumstances are permitted. The Service shall document the reasons for such variations in the written recommendations provided to action proponents.

- e. Recreation-related mitigation recommendations and use of mitigation lands
 - i. *Mitigation for reduced human uses of wildlife and habitat*
The Service may address recreational use losses that are not addressed through habitat mitigation with separate and distinct recreational use mitigation recommendations. The Service will generally not recommend measures to increase recreation values as mitigation for habitat losses.
 - ii. *Recreational use of mitigation lands*
Consistent with applicable statutes, the Service supports those recreational uses on mitigation lands (e.g., recreational, cultural) that are compatible with fish and wildlife conservation goals. If certain uses are incompatible with fish and wildlife conservation goals for the mitigation lands, the Service may recommend against such uses.

8. Documentation Standards

The Service should advise action proponents and decision-making agencies at timely stages of the planning process. To assure maximum consideration of Service recommendations, it is generally possible to communicate key concerns that will inform our recommendations early, additional components during and following an initial assessment of effects, and final written recommendations toward the end of the planning process in advance of a final decision for the action. The following outline lists the components applicable to these three planning stages. Because actions vary substantially in scope and complexity, these stages may extend over a period of years or occur almost simultaneously, which may necessitate consolidating some of the components listed below. For all actions, the depth and breadth of Service analysis and documentation should be commensurate with the significance of the potential impacts to resources.

- a. Early Planning
 - i. Inform the proponent of the Service's no-net-loss goal for mitigation planning and that the Service may identify opportunities for a net conservation gain if appropriate.
 - ii. Coordinate key data collection and planning decisions with the proponent, relevant tribes, and federal and state resource agencies; including, but not limited to:
 - 1. delineate the affected area;
 - 2. define the planning horizon;

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3. identify species that may occur in the affected area that the Service is likely to consider as evaluation species for mitigation planning;
 4. identify conservation plans and objectives that pertain to these species and the affected area;
 5. define surveys, studies, and preferred methods necessary to inform effects analyses;
 6. as necessary, identify reasonable alternatives to the proposed action that may achieve the proponent's purpose and the Service's no-net-loss goal for resources.
- iii. As early as possible, inform the proponent of the presence of probable Category 1 habitats in the affected area, and advise the proponent of Service policy to avoid all impacts to such habitats.
- b. Effects Assessment
- i. Coordinate selection of evaluation species with relevant tribes, and federal and state resource agencies.
 - ii. Communicate the rationale for affected Resource Category assignments and the sequence and types of mitigation that apply to each category under this policy.
 - iii. If Category 1 habitats are affected, advise the proponent of the Service's policy to avoid all impacts to such habitats.
 - iv. Assess action effects to evaluation species and their habitats.
 - v. Formulate mitigation options that would achieve the no net loss goal in coordination with the proponent and relevant tribes, and federal and state resource agencies.
- c. Final Recommendations
- The Service's final mitigation recommendations should communicate in writing the following:
- i. The authorities under which the Service is providing the mitigation recommendations consistent with this policy.
 - ii. A description of all mitigation measures that the Service believes are reasonable and appropriate to ensure that the proposed action results in no net loss toward achieving conservation objectives for affected fish, wildlife, plants and their habitats.
 - iii. The following elements should be specified within a mitigation plan or equivalent by either the Service, action proponents, or in collaboration :
 1. measurable objectives;
 2. implementation assurances, including financial, as applicable;

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3. effectiveness monitoring;
 4. additional adaptive management actions as may be indicated by monitoring results; and
 5. reporting requirements.
- iv. An explanation of the basis for the Service recommendations, including, but not limited to:
1. evaluation species used for mitigation planning;
 2. planning categories to which affected habitats were assigned;
 3. predicted adverse and beneficial effects of the proposed action;
 4. predicted adverse and beneficial effects of the recommended mitigation measures; and
 5. the rationale for our determination that the proposed action, if implemented with Service recommendations, would achieve the no-net-loss goal.
- v. The Service's expectations of the proponent's responsibility to implement the recommendations.

9. Mitigation Means and Measures

The means and measures that the Service recommends for achieving the no-net-loss goal of this policy are action- and resource-specific applications of the five general types of impact mitigation: avoid, minimize, rectify, reduce over time, and compensate. The emphasis that the Service gives to each type depends on the evaluation species selected (section V.B.4) and the Resource Categories (section V.B.6) to which their affected habitats are assigned. Resource Category assignments align mitigation planning with landscape-scale habitat conservation planning for the evaluation species by giving priority to mitigation types that should most efficiently achieve habitat objectives, e.g., by identifying where it is preferable to avoid habitat impacts (Category 1) and to compensate for habitat impacts (Category 4). Nothing in this policy supersedes the statutes and regulations governing prohibited "taking" of wildlife (e.g., ESA-listed species, migratory birds, eagles); however, the policy applies to mitigating the impacts to habitats and ecological functions that support populations of evaluation species, including federally protected species. Attaining the goal of no net loss towards achieving conservation objectives for evaluation species will often involve applying a combination of mitigation types. For each of the five mitigation types, this section provides an expanded definition, explains its place in this policy, and lists generalized examples of its intended use in Service mitigation recommendations. Ensuring that Service-recommended mitigation measures are implemented and effective is addressed in section V.B.8.

- a. Avoid the impact altogether by not taking a certain action or parts of an action.

Avoiding impacts is the first tier of the mitigation hierarchy. Avoidance ensures that an action has no direct or indirect effects during the planning horizon (relative to no

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action) on fish, wildlife, plants and their habitats. Actions may avoid direct effects to a resource (e.g., by shifting the location of the construction footprint), but unless the action also avoids indirect effects (e.g., loss of habitat suitability by resulting isolation from other habitats, accelerated invasive species colonization, degraded water quality, etc.), the Service shall not consider that impacts to a resource are fully avoided. In some cases, indirect effects may result in population and habitat losses that negate any conservation benefit from avoiding direct effects. The Service shall recommend avoiding all impacts to Category 1 resources. Avoidance is the first priority for mitigating impacts to Category 2 resources, receives equal consideration with compensating for impacts to Category 3 resources, and is a secondary priority for mitigating impacts to Category 4 resources. Generalized examples follow.

- i. Design the timing, location, and/or operations of the action so that specific resource losses would not occur.
 - ii. Add structural features to the action (e.g., fish and wildlife passage structures, water treatment facilities, erosion control measures) that would eliminate specific losses to affected resources.
 - iii. Adopt a non-structural alternative to the action that would not cause resource losses (e.g., stream channel restoration with appropriate grading and vegetation in lieu of rip-rap).
 - iv. Adopt the no-action alternative.
- b. Minimize the impact by limiting the degree or magnitude of the action and its implementation.

Minimizing impacts is the second tier of the mitigation hierarchy. Minimizing is reducing the intensity of the impact (e.g., population loss, habitat loss, reduced habitat suitability, reduced habitat connectivity, etc.) to the maximum extent reasonable and practicable. Minimization receives first priority for mitigating unavoidable impacts to Category 2 resources, receives equal consideration with compensating for impacts to Category 3 resources, and is a secondary priority for mitigating impacts to Category 4 resources. Generalized examples follow.

- i. Reduce the overall spatial extent and/or duration of the action.
- ii. Adjust the daily or seasonal timing of the action.
- iii. Retain key habitat features within the affected area that would continue to support life-history processes for the evaluation species.
- iv. Adjust the spatial configuration of the action to retain corridors for species movement between functional habitats.
- v. Apply best management practices to reduce water quality degradation.
- vi. Adjust the magnitude, timing, frequency, duration, and/or rate-of-change of water flow diversions and flow releases to minimize the alteration of flow regime features that support life history processes of evaluation species.
- vii. Install screens and other measures necessary to reduce aquatic life entrainment/impingement at water intake structures.

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- viii. Install fences, signs, markers, and other measures necessary to protect resources from action impacts (e.g., fencing riparian areas to exclude livestock, marking a heavy-equipment exclusion zone around burrows, nest trees, and other sensitive areas).
- c. Rectify the impact by repairing, rehabilitating, or restoring the affected environment.

Rectifying impacts is the third tier of the mitigation hierarchy. Rectifying is restoring to some degree, or possibly improving relative to no-action conditions, a loss in habitat availability and/or suitability for the evaluation species within the affected area. Rectifying impacts may also involve directly restoring a loss in populations through stocking. Rectifying is the first priority for mitigating impacts remaining after applying all reasonable and practicable avoidance and minimization measures to Category 2 resources. It receives equal consideration with compensating for impacts to Category 3 resources, and is a secondary priority for mitigating impacts to Category 4 resources. Generalized examples follow.

- i. Repair physical alterations of the affected areas to restore pre-action conditions or improve habitat suitability for the evaluation species (e.g., re-grade staging areas to appropriate contours, loosen compacted soils, restore altered stream channels to stable dimensions).
 - ii. Plant and ensure the survival of appropriate vegetation where necessary to restore or improve habitat conditions (quantity and suitability) for the evaluation species and to stabilize soils and stream channels.
 - iii. Provide for fish and wildlife passage through or around action-imposed barriers to movement.
 - iv. Consistent with all applicable laws, regulations, policies, and conservation plans, stock species that experienced losses in affected areas when habitat conditions are able to support them.
- d. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.

Reducing impacts over time is the fourth tier of the mitigation hierarchy. Reducing impacts over time is preserving and maintaining the populations, habitats, and ecological functions that remain in an affected area following the impacts of the action, including areas that are successfully restored or improved through rectifying mitigation measures. Preservation and maintenance operations may improve upon conditions that would occur without the action (e.g., when such operations would prevent habitat degradation expected through lack of management needed for an evaluation species). Reducing impacts over time is an appropriate means to achieving the no-net-loss goal after applying all reasonable and practicable avoidance, minimization, and rectification measures to Category 2 resources. It receives equal consideration with compensating for impacts to Category 3 resources, and is a secondary priority for mitigating impacts to Category 4 resources. Generalized examples follow.

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- i. Control land uses and limit disturbances to portions of the affected area that may continue to support the evaluation species.
 - ii. Control invasive species.
 - iii. Manage fire-adapted habitats with an appropriate timing and frequency of prescribed fire, consistent with applicable laws, regulations, policies, and conservation plans.
 - iv. Maintain or replace equipment and structures to prevent losses of fish and wildlife resources due to equipment failure (e.g., cleaning and replacing trash racks and water intake screens, maintaining fences that limit access to environmentally sensitive areas).
 - v. Ensure proper training of personnel in operations necessary to preserve existing or restored fish and wildlife resources in the affected area.
- e. Compensate for the impact by replacing or providing substitute resources or environments.

Compensating for impacts is the fifth tier of the mitigation hierarchy. Compensation is protecting, maintaining, and/or restoring habitats and ecological functions for an evaluation species, generally in an area outside the action's affected area. Mitigating some percentage of unavoidable impacts through measures that minimize, rectify, and reduce losses over time is often reasonable and practicable, but the costs or difficulties of mitigation may rise rapidly thereafter to achieve no net loss entirely within the action's affected area. In such cases, a lesser or equivalent effort applied in another area may achieve greater benefits for the evaluation species. Likewise, the effort necessary to mitigate the impacts to a habitat of low suitability and low importance (Resource Category 4) will more likely achieve sustainable benefits for an evaluation species if invested in enhancing a habitat of moderate suitability and high importance. This policy is designed to apply the various types of mitigation where they may achieve the greatest efficiency towards achieving the no-net-loss goal. Compensation is the first priority for mitigating impacts to Category 4 resources, receives equal consideration with all other mitigation types for impacts to Category 3 resources, and is a secondary priority for mitigating impacts to Category 2 resources.

The Service encourages proponents to offset unavoidable resource losses in advance of their actions. Further, the Service considers the entrepreneurial banking of habitat value for the express purpose of compensating for future unavoidable losses as a legitimate form of mitigation, provided that withdrawals from a conservation bank are commensurate with losses of habitat value (considering suitability and importance) for the evaluation species, and not based solely upon the affected habitat acreage or the cost of land purchase and management. Resource losses compensated through purchase of bank credits may include, but are not limited to habitat impacts to species covered by one or more Service authorities.

The mechanisms for delivering compensatory mitigation differ according to: (1) who is ultimately responsible for the success of the mitigation (the action proponent or a

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third party); (2) whether the mitigation site is within or adjacent to the impact site (on-site) or at another location that provides either equivalent or additional resource value (offsite); and (3) when resource benefits are secured (before or after resource impacts occur). Regardless of the delivery mechanism, species conservation strategies and other landscape-level conservation plans that are based on the best scientific information available are expected to provide the basis for establishing and operating compensatory mitigation sites and programs. Such strategies and plans should also inform the assessment of species-specific impacts and benefits within a defined geography. The Service supports the application of equivalent ecological, procedural, and administrative standards for all compensatory mitigation mechanisms. Descriptions of the general characteristics of the three most common mechanisms follow.

- i. *Proponent-Responsible Mitigation.* A proponent-responsible mitigation site provides ecological functions and services in accordance with Service-approved standards to offset the habitat impacts of a proposed action on particular species. As its name implies, the action proponent is solely responsible for ensuring that the compensatory mitigation activities are completed and successful. For ESA-listed species, a section 10 permit or section 7 consultation may specify the plan for using a site as compensatory mitigation. Proponent-responsible mitigation may occur on-site or off-site relative to action impacts, and each proponent-responsible mitigation site is linked to the resource impacts that required the offset. Proponent-responsible compensatory mitigation should occur in advance of action impacts, but may occur afterwards.
- ii. *Conservation Banks.* A conservation bank is a site or suite of sites that provides ecological functions and services expressed as credits that are conserved and managed in perpetuity for particular species and are used expressly to offset impacts occurring elsewhere to the same species. Some mitigation banks established to offset impacts to wetland habitats under Section 404 of the Clean Water Act may also serve the species-specific purposes of a conservation bank. Mitigation and conservation banks are typically for-profit enterprises that apply habitat restoration, creation, enhancement, and/or preservation techniques to generate credits on their banking properties. The establishment, operation, and use of a conservation bank requires a conservation bank agreement between the Service and the bank sponsor, and wetland mitigation banks require a banking instrument approved by the U.S. Army Corps of Engineers. Responsibility for ensuring that compensatory mitigation activities are successfully completed is transferred from the action proponent to the bank sponsor at the time of the sale/transfer of credits. Mitigation and conservation banks generally provide mitigation in advance of impacts.
- iii. *In-Lieu Fee.* An in-lieu fee site provides ecological functions and services expressed as credits that are conserved and managed for particular species or

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habitats, and are used expressly to offset impacts occurring elsewhere to the same species. In-lieu fee programs are sponsored by governmental or non-profit entities that collect funds used to establish in-lieu fee sites. In-lieu fee program operators apply habitat restoration, creation, enhancement, and/or preservation techniques to generate credits on in-lieu fee sites. The establishment, operation, and use of an in-lieu fee program requires an agreement between regulatory agencies of applicable authority, including the Service, and the in-lieu fee program operator. Responsibility for ensuring that compensatory mitigation activities are successfully completed is transferred from the action proponent to the in-lieu fee program operator at the time of sale/transfer of credits. Unlike mitigation or conservation banks, in-lieu fee programs generally provide mitigation after impacts have occurred.

10. Follow-up

The Service encourages, supports, and will initiate, whenever practicable, post-action monitoring studies and evaluations to determine the effectiveness of recommendations in achieving the mitigation planning goal. In those instances where Service personnel determine that federal agencies or private developers have not carried out those agreed-upon mitigation means and measures, the Service will request the responsible federal action agency to initiate corrective action.

VI. RELATIONSHIP OF SERVICE MITIGATION POLICY TO OTHER POLICIES, REGULATIONS

This section is intended to describe the interaction of existing policies and regulations with this policy in agency processes. Descriptions about the application of mitigation concepts generally, and elements of this policy specifically, for each of the listed policies and regulations follow.

A. Endangered Species Act

A primary purpose of the Endangered Species Act (ESA) of 1973 as amended (16 U.S.C. 1531 *et seq.*) is to conserve the ecosystems upon which species listed as endangered and threatened depend. Conserving listed species involves the use of all methods and procedures that are necessary for their recovery, which includes mitigating the impacts of actions to listed species and their habitats. All actions must comply with the ESA prohibition against taking listed animal species, and federal actions must comply with the prohibitions against jeopardizing the continued existence of listed species and adversely modifying designated critical habitat. Federal actions are all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas (50 CFR §402.02). Section 7 of the ESA requires federal agencies to consult with the Service (or the National Marine Fisheries Service for listed anadromous fish and marine species) to ensure compliance with the ESA prohibitions. The Service may exempt federal agencies from the prohibition against incidental taking for actions that are not likely to

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jeopardize the species or adversely modify designated critical habitat. Proponents of actions that do not require federal authorization or funding but that may affect listed animal species should work with the Service to determine whether proposals are likely to result in incidental take. The Service may permit incidental taking resulting from a non-federal action under ESA section 10(a)(1)(b) after approving the proponent's habitat conservation plan (HCP) under section 10(a)(2)(A). The HCP must specify the steps the permit applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps. The basis for issuing a section 10 permit includes a finding that the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of incidental taking; and the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

This mitigation policy applies to all actions that must comply with the ESA. The Service shall recommend mitigation for impacts to listed species, designated critical habitat, and other species for which the Service has authorized mitigation responsibilities consistent with the guidance of this policy, which proponents may adopt as conservation measures of proposed actions. However, such adoption does not constitute compliance with the ESA. Federal agencies must complete consultation per the requirements of section 7 to receive incidental take exemption, and proponents of actions that do not require federal authorization or funding must complete the requirements under section 10(a)(2)(A) to receive an incidental take permit. The no-net-loss goal for mitigation planning under this policy applies to all species and their habitats for which the Service has authorities to recommend mitigation on a particular action, including listed species.

Although this policy is intended, in part, to clarify the role of mitigation in endangered species conservation, nothing herein replaces, supersedes, or substitutes for the ESA implementing regulations. Consistent with these regulations, mitigation measures included in proposed actions that avoid and minimize the likelihood of incidental take are relevant to the Service's concurrence with "may affect, not likely to adversely affect" determinations through informal consultation. All mitigation measures included in proposed actions that benefit listed species and/or designated critical habitat, including compensatory measures, are relevant to jeopardy and adverse modification conclusions in Service biological opinions. Likewise, the Service may apply all forms of mitigation, consistent with the guidance of this policy, in formulating a reasonable and prudent alternative that would avoid jeopardy/adverse modification, provided that it is also consistent with the regulatory definition of a reasonable and prudent alternative at 50 CFR §402.02. For federal actions that do not jeopardize the continued existence of listed species or adversely modify critical habitat, the Service may provide a statement specifying those reasonable and prudent measures necessary or appropriate to minimize the impacts of taking on the affected listed species, provided such measures involve no more than minor changes to the action. No proposed mitigation measures relieve an action proponent of the obligation to obtain incidental take exemption through an incidental take statement (federal actions) or authorization through an incidental take permit (non-federal actions), as appropriate, for unavoidable incidental take that may result from a proposed action.

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B. Marine Mammal Authorities

The Marine Mammal Protection Act (MMPA), enacted in 1972, prohibits the take (i.e., hunting, killing, capturing, or harassing; or the attempt to hunt, kill, capture, or harass) of marine mammals, and enacts a moratorium on the import, export, and sale of marine mammal parts and products. There are exemptions and exceptions to the prohibitions. For example, under section 101(b), Alaskan Natives may hunt marine mammals for subsistence purposes, and may possess, transport, and sell marine mammal parts and products.

In addition, section 101(a)(5) allows for the authorization of incidental, but not intentional, take of small numbers of marine mammals by U.S. citizens while engaged in a specified activity (other than commercial fishing) within a specified geographical region, provided certain findings are made. Specifically, the Service must make a finding that the total of such taking will have a negligible impact on the marine mammal species and will not have an unmitigable adverse impact on the availability of these species for subsistence uses.

Negligible impact is defined at 50 CFR 18.27(c) as “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.” Unmitigable adverse impact, which is also defined at 50 CFR 18.27(c) means “an impact resulting from the specified activity (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by (i) causing the marine mammals to abandon or avoid hunting areas, (ii) directly displacing subsistence users, or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.”

Section 101(a)(5)(A) provides for the promulgation of Incidental Take Regulations (ITRs), which can be issued for a period of up to 5 years. The ITRs set forth permissible methods of taking pursuant to the activity and other means of affecting the least practicable adverse impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance. In addition, ITRs include requirements pertaining to the monitoring and reporting of such takings.

Section 101(a)(5)(D) established an expedited process to request authorization for the incidental, but not intentional, take of small numbers of marine mammals for a period of not more than 1 year if the taking will be limited to harassment, i.e., Incidental Harassment Authorizations (IHAs). Harassment is defined in section 3 of the MMPA (16 U.S.C. 1362). For activities other than military readiness activities or scientific research conducted by or on behalf of the Federal Government, harassment means “any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild” (the MMPA calls this Level A harassment) “or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to migration, breathing,

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nursing, breeding, feeding, or sheltering” (the MMPA calls this Level B harassment). There is a separate definition of harassment applied in the case of a military readiness activity or a scientific research activity conducted by or on behalf of the Federal Government.

Where appropriate, ITRs and IHAs can provide considerable conservation and management benefits to covered marine mammals. ITRs include a process for U.S. citizens to obtain a Letter of Authorization (LOA) for activities proposed in accordance with the ITRs. The Service evaluates each request for an LOA based on the specific activity and geographic location, and determines whether the level of taking is consistent with the findings made for the total taking allowable under the applicable ITRs. If so, the Service may issue an LOA for the project and will specify the period of validity and any additional terms and conditions appropriate to the request, including mitigation measures designed to minimize interactions with, and impacts to, marine mammals. The LOA will also specify monitoring and reporting requirements to evaluate the level and impact of any taking. Depending on the nature, location, and timing of a proposed activity, the Service may require applicants to consult with potentially affected subsistence communities in Alaska and develop additional mitigation measures to address potential impacts to subsistence users. Regulations specific to LOAs are codified at 50 CFR 18.27(f).

An IHA prescribes permissible methods of taking by harassment and includes other means of effecting the least practicable impact on marine mammal species or stocks and their habitats, paying particular attention to rookeries, mating grounds, and areas of similar significance. In addition, as appropriate, the IHA will include measures that are necessary to ensure no unmitigable adverse impact on the availability of the species or stock for subsistence purposes in Alaska. IHAs also specify monitoring and reporting requirements pertaining to the taking by harassment. Both the promulgation of ITRs and requests for IHAs are subject to a 30-day public comment period.

The Service shall recommend mitigation for impacts to species covered by the MMPA that are under its jurisdiction consistent with the guidance of this policy. Proponents may adopt these recommendations as components of proposed actions. However, such adoption itself does not constitute full compliance with the MMPA.

C. Migratory Bird Authorities

The Migratory Bird Treaty Act (16 U.S.C. 703-711) (MBTA) does not allow the take of migratory birds without a permit. The Service issues permits for purposeful take such as hunting, depredation, or scientific collection. Under the MBTA, the Service does not currently issue permits for take that occurs incidental to otherwise lawful activities. Therefore, the Service cannot legally accept compensatory mitigation for this type of unpermitted, and thus illegal, take of migratory birds. Action proponents should design projects to avoid and minimize incidental taking of migratory birds and impacts to their habitats, and should propose measures using the full mitigation hierarchy for impacts to their habitats, consistent with the guidance of this policy.

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Assessments of action effects should examine direct, indirect, and cumulative impacts to migratory bird habitats, as habitat losses have been identified as a critical factor in the decline of many migratory bird species. While the MBTA and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) (Eagle Act) do not address habitat impacts, habitat protections are outlined under Executive Order (EO) 13186, which directs federal agencies to:

1. protect habitat (Section (section 3)(e)(1));
2. restore and enhance bird habitat (Section (section 3)(e)(2)); and
3. design land management and habitat protection principles (Section (section 3)(e)(4)).

Further, federal agencies are responsible for assessing impacts to birds and their habitats under NEPA, which compels agencies to consider alternatives and measures to mitigate impacts. For actions subject to NEPA compliance, mitigation for impacts to migratory bird habitat may become a condition for implementation or approval. All types of mitigation apply to resources that support migratory bird breeding, feeding, and sheltering under EO 13186 and NEPA. These resources include, but are not limited to habitat, prey, and air space.

For direct take under the Eagle Act, there must be a demonstrable connection between compensatory mitigation and offsets to population effects. The Service is currently considering regulatory options.

D. Natural Resource Damage Assessment and Restoration

This policy applies to actions for which the Service is a participating bureau, supporting the Department of the Interior, during activities associated with assessment of injuries to natural resources caused by oil spills or releases of hazardous materials, under the Oil Pollution Act (33 U.S.C. 2701 et seq.) and the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601), as amended by PL 99-499. When a release of hazardous materials or an oil spill injures natural resources under the jurisdiction of state, tribal and federal agencies, these governments quantify the injuries to determine appropriate restoration to compensate the public for losses of those resources or their services.

A restoration settlement, in the form of damages provided through a settlement document, is usually determined by quantifying the type and amount of restoration necessary to offset the injury caused by the spill or release. The type of restoration conducted depends on the resources injured by the release (e.g., marine habitats, ground water, or biological resources (fish, birds)).

The Natural Resource Damage Assessment and Restoration program may impose constraints associated with the Service's Mitigation Policy. Jurisdiction over natural resources varies by agency, and the restoration portion of a given settlement is often resolved jointly with other federal/state/tribal trustees, thus requiring their approval of allocation of funds for restoration projects. This policy will be used by the Service to guide restoration projects that benefit Service resources, and as one mechanism to direct restoration planning toward goals common to other trustees. Thus, the policy maintains

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the flexibility to implement the appropriate restoration to compensate for the injured resources under the jurisdiction of multiple government agencies. This policy does not seek to inhibit discussions aimed at achieving settlement, rather it seeks to offer flexibility while defining compensatory projects by providing support for weighing or modifying project elements to reach Service goals.

E. National Wildlife Refuge Mitigation Policy

The Service's Final Policy on the National Wildlife Refuge System and Compensatory Mitigation under the Section 10/404 Program (64 FR 49229-49234) (Refuge Mitigation Policy) published in 1999 establishes guidelines for the use of Refuge lands for siting compensatory mitigation for impacts permitted through section 404 of the Clean Water Act (CWA) and section 10 of the Rivers and Harbors Act (RHA). The Refuge Mitigation Policy clarifies that siting mitigation for off-Refuge impacts on Refuge lands is appropriate only in limited and exceptional circumstances. Mitigation banks may not be sited on Refuge lands, but the Service may add closed banks to the Refuge system if specific criteria are met. The Refuge Mitigation Policy, which explicitly addresses only compensatory mitigation under the CWA and RHA remains in effect and is unaltered by this policy. However, the Service will evaluate all proposals for using Refuge lands as sites for other compensatory mitigation purposes using the criteria and procedures established for aquatic resources in the Refuge Mitigation Policy (e.g., to site compensatory mitigation on Refuge property for off-Refuge impacts to endangered or threatened species).

VII. FEDERAL FUNDING AND GRANTS IN MITIGATION PROCESSES

A. Service Approval of Grants that Provide Compensatory Mitigation

The Service can approve a grant to provide compensatory mitigation only if either of the following applies:

1. The need for compensatory mitigation is solely the result of activities funded by: (i) the same grant that funds the compensatory mitigation, or (ii) another grant in a series of grants for the same multiyear project.
2. A federal statute authorizes the use of program funds for compensatory mitigation.

B. Service approval of grants that include cash or in-kind match derived from a payment to provide compensatory mitigation

The Service may approve a grant that commits match derived from a fee, fine, penalty, or other payment to provide compensatory mitigation if at least one of the following conditions applies:

1. The need for compensatory mitigation is the result of approved activities as described in section VII.A.

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2. A federal statute authorizes the grant program or project to provide compensatory mitigation, and the design of the project does not present any mitigation-related statutory, regulatory, or policy barriers to approval.
3. A federal statute authorizes the grant program or project to provide compensatory mitigation and the statute establishes its precedence over existing mitigation-related legal barriers to approval (e.g., a clause that reads “notwithstanding any other provision of law”).

C. Use of proceeds from an in-lieu fee program or a mitigation bank as match

A grant cannot include match derived from the proceeds of a permittee’s purchase of credits from an in-lieu fee program or a mitigation bank except as described in section VII.B. The reasons are:

1. Proceeds from the purchase of credits are legally required compensation for resources or resource functions harmed or destroyed elsewhere. The sponsor uses these resources for the restoration, establishment, enhancement, and/or preservation of the resources destroyed. The purchase price of the credits is based on the full cost of providing the compensatory mitigation.
2. Regulations at 40 CFR 230.93(j)(2) and 33 CFR 332.3(j)(2) prohibit the use of federally funded aquatic-resource restoration or conservation projects for the purpose of generating compensatory mitigation credits under the Clean Water Act, section 404, except as described in section VII.B. When a permittee purchases credits from an in-lieu fee program sponsor or a mitigation bank, it transfers responsibility for providing the compensatory mitigation to the sponsor of the in-lieu fee program or mitigation bank. The process is not complete until the sponsor provides the compensatory mitigation according to the terms of the in-lieu fee program instrument or mitigation-banking instrument approved by the district engineer of the U.S. Army Corps of Engineers.
3. In some cases, program-specific statutes, regulations, or policies prohibit match derived from compensatory mitigation.

D. Sources of funds from payments to provide compensatory mitigation that qualify as match based on specific federal statute

Revenue from the Natural Resource Damage Assessment and Restoration (NRDAR) Fund settlements, when received jointly with a state or tribal trustee, may qualify as match unless the grant program prohibits match derived from compensatory mitigation by program policy. It qualifies as a source of match because:

1. Federal and non-federal entities jointly recover the fees, fines, and/or penalties and deposit the fees, fines, and/or penalties as joint and indivisible recoveries into a fiduciary fund for this purpose.

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2. The governing body of the NRDAR Fund may include federal and non-federal trustees, who must unanimously approve the transfer to a non-federal trustee for use as non-federal match.
3. The project is consistent with a negotiated settlement agreement and will carry out the provisions of the Comprehensive Environmental Response Compensation and Liability Act, as amended, Federal Water Pollution Control Act of 1972, and the Oil Pollution Act of 1990 for damage assessment activities.
4. The use of the funds by the non-federal trustee is subject to binding controls.

E. Service approval of grants and compensatory mitigation requirements of state, tribal or local governments

The Service can approve a project proposed for grant funding that satisfies a compensatory mitigation requirement of a state, tribal or local government, or when a match committed to the project is a result of such a requirement, if such approval is explicitly authorized by at least one of the following:

1. A law, regulation, or a published policy of that jurisdiction.
2. An opinion issued by the State Attorney General's office, if a state is the source of the requirement.
3. An opinion issued by a tribal or local government's legal counsel and approved by its chief executive official, if one of those jurisdictions is the source of the requirement.

F. Locating compensatory mitigation projects on real property acquired under a grant

1. Required for all projects: A compensatory mitigation project can be on land acquired in a grant-funded project only if the land will continue to be used for its authorized purpose as long as the land is needed for that purpose.
2. Additional requirement for projects on land owned by a federal, state, tribal, or local government regardless of the source of funds for the original acquisition: A compensatory mitigation project can be on land acquired in a grant-funded project only if the compensatory mitigation consists of actions, resources, or management over and above what would be provided by public programs planned or in place.

G. Actions, resources or management in place or planned prior to mitigation proposal

The Service considers actions, resources, or management in a compensatory-mitigation project that is proposed on public land to be already planned or in place on that public land under any of the following conditions:

1. The public land is subject to a master plan or management plan approved at the central or regional office of the land-management agency. The plan calls for

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actions similar to those in the compensatory-mitigation project and the government or agency has committed to carry them out during the time period covered by the plan.

2. The land-management agency routinely or intermittently carries out management actions similar to those in the compensatory mitigation project.
3. The land-management agency has committed and has the funding to carry out actions similar to those in the compensatory mitigation project.
4. Governments, agencies, commercial enterprises, nonprofit organizations, or individuals have committed to provide funds or raise funds to carry out actions similar to those in the compensatory-mitigation project.

H. Service engagement in decisions to locate compensatory mitigation on real property acquired under a grant

Service staff would be involved in the decision to locate compensatory mitigation on real property acquired under a grant for one or both of the following reasons:

1. Service grant managers have a responsibility to ensure that real property acquired under a grant is used for its authorized purpose as long as it is needed for that purpose.
2. If the proposed legal arrangements or site-protection instrument to use the land for compensatory mitigation encumbers the title or disposes of any real-property rights, the grantee must request disposition instructions from the Service.

APPENDIX A. DISCUSSION OF AUTHORITIES AND DIRECTION FOR SERVICE MITIGATION RECOMMENDATIONS

A. Discussion of Authorities:

1. Clean Water Act (33 U.S.C. §1251 et seq.)

Several locations within the statute under section 404 describe the responsibilities and roles of the Service. The authority at section 404 (m) is most directly relevant to the Service's engagement of Clean Water Act permitting processes to secure mitigation for impacts to aquatic resources nationwide and is routinely used by Ecological Services Field Offices. At section 404 (m), the Secretary of the Army is required to notify the Secretary of Interior, through the Service Director, that a permit application has been received or that the Secretary proposes to issue a general permit. The Service will submit any comments, in writing to the Secretary of the Army (Corp of Engineers) within 90 days. It is this provision that gives the Service opportunity to engage approximately 100,000 actions affecting aquatic habitats and wildlife annually and to assist the Corps of Engineers in development of permit terms that avoid, minimize, or compensate for permitted impacts.

2. Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.)

As discussed and interpreted in this policy, the Endangered Species Act provides multiple points of application for mitigation in the section 7 consultation process. Mitigation may be a component of the proposed federal action, in accordance with the requirements of section 7(a)(1) for actions subject to compliance with section 7(a)(2). Reasonable and prudent alternatives, established by section 7(b)(3)(A), suggested by the Service to avoid jeopardizing the continued existence of listed species or destroying or adversely modifying critical habitat, may include all forms of mitigation. For actions that do not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat, section 7(b)(4)(C) establishes that the Service will provide the federal agency and applicant with a statement specifying the impact of take of endangered or threatened species that is incidental to the action along with the reasonable and prudent measures necessary or appropriate to minimize such impact.

Amendments in 1982 created an incidental take permitting process for non-federal actions at section 10(a)(1)(B) that incorporates mitigation. Section 10(a)(2)(A)(ii) established that no permit will be issued unless an applicant submits a conservation plan specifying what steps the applicant will take to minimize and mitigate such impacts. Section 10(a)(2)(B)(ii) requires that before issuing a permit, the Service find that the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.

3. Federal Power Act (16 U.S.C. §791-828c) (FPA)

The Federal Energy Regulatory Commission (FERC) authorizes non-federal hydropower projects pursuant to the FPA. The Service's role is primarily defined by the FPA, as amended in 1986 by the Electric Consumers Protection Act, to explicitly ascribe those

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roles to the Service. The Service has mandatory conditioning authority for projects on National Wildlife Refuge lands under section 4(e) and to prescribe fish passage to enhance and protect native fish runs under section 18. Under section 10(j), FERC is required to include license conditions that are based on recommendations made pursuant to the Fish and Wildlife Coordination Act by states, NOAA, and the Service for the adequate and equitable protection, mitigation, and enhancement of fish, wildlife, and their habitats.

4. Fish and Wildlife Conservation Act (16 U.S.C. § 2901-2912) (FWCA)

Specifically, Federal Conservation of Migratory Nongame Birds (16 U.S.C. section 2912) implicitly provides for mitigation by requiring the Service to "identify the effects of environmental changes and human activities on species, subspecies, and populations of all migratory nongame birds" (section 2912(2)); "identify conservation actions to assure that species, subspecies, and populations of migratory nongame birds...do not reach the point at which the measures provided pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) become necessary" (section 2912(4)); and "identify lands and waters in the United States and other nations in the Western Hemisphere whose protection, management, or acquisition will foster the conservation of species, subspecies, and populations of migratory nongame birds..." (section 2912(5)).

5. Fish and Wildlife Coordination Act (16 USC §661-667e)(FWCA)

The FWCA requires federal agencies developing water-related projects to consult with the Service, NOAA, and the States regarding fish and wildlife impacts. The FWCA establishes fish and wildlife conservation as a coequal objective of all federally-funded, permitted, or licensed water-related development projects. Federal action agencies are to include justifiable means and measures for fish and wildlife, and the Service's mitigation and enhancement recommendations are to be given full and equal consideration with other project purposes. The Service's mitigation recommendations may include measures addressing a broad set of habitats beyond the aquatic impacts triggering the FWCA and taxa beyond those covered by other resource laws. Action agencies are not bound by the FWCA to implement Service conservation recommendations in their entirety.

6. Marine Mammal Protection Act of 1972, as amended (16 U.S.C. §1361 *et seq.*) (MMPA)

The MMPA prohibits the take (i.e., hunting, killing, capture, and/or harassment) of marine mammals. However, an exception is available for entities that apply for and are granted authorization for the incidental take of marine mammals during the course of an otherwise legal activity, provided the total of such taking will have a negligible impact on the species or stock and will not have an unmitigable adverse impact on their availability for subsistence use. These incidental take authorizations prescribe permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat (paying particular attention to rookeries, mating grounds, and areas of similar significance), and on the availability of such species or stock for subsistence uses. They also set forth requirements pertaining to the monitoring and reporting of such taking.

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7. Migratory Bird Treaty Act (16 U.S.C. 703-7120) (MBTA)

The MBTA implicitly provides for measures to avoid and minimize take, by its prohibitions against take and provisions for permits. The Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.) (Eagle Act) more explicitly provides for mitigation (avoidance and minimization) by restricting permitted take to circumstances where take is "necessary." Both statutes are broad enough to provide for compensatory mitigation authority.

8. National Environmental Policy Act (42 U.S.C. §4371 et seq.) (NEPA)

NEPA requires federal agencies to integrate environmental values into decision making processes by considering impacts of their proposed actions and reasonable alternatives. Agencies disclose findings through Environmental Assessments or a detailed Environmental Impact Statement and are required to identify and include all relevant and reasonable mitigation measures that could improve the action. Importantly, NEPA's implementing regulations define mitigation as a sequence, where mitigation begins with avoidance of impacts; then minimization of the degree or magnitude of impacts; rectification of impacts through repair, restoration, or rehabilitation; reducing impacts over time during the life of the action; and lastly, compensation for impacts by providing replacement resources. Effective mitigation through this ordered approach starts at the beginning of the NEPA process, not at the end. Implementing regulations require that the Service be notified of all major federal actions affecting fish and wildlife and our recommendations solicited. Engaging this process allows the Service to provide comments and recommendations for mitigation of fish and wildlife impacts.

9. Executive Order 13186 (E.O. 13186), Responsibilities of Federal Agencies to Protect Migratory Birds

E.O. 13186 directs Federal departments and agencies to take certain actions to implement the MBTA, but also the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Fish and Wildlife Coordination Act (16 U.S.C. 661-666c), the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), and the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347). Specifically, E.O. 13186 directs Federal agencies, whose activities will likely result in the take of migratory birds, to develop and implement an MOU with the Service that shall promote the conservation of migratory bird populations. It also expressly requires that federal agencies evaluate the effects of proposed or ongoing actions on migratory birds pursuant to NEPA "or other established environmental review process (Section 3 (e)(6))." At the same time, E.O. 13186 directs agencies to avoid or minimize adverse impacts on "migratory bird resources," defined as "migratory birds and the habitats upon which they depend."

The Service policy regarding its responsibility to E.O. 13186 (720 FW 2) states "all Service employees should: A. Implement their mission-related activities and responsibilities in a way that furthers the conservation of migratory birds and minimizes and avoids the potential adverse effects of migratory bird take, with the goal of eliminating take"(22.A.). The policy also stipulates that the Service will support the conservation intent of the migratory bird conventions by: integrating migratory bird

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conservation measures into our activities, including measures to avoid or minimize adverse impacts on migratory bird resources; restore and enhance the habitat of migratory birds; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds.

Additional authorities for 720 FW 2: In addition to the authorities cited by E.O. 13186, other authorities for Chapter 720 of the Service policy include: the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (I.L.M. 11:963-976); the Migratory Bird Treaties with Great Britain (for Canada) (39 Stat.1702; TS 628, as amended), Mexico (50 Stat. 1311; TS912, as amended), Soviet Union (Russia) (T.I.A.S. 9073), and Japan (25 UST 3329; T.I.A.S 7990, as amended); the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (Pub.L. 93-205); the Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r); the Fish and Wildlife Conservation Act (16 U.S.C. 2901-2911); the Magnuson-Stevens Fishery and Conservation Act, as amended (Pub. L. 94-265); the North American Wetlands Conservation Act, as amended (16 U.S.C. 4401); and the Neotropical Migratory Bird Conservation Act, as amended (16 U.S.C. 6101-6109, 1583).

10. Executive Order 13653, Preparing the United States for the Impact of Climate Change.

E.O. 13653 directs federal agencies to improve the Nation's preparedness and resilience to climate change impacts. The agencies are to promote: (1) engaged and strong partnerships and information sharing at all levels of government; (2) risk-informed decision making and the tools to facilitate it; (3) adaptive learning, in which experiences serve as opportunities to inform and adjust future actions; and (4) preparedness planning.

Among the provisions under section 3, *Managing Lands and Waters for Climate Preparedness and Resilience*, is this: "agencies shall, where possible, focus on program and policy adjustments that promote the dual goals of greater climate resilience and carbon sequestration, or other reductions to the sources of climate change...[a]gencies shall build on efforts already completed or underway...as well as recent interagency climate adaptation strategies." Section 5 specifies that agencies shall develop or continue to develop, implement, and update comprehensive plans that integrate consideration of climate change into agency operations and overall mission objectives.

The *Priority Agenda: Enhancing The Climate Resilience of American's Natural Resources* (October 2014) called for in E.O. 13653, includes provisions to develop and provide decision support tools for "climate-smart natural resource management" that will improve the ability of agencies and landowners to manage for resilience to climate change impacts.

The Service policy on climate change adaptation (056 FW 1) states that the Service will "effectively and efficiently incorporate and implement climate change adaptation measures into the Service's mission, programs, and operations." This includes using the best available science to coordinate an appropriate adaptive response to impacts on fish, wildlife, plants and their habitats. The policy also specifically calls for delivering

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landscape conservation actions that build resilience or support the ability of fish, wildlife and plants to adapt to climate change.

B. Additional Legislative Authorities:

1. Comprehensive Response Compensation and Liability Act (CERCLA), 1980, 42 U.S.C. §9607, as amended by Superfund Amendments and Reauthorization Act (SARA), 1986, 6 U.S. Code, Public Law 107-296
2. Oil Pollution Act, 1990, 42 U.S. Code, §103
3. Clean Air Act; 42 U.S.C. §7401 et seq., as amended (See <http://www.fws.gov/refuges/airquality/permits.html>)
4. Marine Protection, Research, and Sanctuaries Act; 16 USC §1431 et seq. and 33 USC §1401 et seq.
5. Resource Conservation and Recovery Act; 42 U.S.C. §6901 et seq.
6. Marine Mammal Protection Act of 1972, as amended; 16 U.S.C. §1361 et seq.
7. Shore Protection Act; 33 U.S.C. §2601 et seq.
8. Coastal Zone Management Act; 16 U.S.C. §1451 et seq.
9. Coastal Zone Resources Act; 16 U.S.C. §3501
10. Surface Mining Control and Reclamation Act; 30 U.S.C. §1201 et seq.
11. National Wildlife Refuge System Administration Act; 16 U.S. Code §668dd, as amended
12. National History Preservation Act; 16 U.S.C. §470f

C. Implementing regulations:

1. National Environmental Policy Act (NEPA), 40 CFR §1508, 42 U.S.C. §55
2. Marine Mammal Protection Act (MMPA), 50 CFR Part 18, 16 U.S.C. §1361 et seq.
3. Migratory Bird Treaty Act (MBTA), 50 CFR Part 21, 16 U.S.C. §703 et seq.
4. Bald and Golden Eagle Protection Act (Eagle Act), 50 CFR Part 22, 16 U.S.C. §668 et seq.
5. Guidelines for Wetlands Protection, 33 CFR Parts 325 and 332, 40 CFR §230
6. Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Parts §325 and 332 (EPA) and 40 CFR §230 (USACOE), 33 U.S.C. §1344
7. Natural Resource Damage Assessments (OPA), 15 CFR §990, 33 U.S. C. §2701 et seq.
8. Natural Resource Damage Assessments (CERCLA), 43 CFR 11, 42 U.S.C. §9601
9. Endangered Species Act of 1973, as amended; 50 CFR §402, 16 U.S.C. §1531 et seq.

D. Executive Orders

1. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds
2. Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, January 4, 1979
3. Executive Order 11988, Floodplain Management, May 24, 1977
4. Executive Order 11990, Protection of Wetlands, May 24, 1977

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5. Executive Order 12898, Environmental Justice for Low Income and Minority Populations, February 11, 1994
6. Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, October 5, 2009

E. Council on Environmental Quality (CEQ) Policy and Guidance

1. Guidance Regarding NEPA Regulations (48 FR 34236, July 28, 1983)
2. Designation of Non-Federal Agencies to be Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act (40 CFR 1508.5, July 28, 1999)
3. Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act (January 30, 2002)
4. Memorandum, “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact” (January 14, 2011)

F. Department of the Interior Policy and Guidance

1. Department of the Interior National Environmental Policy Act Procedures, 516 DM 1-7
2. Secretarial Order 3330, Improving Mitigation Policies and Practices of the Department of the Interior (October 31, 2013)
3. Secretarial Order 3206, American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act (June 5, 1997)
4. Department of the Interior Climate Change Adaptation Policy, 523 DM 1

G. U.S. Fish and Wildlife Service (USFWS) Policy and Guidance

1. Service Responsibilities to Protect Migratory Birds, 720 FW 2
2. Final Policy on the National Wildlife Refuge System and Compensatory Mitigation under the Section 10/404 Program, 64 FR 49229-49234, 1999
3. Habitat Conservation Planning and Incidental Take Permit Processing Handbook, 61 FR 232, 1996
4. USFWS National Environmental Policy Act Reference Handbook, 505 FW 1.7 and 550 FW 1
5. Endangered Species Act Habitat Conservation Planning Handbook (with NMFS), 1996
6. Endangered Species Act Consultation Handbook (with NMFS), 1998
7. Guidance for the Establishment, Use, and Operation of Conservation Banking, 2003
8. Endangered and Threatened Wildlife and Plants; Recovery Crediting Guidance, 2008
9. Service Climate Change Adaptation Policy, 056 FW 1

H. Other Agency Policy, Guidance, and actions relevant to Service activities

1. Memorandum of Agreement Between The Department of the Army and The Environmental Protection Agency, The Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines, 1990

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2. Federal Highway Administration, Consideration of Wetlands in the Planning of Federal Aid Highways, 1990
3. Interagency Agreement between the National Park Service, Fish and Wildlife Service, Bureau of Land Management, and the Federal Aviation Administration Regarding Low-Level Flying Aircraft Over Natural Resource Areas, 1993
4. USFWS Memorandum from Acting Director to Regional Directors, Regarding "Partners for Fish and Wildlife Program and NEPA Compliance", 2002
5. Agreement between the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers for Conducting Fish and Wildlife Coordination Act Activities, 2003
6. Memorandum of Agreement Between the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers, 2003
7. Partnership Agreement between the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service for Water Resources and Fish and Wildlife , 2003
8. Memoranda of understandings with nine federal agencies, under E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (<http://www.fws.gov/migratorybirds/PartnershipsAndInitiatives.html>)

APPENDIX B. SERVICE MITIGATION POLICY AND NEPA

Mitigation in Environmental Review Processes

NEPA was enacted to promote efforts to prevent or eliminate damage to the environment and biosphere (42 USC section 4321). It requires consideration of the impacts from connected, cumulative, and similar actions. Mitigation measures should be developed that effectively and efficiently address the predicted and actual impacts. The consideration of mitigation (type, timing, degree, etc.) should be consistent with and based upon the evaluation of direct, indirect, and cumulative impacts. The Service should also consider and encourage public involvement in developing mitigation plans.

Consistent with January 14, 2011 CEQ Memorandum: *Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impacts*, Service-proposed actions should incorporate measures to avoid, minimize, rectify, reduce, and compensate for impacts into initial proposal designs and described as part of the action. We should analyze mitigation measures considered, but not incorporated into the proposed action, as one or more alternatives. For illustrative purposes, our NEPA documents may address mitigation alternatives or consider mitigation measures that the Service does not have legal authority to implement. However, the Service should not commit to mitigation alternatives or measures considered or analyzed without sufficient legal authorities, or without sufficient resources to perform or ensure the effectiveness of the mitigation (CEQ 2011). The Service should monitor the implementation and effectiveness of our mitigation commitments. For applicant-driven actions, some or most of the responsibility for mitigation monitoring may lie with the applicant; however, the Service retains the ultimate responsibility to assure that monitoring is occurring when needed and that the results of monitoring are properly considered.

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Efficient Mitigation Planning

The CEQ Regulations Implementing NEPA include provisions to reduce paperwork (section 1500.4), delay (section 1505. 5), duplication with state and local procedures (section 1506.2), and combine documents in compliance with NEPA. A key component of the provisions to reduce paperwork directs federal agencies to use environmental impact statements for programs, policies, or plans, and to tier from statements of broad scope to those of narrower scope, in order to eliminate repetitive discussions of the same issues (sections 1501.1(i.), 1502.4 and 1502.20). To the fullest extent possible, the Service should coordinate with state, tribal, local, and other federal entities to conduct joint mitigation planning, research, and environmental review processes.

Use of this mitigation policy will help focus our NEPA discussion on issues for fish, wildlife, plants and their habitats, and will avoid unnecessarily lengthy background information. When appropriate, the Service should use the process for establishing evaluation species and resource categories to concentrate our environmental analyses on relevant and significant issues. Programmatic NEPA analyses can establish standards for consideration and implementation of mitigation, and can more effectively address cumulative impacts. To ensure that landscape-scale mitigation planning is effectively implemented and meets conservation goals, the Service should seek and consider collaborative opportunities to conduct programmatic NEPA decision-making processes on Service actions that are similar in timing, impacts, alternatives, resources, and mitigation. Existing landscape scale conservation and mitigation plans which have already undergone a NEPA process will provide efficiencies for federal actions taken on a project-specific basis, and will also better address potential cumulative impacts. However, the Service may incorporate plans or components of plans by reference (40 CFR 1502.21), while addressing impacts from plans or components within the NEPA process on the Service action.

NEPA and Tribal Trust Responsibilities

NEPA also provides a process through which all Tribal Trust responsibilities can be addressed simultaneous to consultation, but care should be taken to ensure that culturally sensitive information is not disclosed. Resources that may be impacted by Service actions or mitigation measures include culturally significant or sacred landscapes, species associated with those landscapes, or species which are separately considered culturally significant or sacred. The Service should coordinate or consult with affected tribes to develop methods for evaluating impacts, significance criteria, and meaningful mitigation to sacred or culturally significant species and their locales. Because climate change has been identified as an Environmental Justice (EJ) issue for tribes, adverse climate change-related effects to culturally significant or sacred landscapes or species may be cumulatively greater, and may indicate the need for a separate EJ analysis. Affected tribes can be those for which the locale of the action or landscape mitigation planning lies within traditional homelands, and can include traditional migration areas. The final determination of whether a tribe is affected is made by the tribe, and should be ascertained during consultation or a coordination process. When government-to-government consultation takes place, the consultation process will be guided by the Service *Tribal Consultation Handbook*.

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Integrating Mitigation Policy into the NEPA Process

When the Service is the lead or co-lead federal agency for NEPA compliance, the mitigation policy may inform several components of the NEPA process and make it more effective and more efficient in conserving the affected federal trust resources. This section discusses the role of the mitigation policy in Service decision making under NEPA.

Scoping

The Service should use internal and external scoping to help identify appropriate evaluation species, obtain information about the relative scarcity, suitability, and importance of affected habitats for resource category assignments, identify issues associated with these species and habitats, and identify issues associated with other affected resources. Climate change vulnerability assessments can be a valuable tool for identifying or screening new evaluation species. The Service should coordinate external scoping with agencies having special expertise or jurisdiction by law for the affected resources.

Purpose and Need

The Purpose and Need statement of the NEPA document should incorporate relevant conservation objectives for evaluation species and their habitats, and the need to ensure either no-net-loss or a net gain. Because the statement of Purpose and Need frames the development of the Proposed Action and Alternatives, including conservation objectives from the outset steers action proposals away from impacts that may otherwise necessitate mitigation. Addressing conservation objectives in the purpose statement initiates a planning process in which the proposed action and all reasonable alternatives evaluated necessarily include appropriate conservation measures, differing in type or degree, and avoids presenting decision makers with a choice between a “conservation alternative” and a “no conservation alternative.”

Affected Environment

The Affected Environment discussion should focus on significant environmental issues associated with evaluation species and their habitats, and highlight resource vulnerabilities that may require mitigation features in the project design. This section should document the relative scarcity, suitability, and importance of affected habitats, along with the sensitivity and status of the species and habitats. It should identify relevant temporal and spatial scales for each resource, and the appropriate indicators of effects and units of measurement for evaluating mitigation features. This section should also identify habitats for evaluation species that are currently degraded, but have a moderate to high potential for restoration or improvement.

Significance Criteria

Explicit significance criteria provide the benchmarks or standards for evaluating effects under NEPA. Potentially significant impacts to resources require decision making supported by an Environmental Impact Statement. Determining significance considers both the context and intensity of effects. For resources covered by this mitigation policy, the sensitivity and status of affected species, and the relative scarcity, suitability, and importance of affected habitats, provide the context component of significance criteria.

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Measures of the severity of effects (degree, duration, spatial extent, etc.) provide the intensity component of significance criteria. Significance criteria may help identify appropriate levels and types of mitigation; however, the Service should consider mitigation for impacts that do not exceed thresholds for significance as well as those that do.

Analysis of Environmental Consequences

The analysis of Environmental Consequences should address the timing and duration of direct, indirect, and cumulative effects to resources and how the timing and duration of mitigation would influence net effects over time. The Service's no-net-loss goal for fish and wildlife resources under this policy applies to the full planning horizon of a proposed action. Guidance under section V.B.3 (Assessment Principles) of this policy supplements existing Service, Department, and government-wide guidance for the Service's environmental consequences analyses for affected fish and wildlife resources under NEPA.

Cumulative Effects Analyses

The long-term benefits of mitigation measures, whether on-site or off-site relative to the proposed action, often depend on their placement in the landscape relative to other environmental resources and stressors. Therefore, cumulative effects analyses, including the effects of climate change, are especially important to consider in designing mitigation measures for fish and wildlife resources. Cumulative effects analyses should include consideration of direct and indirect effects of climate change and should incorporate mitigation measures to address altered conditions. Cumulative effects are doubly important in actions affecting species in decline, such as ESA-listed or candidate species, marine mammals, and Birds of Conservation Concern, for which the Service should design mitigation that will improve upon existing conditions and offset as much as practicable reasonably foreseeable adverse cumulative effects. Also to the extent practicable, cumulative effects analyses should address the synergistic effects of multiple foreseeable resource stressors. For example, in parts of some western states, the combination of climate change, invasive grasses, and nitrogen deposition may substantially increase fire frequency and intensity, adversely affecting some resources to a greater degree than the sum of these stressors considered independently.

Analysis of Climate Change

The analyses of climate change effects should address effects to and changes for the evaluation species, resource categories, mitigation measures, and the potential for changes in the effects of mitigation measures. Anticipated changes may result in the need to choose different or additional evaluation species and habitat, at different points in time.