



Eric Bauey/USFWS

The Deerleap Preserve Conservation Bank in Georgia was developed to support recovery and provide a mitigation option for unavoidable impacts to the Cherokee darter and other federally listed species.

the affected area is restored to its pre-action condition. Implementing that temporary protection prior to project impacts would avoid any temporal habitat loss to the species.

We define temporary impact as one that meets the following criteria: (1) the impact is limited to nonlethal take; (2) the impact can be completely rectified through natural or active processes and will function within the landscape at the same level as, or at a greater level than before, the impact; (3) restoration of the impact site can occur within a short and predictable timeframe based on current science and the knowledge of the species; and (4) the temporal loss to the species by the impact can be estimated and compensated. Opportunities for temporary compensation are likely to be very limited and may not apply to many species. Permanent compensatory mitigation is often an alternative. For example, conservation banks credits, perhaps at a reduced ratio, could be used to compensate for temporary impacts.

5.7. Effective Conservation Outcomes and Accountability

The Service has authority to conduct direct oversight of all compensatory mitigation programs and projects for which we have exempted or authorized incidental take under sections 7 and 10 of the ESA, respectively. Incidental take exemptions provided by statute to Federal agencies and applicants through the section 7 process require that the Federal agency or its applicant implement mandatory terms and conditions included with the take statement to activate the exemption pursuant to section 7(o)(2) of the ESA. Should a mitigation project fail to meet its performance criteria and, therefore, fail to provide the expected conservation for the species, the responsible party (see Table 1) must provide equivalent mitigation through other means if the exemption or authorization is to remain valid.

5.8. Effective Collaboration

The ESA-CMP encourages Service personnel to collaborate

with other agencies, academic institutions, nongovernmental organizations, Tribes, and other partners to develop and implement compensatory mitigation measures and programs through a landscape-scale approach to achieve the best possible conservation outcomes for activities subject to ESA compliance. Governments, communities, organizations, and individuals support what they help to develop. The Service will provide opportunities for and encourage appropriate stakeholder participation in development of landscape-scale compensatory mitigation strategies through appropriate public processes such as those used for programmatic HCPs. Programmatic approaches to compensatory mitigation often have the advantages of advance planning and economies of scale to: (1) achieve no net loss in species' conservation, (2) reduce the unit cost of compensatory mitigation, and (3) improve regulatory procedural efficiency.

occurring on any type of land ownership is usually acceptable because most private lands are not permanently protected for conservation and are generally the most vulnerable to development actions, if the project proponent can ensure durability. Locating compensatory mitigation on public lands for impacts to species on private lands is also possible, and in some circumstances may best achieve the conservation objectives for species. However, the practice should be carefully considered—see section 6.2.2, *Use of Public Land to Mitigate Impacts on Private Land* for additional guidance.

Unprotected lands that are high value for conservation are good candidates for compensatory mitigation sites. Designations of high conservation value may include lands with existing high-value habitat or habitat that when restored, enhanced, established, or properly managed will provide high value to the species. In addition to these general considerations, lands that may be good candidates for compensatory mitigation sites include:

- lands previously secured through easements or other means, but that lack the full complement of protections necessary to conserve the species (e.g., buffer lands for a military installation that do not include management);
- lands adjacent to undeveloped, protected public lands such as national wildlife refuges or State wildlife management areas;
- private lands enrolled in programs that provide financial compensation from public sources to landowners in exchange for agreements that protect, restore, or create habitat for federally listed, proposed, or at-risk species for a limited period of time, such as the Service's Partners for Wildlife Program or some Farm Bill programs (e.g., Environmental Quality Incentives Program) if

additional conservation benefits are provided above and beyond the terms and conditions of the agreement, or if the agreement/easement has expired; and

- private lands enrolled in voluntary conservation programs that provide regulatory assurances to the landowner such as enhancement of survival permits that can be transitioned into compensatory mitigation programs once the species is listed, after the landowner meets all terms and conditions of the conservation agreement and the agreement has expired, or the landowner surrenders the ESA section 10 permit in exchange for a mitigation instrument (see section 4.2.1, *Conservation Agreements with Enhancement of Survival Permits* for additional guidance).

Section 5.1, *Effective Siting* includes other considerations when selecting a site suitable for compensatory mitigation. Lands that generally do not qualify as compensatory mitigation sites include:

- lands without clear title unless the existing encumbrances (e.g., liens, rights-of-way) are compatible with the objectives of the mitigation site or can be legally removed or subordinated;
- split estates (i.e., lands that have separate owners of the surface and subsurface), unless a remedy can be found (see below for guidance on split estates);
- private or public lands already designated for conservation purposes, unless the proposed compensatory mitigation project would add additional conservation benefit for the species above and beyond that attainable under the existing land designation (see section 5.4, *Judicious Use of Additionality*);
- private lands enrolled in government programs that compensate landowners who permanently protect, restore, or create habitat for

federally listed, proposed, or at-risk species (e.g., Wetland Reserve Program easements administered by the U.S. Department of Agriculture's Natural Resources Conservation Service);

- inventory and debt-restructure properties under the Food Security Act of 1985 (16 U.S.C. 3801 et seq.); and
- lands protected or restored for conservation purposes under fee-title (i.e., an interest in land that is the most complete and absolute ownership in land) transfers.

While many potential high-value conservation properties throughout the United States have split-estate ownership, the Service should carefully consider the risks associated with using split-estate properties as compensatory mitigation sites. Laws and policies governing lands with split-estates may prevent land protection instruments (e.g., permanent conservation easements) from sufficiently protecting the land from future development, including oil and gas exploration or development. When legal remedies to restore single ownership of surface and subsurface are not possible or practicable, other approaches to managing the risks may be available to bolster durability on split estates. A mineral deed acquisition, mineral assessment report, or subsurface use agreement are a few of the options for managing mineral rights on compensatory mitigation sites that provide varying levels of protection (Raffini 2012). Service personnel tasked with assessing the viability of split estates as mitigation sites should work with the Service's Realty Specialists and the Office of the Solicitor to assess risks and possible remedies or to suggest other approaches.

6.2.2. Use of Public Land Already Designated for Conservation of Natural Resources to Mitigate Impacts on Private Land

In general, impacts to species on private land should be mitigated on



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Collaboration between the Service and California Department of Transportation on a project to correct erosion damage along State Route 330 helped minimize impacts to the City Creek watershed and endangered mountain yellow-legged frog habitat.

suitable private land. However, the Service may support compensatory mitigation on public land that is already designated for the conservation of natural resources to offset impacts to the species on private land provided that the project proponent clearly demonstrates additionality and it is legally attainable. Additionality is a reasonable expectation that the conservation benefits associated with the compensatory mitigation actions would not occur in the foreseeable future without those actions. Offsetting impacts to private land by locating compensatory mitigation on public land already designated for conservation purposes generally risks a long-term net loss in landscape capacity to sustain species (e.g., future reduction in the range of the species) by relying increasingly on public land to serve conservation purposes. However, we recognize under certain circumstances this offset arrangement may provide the best

possible conservation outcome for the species based on best available science. When this is the case, the Service will consider appropriate compensatory mitigation on public land to offset impacts to the species on private land if:

- compensatory mitigation is an appropriate means of achieving the mitigation planning goal for the species;
- the mitigation provider can clearly demonstrate and quantify additionality, which is supplemental to the public agency’s foreseeable conservation actions absent the mitigation (only conservation benefits that provide additionality are counted towards achieving the mitigation planning goal);
- the mitigation provider ensures durability of the compensatory mitigation (see section 6.2.3, *Ensuring Durability on Public Lands*);
- the mitigation is consistent with and not otherwise prohibited

- by all relevant statutes, regulations, and policies; and
- there is no available private land suitable for compensatory mitigation or the available private land cannot provide an equivalent or greater contribution towards offsetting the impacts to meet the mitigation planning goal for the species.
- project proponents have established a financing mechanism to cover the costs of implementation and long-term management of the compensatory mitigation.

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 so that assurances of durability, including financial assurances, are in place to support the development, maintenance, and long-term

effectiveness of the mitigation measures. Mechanisms to ensure durability of land protection for compensatory mitigation on public and private lands vary among agencies but should preclude conflicting uses and ensure that protection and management of the mitigation land is commensurate with the magnitude and duration of impacts.

The Service's Final Policy on the National Wildlife Refuge System (NWRS) and Compensatory Mitigation Under the Section 10/404 Program (64 FR 49229-49234, September 10, 1999) states that the Regional Director must recommend the mitigation to the Service Director for approval when NWRS lands are proposed for compensatory mitigation for impacts on private lands. Additional considerations may apply to NWRS lands for habitat losses authorized through the section 10/404 program (i.e., Rivers and Harbors Act/Clean Water Act).

6.2.3. Ensuring Durability on Public Land

Ensuring the durability of compensatory mitigation on public land presents particular challenges, especially regarding site-protection assurances, long-term management, and funding assurances for long-term stewardship. Mechanisms to ensure durability of land protection for compensatory mitigation on public land vary from agency to agency, are subject to site-specific limitations, and are likely to be politically and administratively challenging to secure. Some mechanisms may require a legislative act while other mechanisms can be achieved administratively at various levels of an agency's organization.

To ensure the durability of long-term management on public land, we should be highly confident that incompatible uses are removed or precluded to ensure that uses of the public land do not

conflict with or compromise the conservation of the species for which the compensatory mitigation project was established. However, if mitigation sites on public land are undermined by future changes in land management, any remaining compensatory mitigation obligations would then be required to be mitigated elsewhere.

6.2.4. Transfer of Private Mitigation Lands to Public Agencies

Mitigation providers may transfer private mitigation lands to public agencies with a conservation mission or Tribes if allowed by applicable laws, regulations, and policies.

6.2.5. Compensatory Mitigation on Tribal Lands

Tribal lands are generally eligible as compensatory mitigation sites if they meet the standards and other requirements set forth in this policy. The Service recognizes that Tribes are sovereign

Seasonal ponds like those at Sparling Ranch provide breeding habitat for California tiger salamanders, as well as foraging habitat for California red-legged frogs. Photo by Steve Rottenborn.



nations and will consider them as government entities when we consider the eligibility of Tribal lands for compensatory mitigation. Ensuring durability, particularly site protection, is usually a sensitive issue for a Tribal nation because a conservation easement entrusts the land to another entity (Terzi 2012). Alternative site protection mechanisms are allowable for Tribal lands including, but not limited to, intergovernmental agreements, Tribal integrated natural resource management plans, memorandums of agreements, or other long-term contracts that ensure Tribal sovereignty and governmental status is upheld.

6.3. Service Areas

A service area is the geographic area assigned to a compensatory mitigation site within which a project proponent can use credits for a specific resource (e.g., a species). The impacts for which compensatory mitigation is sought must be located within the designated service area for the species unless the Service approves otherwise. If a proposed action is located within the service area of a specific conservation bank, in-lieu fee program, or other third-party mitigation program or site, then the proponent of that action may offset unavoidable impacts, through transfer of the appropriate type and number of credits from that mitigation program or site. Although less common, a proposed action may use credits from outside a service area if appropriate. Regardless, all credit transfers require Service approval, whether they occur within or outside a service area.

The service area is an important component for a potential mitigation sponsor who will need to evaluate the market for credits prior to committing to a mitigation project. Service areas are determined through a collaborative process between the Service and the provider that marries biological appropriateness with feasibility both technically and economically (i.e., with a market that the

provider believes is viable). The mitigation sponsor must determine if a proposed mitigation project or program will be financially feasible and if they will move forward with the action.

6.4. Crediting and Debiting

A credit is a defined unit representing the accrual or attainment of ecological functions or services at a mitigation site. Credits are often expressed as a measure of surface area (e.g., an acre or hectare), linear distance of constant width (e.g., stream miles), number of individuals or mating pairs of a particular species, habitat function (e.g., habitat suitability index), or other appropriate metric that can be consistently and accurately quantified.

Metrics developed to support credits by measuring an increase in ecological functions and services at compensatory mitigation sites and those developed to measure an expected loss or debit in ecological functions and services at impact sites must be science-based, quantifiable, consistent, repeatable, and related to the conservation goals for the species. In general, the method of calculating credits at a compensatory mitigation site should be the same as calculating debits at project impact sites, including the method for determining baseline conditions. If use of a common “currency” between credits and debits is not practicable, the conversion between crediting and debiting metrics must be transparent.

Credits are available for use as mitigation for covered species once the Service verifies and releases them. Credits cannot be traded among mitigation providers, project developers, or anyone else and cannot be resold. The Service releases credits in proportion to administrative and ecological performance milestones. The Service considers credits retired if they are no longer available for use as mitigation, including credits that have been transferred to fulfill mitigation obligations. A project

proponent may also voluntarily retire credits, without being used for mitigation, which may help achieve mitigation goals.

A mitigation site may contain habitat that is suitable for multiple covered species or other resources in the same spatial area. It is important to establish how the credits will be stacked (see section 8.3, *Credit Stacking* for guidance).

Use of credits from specific compensatory mitigation programs is voluntary, and proponents may choose to purchase credits from Service-approved conservation banks or in-lieu fee programs or may complete proponent-responsible mitigation. Pricing of credits in conservation banks and in-lieu fee programs is solely at the discretion of the mitigation provider.

6.5. Managing Risk and Uncertainty

Compensatory mitigation can be a valuable conservation tool for offsetting unavoidable adverse impacts to listed, proposed, and at-risk species if the risk can be sufficiently managed. Predictions about the effectiveness of compensatory mitigation measures have varying degrees of uncertainty. An exact accounting of the functions and services lost at the impact sites and gained at the mitigation sites is rarely possible due to the variability and uncertainty inherent in biological systems and ecological processes. Compensatory mitigation accounting systems (e.g., debiting and crediting methodologies) should consider risk and adjust (e.g., using percentages, multipliers, etc.) metrics, mitigation ratios, and requirements to account for uncertainty in order to facilitate meeting our mitigation goal of no net loss.

7. Compensatory Mitigation Mechanisms

Compensatory mitigation mechanisms can be divided broadly into habitat-based mechanisms

and other non-habitat-based mitigation programs or projects. The Service anticipates that applying the standards in this policy will result in equivalent conservation for the species, regardless of the mechanism chosen. The compensatory mitigation mechanisms described in this policy that are developed for federally listed species will require Service approval. The Service will issue specific operational details regarding compensatory mitigation mechanisms in upcoming implementation guidance.

7.1. Habitat-based Compensatory Mitigation Mechanisms

Compensatory mitigation mechanisms based on habitat acquisition and protection may include restoring damaged or degraded habitat, enhancing existing habitat, establishing new habitat, preserving existing habitat not already protected that will otherwise be lost or converted to another habitat type, or some combination of these that offsets the impacts of the action and results in or contributes to sustainable, functioning ecosystems for the species. Preserving existing habitat often includes a change in land management that renders the site suitable for the species or provides additional ecological function or services for the species. Preservation includes site protection and management and is a valid mechanism for achieving compensatory mitigation that reduces threats to the species.

Existing habitat that is not protected and managed for the long term is vulnerable to loss, fragmentation, and other threats such as invasive species. Site protection, management, and funding for habitat-based compensatory mitigation mechanisms ensure that those areas will persist and be managed into the future to support species recovery. To ensure long-term habitat management, the compensatory mitigation property must have a sufficiently funded endowment that

is permanently restricted to paying the costs of management and stewardship of that property.

The four habitat-based mitigation mechanisms described below and compared in Table 1 differ by: (1) the party responsible for the success of the mitigation site (the proponent or a third party), (2) whether the mitigation site is onsite or offsite, and (3) whether credits are generated at the mitigation site for use by more than one action. The Service will ensure that all habitat-based compensatory mitigation it approves has equivalent standards (the standards in this policy) regardless of the mitigation mechanism(s) proposed. Habitat-based compensatory-mitigation programs developed to credit conservation actions that benefit proposed and at-risk species should meet all compensatory mitigation standards in this policy if the project proponent intends to use them as compensatory mitigation for adverse impacts of actions they undertake.

7.2. Proponent-responsible Compensatory Mitigation

Proponent-responsible compensatory mitigation are actions that the proponent takes that provide ecological functions and services as part of the conservation measures associated with the proponent's proposed action. While they are often in the form of conserved and managed compensatory mitigation sites, they can also include non-habitat actions that provide the necessary offsets. Proponent-responsible compensatory mitigation sites are usually permanent, as the Service anticipates that most proposed actions with a need for compensatory mitigation will result in permanent impacts to the species. Under proponent-responsible compensatory mitigation, the proponent retains responsibility for ensuring the required compensatory mitigation is completed and successful. This includes long-term management and maintenance when the

mitigation is intended to be permanent, including ensuring sufficient funds are available from an endowment for long-term management, maintenance, and monitoring. Proponent-responsible compensatory mitigation may be onsite or offsite, and each proponent-responsible mitigation site is linked to the specific action that required the mitigation. Once the proponent-responsible compensatory mitigation is applied to a specific action, the compensatory mitigation cannot be used to offset effects for another action (i.e., no double counting).

7.3. Conservation Bank Program

A conservation bank is a site, or suite of sites, that is conserved and managed in perpetuity and provides ecological functions and services expressed as credits for specified species that are later used to compensate for adverse impacts occurring elsewhere to the same species. Bank sponsors may be public or private entities. The mitigation sponsor must ensure the required compensatory mitigation measures for a permitted action are completed and successful. The bank sponsor assumes the responsibility for success of the compensatory mitigation from a proponent, typically through the transfer of credits. Conservation banks provide mitigation in advance of impacts, legal obligations granting certainty of perpetual conservation, and sufficient endowment for long-term management of the habitat.

7.4. In-lieu Fee Program

In-lieu fee programs may be sponsored by a government agency or an environmental, conservation-based, not-for-profit organization with a mission that is consistent with species or habitat conservation. The in-lieu fee sponsor collects fees from proponents that the Service has approved to use the in-lieu fee program, instead of providing proponent-responsible compensatory mitigation. When the in-lieu fee program has collected sufficient funds, the sponsor will

Table 1. Comparison of Habitat-based Compensatory-Mitigation Sites Established under Different Mechanisms

<i>Mitigation Mechanism</i>	<i>Responsible Party</i>	<i>Credits Generated</i>	<i>Responsibility</i>
Proponent-responsible Mitigation Site	Proponent	No	No
Conservation Bank	Bank Sponsor	Yes	Yes
In-lieu Fee Program Site	In-lieu Fee Sponsor	Yes	Yes
Habitat Credit Exchange Site	Exchange Administrator; Mitigation Sponsor; or other identified responsible entity	Yes	Yes

establish an in-lieu fee site that meets the mitigation requirements for the impacts of proponent’s actions. In-lieu fee programs often have incremental benchmarks for funding and project implementation that ensure the monies are spent as soon as it is possible on appropriate compensatory mitigation activities.

An in-lieu fee site is a conserved and managed compensatory mitigation site established as part of an in-lieu fee program that provides ecological functions and services expressed as credits for specified species, and it is used to compensate for adverse impacts occurring elsewhere to the same species. In-lieu fee sites are usually permanent as the Service anticipates that most proposed actions with a need for compensatory mitigation will result in permanent impacts to the species. The in-lieu fee program sponsor assumes responsibility from a proponent for ensuring that the required compensatory mitigation measures are completed and successful, including long-term management and maintenance, typically through the transfer (usually purchase) of credits. In-lieu fee programs generally do not provide mitigation in advance of impacts.

In-lieu fee programs can also be established to fund non-habitat-

based compensatory mitigation measures. See section 7.6, *Other Compensatory Mitigation Programs or Projects* for guidance on these types of programs.

7.5. Habitat Credit Exchange

Habitat credit exchanges are relatively new and warrant additional care and consideration when proponents are considering them as mitigation mechanisms. A habitat credit exchange is an environmental market that operates as a clearinghouse in which an exchange administrator manages credit transactions between compensatory mitigation providers and project proponents. This contrasts with direct transactions between compensatory mitigation providers and proponents that generally occur through conservation banking and in-lieu fee programs. In appropriate circumstances, an exchange administrator may also be a mitigation provider. Exchanges help connect mitigation providers and users to provide ecological functions and services expressed as credits that are conserved and managed for specified species and are used to compensate for adverse impacts occurring elsewhere to the same species. Exchanges are not intended to establish a secondary market for resale of credits. The Service must approve exchanges developed for

federally listed species as with all other compensatory mitigation mechanisms described in this policy.

7.6. Other Compensatory Mitigation Programs or Projects

Compensatory mitigation is based on the concept of replacing or providing substitute resources or environments for the impacted resource (40 CFR 1508.20). However, mechanisms or conservation measures that do not exactly meet this definition, but that meet the conservation objectives for the specified species and that we expect to compensate for adverse effects to species or their habitats, may be suitable as compensatory mitigation. These types of compensatory mitigation measures are acceptable if they are closely tied to recovery actions identified in species status assessments, recovery plans and outlines, 5-year reviews, or best available science on the threats and needs of the species. These other compensatory mitigation measures are varied and species-specific; the Service anticipates providing more detailed information on considerations for their development in future implementation guidance. Compensatory mitigation of this type is often funded through an in-lieu fee program. Examples of potentially suitable compensatory measures include, but are not limited to:

- a. transfer and retirement of timber, water, mineral, or other severed rights to an already existing conservation site, thereby significantly reducing or eliminating the risk of future development on the site that would be incompatible with conservation of the species;
- b. restriction of human use of waterways or other public spaces through legal means to allow for increased or exclusive use by the species;
- c. controlled propagation, population augmentation, and reintroduction of individuals of the species to offset losses from an action;

- d. captive rearing and release of individuals of the species to offset losses from an action;
- e. administration of vaccination programs vital to species survival and recovery;
- f. gating of caves that serve as habitat for the species;
- g. retrofitting power poles to avoid electrocution of raptors;
- h. construction of wildlife overpasses or underpasses to protect migratory passages for the species; and
- i. programs that reduce the exposure of the species to contaminants in the environment that are known to cause injury or mortality.

In rare circumstances, a proponent can include as part of a mitigation package research or education that they can link directly to the relative threats to the species and show a quantifiable benefit to the species. Although research can assist in identifying substitute resources, it does not replace impacted resources or adequately compensate for adverse effects to species or habitat. See the Service's Mitigation Policy for additional guidance on appropriate uses of research or education as mitigation.

8. Criteria for Use of Third-party Mitigation

The Service will issue specific operational details regarding the use of third-party mitigation in upcoming implementation guidance.

8.1. Use of Credits for Mitigation under the ESA

Activities regulated under sections 7 or 10 of the ESA may be eligible to use Service-approved third-party-sponsored mitigation if that mitigation has the appropriate type and number of available credits that can offset the adverse impacts to the species from a particular project that is located within the service area of the relevant bank or in-lieu fee program. The Service

will only consider credits that we have verified and released as available for project proponents to use to mitigate the impacts of their actions.

8.2. Transfer of Responsibility

The mitigation sponsor assumes responsibility from a proponent for success of the mitigation, typically through the transfer of credits or other quantified amount of compensatory mitigation.

The Service's role is regulatory. Credit transfers are subject to Service approval of their conservation value and appropriate application for use related to any authorization or permit we issue under the ESA. Market and legal risks arising from the purchase and use of mitigation credits are borne solely by the parties to the sale of such credits.

8.3. Credit Stacking

The Service recognizes the inherent efficiencies in leveraging multiple conservation efforts on the landscape and encourages the coordinated efforts provided by third-party mitigation. The Service should encourage project proponents to design compensatory mitigation projects to allow proponents to holistically address their needs under multiple programs and authorities for the same action (i.e., design compensatory mitigation projects to allow for the stacking of credits). However, project proponents must account for compensatory mitigation and other conservation actions that occur on the same mitigation site separately and manage and track all aspects of the different actions in a transparent manner.

Credit stacking allows a single unit of a mitigation site to provide compensation for two or more spatially overlapping ecosystem functions or services that are grouped together into a single credit type and used as a single commodity to compensate for a single permitted action. For

example, a stream credit may satisfy requirements for an U.S. Army Corps of Engineers section 404 CWA permit and issuance of incidental take authority under the ESA for a listed mussel species occurring in that stream. As another example, a county-wide HCP may establish an in-lieu fee program for which a single fee is collected from project applicants for a permit which covers multiple mitigation obligations under Federal, State, and local authorities. In both these examples, the stacked credit is used as a single unit (i.e., it is not unstacked) and is only used once.

The Service allows stacking mitigation credits within a mitigation project, but the project proponent cannot unstack the stacked credits to provide mitigation for more than one permitted impact action even if all resources included in the stacked credit are not needed for that action. To do so would result in a net loss of resources in most cases because using a species credit separately from the functions and services that accompany its habitat, such as carbon sequestration or pollination services, would result in double counting (i.e., "double dipping"). Double counting is selling or using a unit of the same ecosystem function or service on the ground more than once and would not be consistent with the principle of additionality. This can occur through an accounting error in which the credit is sold twice, and it also can occur when stacked credits are unstacked and one or more functions or services are sold separately. For example, a credit representing an acre of habitat is sold once as a species habitat credit for a permitted action and again as a carbon credit for a different action in a different location. The loss of species habitat at the first impact site included all functions and services associated with that habitat, including carbon sequestration, so selling that same unit of compensatory mitigation again for carbon sequestration

results in no carbon offset for the loss of carbon sequestration at the second impact location. Using a stacked credit separately to reflect its various values is an ecologically challenging accounting exercise.

8.4. Use of Credits for Mitigation under Authorities Other than the ESA

Compensatory mitigation projects established for use under one Service program (e.g., Ecological Services) may also be used to satisfy the environmental requirements of other Service programs (e.g., Migratory Birds or the NWRS) or other Federal, State, Tribal, or local agency programs consistent with the laws and requirements of each respective program. However, the Service will not consider the use of the same credits for more than one authorized or permitted action (i.e., no double counting of mitigation credits).

9. Compliance and Tracking

A tracking system is essential in ensuring compliance with the mitigation instruments used to implement the compensatory mitigation programs we describe in this policy and facilitates meeting our goal of no net loss in conserving species and habitats. Tracking systems also facilitate consistent implementation of compensatory mitigation programs and projects. It is vital that the Service track compliance directly for proponent-responsible mitigation and, at a minimum, through third parties responsible for operating compensatory mitigation programs or projects such as banks, in-lieu fee programs, and habitat exchanges. Transactions (credit withdrawals) at a Service-authorized mitigation program or project that are not related to ESA compliance and that the Service does not approve must still be accounted for in the same tracking system. The Service will provide specific operational details regarding compliance and tracking in upcoming implementation guidance.

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Appendices

Appendix A: List of Acronyms and Abbreviations Used in this Policy

CFR—Code of Federal Regulations

CWA—Clean Water Act

ESA—Endangered Species Act

FWCA—Fish and Wildlife Coordination Act

HCP—Habitat conservation plan

NEPA—National Environmental Policy Act

NWRS—National Wildlife Refuge System

RIBITS—Regulatory In-lieu fee and Bank Information Tracking System

RPA—reasonable and prudent alternative

RPM—Reasonable and prudent measure

Appendix B: Glossary of Terms Related to Compensatory Mitigation

Definitions in this section apply only to the implementation of the U.S. Fish and Wildlife Service (Service) Endangered Species Act Compensatory Mitigation Policy and were developed to provide clarity and consistency. Some definitions are defined in Service authorities such as the Endangered Species Act or the National Environmental Policy Act, or in regulations or policies existing at the time this policy was issued. We have developed other definitions based on compensatory mitigation practices. Definitions

in the glossary do not supersede or substitute for statutory or regulatory definitions previously published in the Service's or other Federal agencies' regulations.

Action—an activity or program implemented, authorized, or funded, in whole or in part, 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.

Adaptive management—a systematic approach for improving resource management by learning from management outcomes. An adaptive approach involves exploring alternative ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of management actions, and then using the results to update knowledge and adjust management actions. Adaptive management focuses on learning and adapting, through partnerships of managers, scientists, and other stakeholders who learn together how to create and maintain sustainable resource systems (Williams et al. 2009). As applied to compensatory mitigation, it is a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of activities to address those challenges, as well as unforeseen changes to those projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to achieve stated biological goals. It includes the selection of appropriate

measures that will ensure that the resource functions and services are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification and implementation of measures to rectify those problems (modified from 33 CFR 332.2).

Additionality—a compensatory mitigation measure is additional when the benefits of the measure improve on the baseline conditions of the site that is compensating for the impacted resources and their values, services, and functions in a manner that is demonstrably new and would not have occurred at the compensatory mitigation site without the measure.

Applicant—any person who requires formal approval or authorization from a Federal agency as a prerequisite to conducting an action (50 CFR 402.02); "person" means an individual, corporation, partnership, trust, association, or any other private entity; any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; or any other entity subject to the jurisdiction of the United States (16 U.S.C. 1532(13)).

At-risk species—candidate species and other nonlisted species that are declining and are at risk of becoming a candidate for listing under the Endangered Species Act. This may include, but is not limited to, State-listed species, species identified by States as species of greatest conservation need, or species with State heritage ranks of G1 or G2.

Avoidance—avoiding the impact altogether by not taking a certain action or parts of an action (40 CFR 1508.20).

Bank sponsor—any public or private entity responsible for establishing and, in most circumstances, operating a conservation bank. Bank sponsors are most often private individuals, companies, or Limited Liability Corporations, but they may also be nongovernmental organizations, Tribes, or government agencies (see also “mitigation sponsor”).

Baseline—the current and future conditions of a defined area of habitat or a species population that are expected without implementation of the proposed action. Predictions about future environmental conditions that can be quantified by an appropriate metric to determine level of functions and/or services should account for natural species succession, implementation of approved land and resource management plans, and any other reasonably foreseeable factors that influence these conditions.

Candidate species (candidate)—any species being considered by the Secretary of the Interior for listing as an endangered or threatened species, but not yet the subject of a proposed rule (50 CFR 424.02); a species for which the Service or the National Marine Fisheries Service has on file sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened under the Endangered Species Act.

Compensatory mitigation (compensation, offset)—compensation or offsets for remaining unavoidable impacts after all appropriate and practicable avoidance and minimization measures have been applied, by replacing or providing substitute resources or environments (see 40 CFR 1508.20) through the restoration, establishment, enhancement, or preservation of resources and their values, services, and functions.

Compensatory mitigation project—compensatory mitigation implemented by the Federal agency, a permittee, or a mitigation sponsor. Compensatory mitigation projects include proponent-responsible mitigation, conservation banks, in-lieu fee programs and sites, habitat

credit exchanges, and other third-party compensatory mitigation projects.

Conservation, conserve, conserving—to use and the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to the Endangered Species Act are no longer necessary (16 U.S.C. 1532(3)).

Conservation bank—a site, or suite of sites, that is conserved and managed in perpetuity and provides ecological functions and services expressed as credits for specified species that are later used to compensate for impacts occurring elsewhere to the same species.

Conservation easement (easement)—a recorded legal document established to conserve biological resources for a specified duration, usually in perpetuity, on an identified conservation property and which restricts certain activities and requires certain habitat management obligations for the conservation property. An easement is an encumbrance and transfers with the land deed.

Conservation measures (conservation actions)—those actions that avoid, minimize, or compensate (i.e., offset) for impacts of an action to listed species or critical habitat and may be included in the proposed action by an agency or applicant, or found in conservation plans for the species and critical habitat. These actions can also include actions to benefit or promote the recovery of listed species, pursuant to section 7(a)(1), that are included by the Federal agency as an integral part of the proposed action.

Conservation objective—a measurable expression of a desired outcome for a species or its habitat resources. 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 the species.

Conservation plan (species conservation plan)—a plan developed by Federal, State, or local government agencies; Tribes; or appropriate nongovernmental organizations, in consultation with relevant stakeholders, for the specific goal of conserving one or more listed, proposed, or at-risk species. A conservation plan is developed using a landscape-scale approach and addresses the status of, needs of, and threats to the species, and usually includes recommended conservation measures for the conservation/recovery of the species. Examples of species conservation plans include species conservation frameworks, range-wide conservation plans, and conservation plans developed as part of a large landscape habitat conservation plan.

Consolidated compensatory mitigation—compensatory mitigation that is located adjacent or in close proximity on the landscape such that it functions as a system, rather than small, isolated, spatially and functionally disjunct patches of compensatory mitigation. Mitigation mechanisms that incorporate consolidated mitigation include conservation banks and in-lieu fee programs.

Covered species—species specifically included in a conservation bank, habitat conservation plan, permit, range-wide conservation plan, or other such conservation plan for which a commitment is made to achieve specific conservation measures for the species.

Credit (species credit, habitat credit)—a defined unit representing the accrual or attainment of ecological functions or services for a species at a mitigation site or within a mitigation program.

Credit stacking—allowing a single unit of a mitigation site to provide two or more credit types representing spatially overlapping ecosystem functions or services that can be used to compensate for an action. In certain circumstances, a credit may be used to meet more than

one permitting authorization for the same action (e.g., a stacked credit from a joint CWA 404/conservation bank may provide mitigation for both wetlands and listed species).

Credit transfer—the use of credits by a bank sponsor or mitigation provider to a proponent or other entity for the purposes of offsetting impacts of an action.

Critical habitat—specific areas within the geographical area occupied by the species at the time it is listed as endangered or threatened under the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed, which are determined by the Secretary of the Interior to be areas essential for the conservation of the species (16 U.S.C. 1532(5)(A)).

Debit—a defined unit representing the loss of ecological functions or services for a species at an impact site. Debits should be expressed using the same metrics used to determine credits at mitigation sites.

Double-counting (double-dipping)—using a credit, however defined, representing the same unit of ecosystem function or service on a mitigation site more than once. Double-counting/double-dipping is not allowed.

Durability—the condition or state in which the measurable environmental benefits of the compensatory-mitigation project or measure are sustained, at a minimum, for the duration of the associated impacts of the authorized action. To be durable, mitigation measures effectively compensate for remaining unavoidable impacts that warrant compensatory mitigation; use long-term administrative and legal provisions to prevent actions that are incompatible with the measure; and employ financial instruments to ensure the availability of sufficient funding for the measure's long-term monitoring, site protection, and management.

Endangered species—any species that is in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)).

Endowment—as used in this policy, funds that are conveyed solely for the long-term stewardship of a compensatory mitigation property and are permanently restricted to paying the costs of management and stewardship of that property. The management of endowment funds is generally governed by State and Federal laws, as applicable. Endowments do not include funds conveyed for meeting the short-term performance objectives of a mitigation project.

Enhancement—activities conducted in existing habitat of the species that improve one or more ecological functions or services for that species, or otherwise provide added benefit to the species and do not negatively affect other resources of concern. Compare with “restoration.”

Establishment—construction of habitat of a type that did not previously exist on a mitigation site but which will provide a benefit to the species and does not negatively affect other resources of concern. Compare with “restoration.”

Functions—the physical, chemical, and biological processes that occur in ecosystems (33 CFR 332.2); functions are the ecological processes necessary for meeting species' habitat and lifecycle needs.

Habitat—an area with spatially identifiable physical, chemical, and biological attributes that supports one or more life-history processes for the species.

Habitat conservation plan (HCP)—a planning document that describes the anticipated effects of a proposed activity on the taking of a covered species, how those impacts will be minimized and mitigated, and how the plan will be funded (16 U.S.C. 1539). The HCP is required as part of an incidental take permit application to the Service or the National Marine Fisheries Service (see “incidental take”).

Habitat credit exchange (habitat credit exchange program)—an

environmental market that operates as a clearinghouse in which an exchange administrator manages credit transactions between compensatory-mitigation providers and project proponents. This contrasts with the direct transactions between compensatory mitigation providers and proponents that generally occur through conservation banking and in-lieu fee programs. In appropriate circumstances, an exchange administrator may also be a mitigation provider. Exchanges help connect mitigation providers and users to provide ecological functions and services expressed as credits that are conserved and managed for specified species and are used to compensate for adverse impacts occurring elsewhere to the same species. Exchanges are not intended to establish a secondary market for resale of credits.

High-value habitats—habitats that are rare, scarce, and of high suitability and importance for a selected species. They may also be difficult to offset given existing science (e.g., karst formations, bat hibernacula, etc.).

Impact(s) (of an action)—adverse effects relative to the affected resources. More specifically under this policy, adverse effects on the species or its habitat anticipated in a proposed action or resulting from an authorized or permitted action.

Incidental take—take that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a Federal agency or an applicant (50 CFR 402.02). Incidental take may be exempted or authorized for endangered or threatened species through section 7 or 10, or for threatened species, excepted (if prohibited in the first instance) through a rule codified under section 4(d) of the Endangered Species Act (see also “take”).

In-kind—a resource of a similar structural and functional type to the impacted resource (33 CFR 332.2); when used in reference to a species, in-kind means the same species.

In-lieu fee program—a program involving the restoration,

establishment, enhancement, and/or preservation of habitat through funds paid to a governmental or nonprofit natural resources management entity to satisfy compensatory mitigation requirements for impacts to specified species or habitat (modified from 33 CFR 332.2).

In-lieu fee program sponsor—any government agency or nonprofit natural-resources-management organization responsible for establishing and, in most circumstances, operating an in-lieu fee program (see also, “mitigation sponsor”).

In-lieu fee site—a compensatory mitigation site established under an approved in-lieu fee program.

Landscape—an area encompassing an interacting mosaic of ecosystems and human systems that is characterized by a set of common management concerns. The landscape is not defined by the size of the area, but rather by the interacting elements that are relevant and meaningful in a management context.

Landscape-scale approach—Scale-appropriate decision making that implements existing conservation plans, where available, emphasizing early engagement and coordination across Federal, State, Tribal, local, and nongovernmental levels. As defined in the Service’s Mitigation Policy, the landscape-scale approach applies the mitigation hierarchy for impacts to resources and their values, services, and functions at the relevant scale, however narrow or broad, necessary to sustain, or otherwise achieve, established goals for those resources and their values, services, and functions (see section 5.1, *Effective Siting*).

Listed species—any species of fish, wildlife, or plant which has been determined to be endangered or threatened under section 4 of the Endangered Species Act (50 CFR 402.02). Listed species are found at 50 CFR 17.11 and 17.12.

Mitigation (mitigation hierarchy, mitigation sequence)—as defined and codified in the Council on Environmental Quality National Environmental Policy Act (42 U.S.C.

4321 et seq.) regulations (40 CFR 1508.1(s)), mitigation includes:

- avoiding the impact altogether by not taking the action or parts of the action;
- minimizing the impact 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 sequence is often condensed to: avoidance, minimization, and compensation.

Mitigation ratio—the relationship between the amount of the compensatory offset for, and the impacts to, the species, habitat for the species, or other resource of concern.

Mitigation sponsor (mitigation project sponsor; sponsor; mitigation provider)—any public, Tribal, or private entity responsible for establishing and, in most circumstances, operating a compensatory mitigation program or project such as a conservation bank, in-lieu fee program, or habitat credit exchange (modified from 33 CFR 332.2).

No net loss—Meeting the Service’s mitigation goal of no net loss means that with appropriate avoidance, minimization, and compensatory mitigation measures, the status of the affected resource is undiminished relative to pre-impact conditions. Mitigation that meets the no net loss goal should fully offset the impacts of the action to the affected resources, including considerations for temporal losses, risk, and uncertainty.

Offsite—a mitigation area that is located neither on nor adjacent to the same parcel of land as the impact site

(adopted from U.S. Army Corps of Engineers regulations 33 CFR 332.2).

Onsite—a mitigation site located on or adjacent to the same parcel of land as the impact site (adopted from U.S. Army Corps of Engineers regulations 33 CFR 332.2).

Performance criteria—observable or measurable administrative and ecological (physical, chemical, or biological) attributes that are used to determine if a compensatory mitigation project meets the agreed-upon conservation objectives identified in a mitigation instrument or the conservation measures proposed as part of a permitted or otherwise authorized action.

Permittee—any person who receives formal approval or authorization, generally in the form of a permit or license, from a Federal agency to conduct an action (see also, “applicant”).

Proponent-responsible mitigation—activities or projects undertaken by a proponent or an authorized agent or contractor to provide compensatory mitigation for which the proponent retains full responsibility. As used in this policy, proponent-responsible mitigation also includes compensatory mitigation undertaken by Federal agencies to offset impacts resulting from actions carried out directly by the Federal agency.

Perpetuity—endless or infinitely long duration or existence; permanent.

Practicable—available and capable of being done after taking into consideration existing technology, logistics, and cost considering a compensatory mitigation measure’s beneficial value and a land-use activity’s overall purpose, scope, and scale.

Preservation—the protection and management of existing resources for the species that would not otherwise be protected through removal of a threat to, or preventing the decline of, the resources to compensate for the loss of the same species or resources elsewhere.

Public land—land that is owned by a public entity (e.g., local, State, or Federal agency). In many cases public land may already have conservation as a primary management purpose.

Resources (resources of concern)—fish, wildlife, plants, and their habitats, and uses thereof, for which the Service has authority to recommend or require the mitigation of impacts resulting from proposed actions.

Restoration—repairing or rehabilitating habitat for the benefit of the species on a mitigation site with the goal of returning it to its natural/historical habitat type with the same or similar functions where they have ceased to exist or exist in a substantially degraded state.

Retired credit—a credit that is no longer available for use as mitigation. Credits that have been sold or otherwise used to fulfill a mitigation obligation are considered retired. Credits may also be voluntarily retired or forfeited, without being used for mitigation.

Service area—the geographic area within which impacts to the species or other resources of concern can be mitigated at a specific compensatory mitigation site.

Species—includes any species or subspecies of fish, or wildlife, or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature (16 U.S.C. 1532(16)).

Take—to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect a federally listed species, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)).

Temporal loss—the cumulative loss of functions or services relevant to the species attributed to the time between the loss of habitat functions or services or individuals of the population(s) caused by the action, and the replacement of habitat functions or services or repopulation

of the species at the compensatory mitigation site to the same level had the action not occurred. Temporal loss may include effects of the action on the species that occur later in time, as well as those effects stemming directly from the action itself.

Threatened species—any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)).

Unavoidable impact—an impact for which an appropriate and practicable alternative to the proposed action that would not cause the impact is not available.

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