Legal Requirements for State Departments of Transportation Agency Participation in Conservation Plans

DETAILS

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LEGAL REQUIREMENTS FOR STATE TRANSPORTATION AGENCY PARTICIPATION IN CONSERVATION PLANS

This report was prepared under NCHRP Project 20-06, "Legal Problems Arising Out of Highway Programs," for which the Transportation Research Board is the agency coordinating the research. The report was prepared under Topic 22-01 by James M. McElfish, Jr., Environmental Law Institute, Washington, DC. James B. McDaniel, TRB Counsel for Legal Research Projects, was the principal investigator and content editor.

Background

State highway departments and transportation agencies have a continuing need to keep abreast of operating practices and legal elements of specific problems in highway law. The NCHRP Legal Research Digest series is intended to keep departments up-to-date on laws that will affect their operations.

Foreword

Many state transportation highway development projects must mitigate impacts to natural resources. This is frequently done through compensation for loss of wetlands, purchase of land for lost public uses, or through complex agreements to avoid impacts to endangered species. When these mechanisms are tailored to individual projects or are not developed until late in the project development process, they can be costly and time-consuming. They can also lead to public opposition, resulting in expensive and protracted litigation.

A number of state transportation agencies have purchased property to establish wetland mitigation banks to establish "credits" to compensate for wetland losses. This process requires extensive coordination procedures between state natural resource agencies to avoid last minute negotiations that can exacerbate expense and create negative publicity. A few state transportation agencies participate in Habitat Conservation Plans (HCPs). HCPs can cover a general area and therefore are not limited to individual transportation projects.

This digest describes HCPs and their relation to wetland mitigation banking, regional planning, and the National Environmental Policy Act (NEPA). Purchase and sale of wetland banks, habitat, and stream credits may be characterized as real property or personal property transactions. This digest covers mechanisms used in California, Wisconsin, and other states to set up, monitor, and maintain HCPs on private or public property through endowment funds and the use of conservation easements. It also includes recent updates to related federal regulations and policies. It should prove useful to private and government attorneys, students, and other practitioners in environmental law and related fields.

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LEGAL REQUIREMENTS FOR STATE TRANSPORTATION AGENCY PARTICIPATION IN CONSERVATION PLANS

By James M. McElfish, Jr., Environmental Law Institute, Washington, DC

I. INTRODUCTION

This study examines the legal requirements related to compensatory mitigation for impacts to natural resources caused by state highway development projects, with specific attention to state transportation agencies' participation in conservation plans. The requirements for compensatory mitigation are fulfilled using mechanisms recognized by federal and state laws and policies, and are increasingly linked to larger-scale conservation planning in order to improve the efficacy and durability of the mitigation being provided.

Laws and regulations authorize programs that generate "credits" to offset environmental damage, and include wetland and stream mitigation banks and in-lieu fee (ILF) accounts under the federal Clean Water Act[1] and state wetlands and water quality laws; mitigation of habitat loss and offsets of impacts to species under the federal Endangered Species Act[2] (ESA); and state habitat conservation banking.[3]

The specific compensatory mitigation mechanisms under consideration are:

• Compensatory mitigation for unavoidable impacts to the "waters of the United States" under permitted activities covered by Section 404 of the Clean Water Act,[4] Section 10 of the Rivers and Harbors Act,[5] and the Compensatory Mitigation Rule issued by the Corps of Engineers (Corps) and Environmental Protection Agency (EPA)[6]. After the proposed action has been designed to avoid and minimize potential impacts to the waters of the United States, remaining permitted impacts must be offset by compensatory mitigation—the creation, restoration, or enhancement of waters and wetlands—ordinarily in the same "watershed" as the projected impacts. The compensatory mitigation hierarchy established by the rule prefers mitigation provided through a mitigation bank[7] or ILF[8] over permittee-responsible mitigation created by the permit applicant.[9] States may also approve use of these mechanisms to satisfy the mitigation requirements of state wetlands and water protection laws, usually in coordination with federal regulators.

• Habitat improvements and conservation actions undertaken to prevent "jeopardy" to a listed threatened or endangered species pursuant to consultation with the U.S. Fish & Wildlife Service (FWS) or National Oceanic and Atmospheric Administration (NOAA) under Section 7 of the ESA.[10]

• Habitat improvements and conservation actions to protect a listed threatened or endangered species in connection with a Habitat Conservation Plan (HCP) approved by the FWS or NOAA supporting an "incidental take permit" under Section 10 of the ESA;[11] and Candidate Conservation Agreements with Assurances (CCAA) to conserve and enhance habitat for species that are not yet listed species

[1] Federal Water Pollution Control Act, better known as the "Clean Water Act", Pub. L. No. 92-500, 86 Stat. 816, (1972) (codified as amended at 33 U.S.C. §§ 1251-1387).

[2] Pub. L. No. 93-205, 87 Stat. 884 (1973) (codified as amended 33 U.S.C. ch. 35, §§ 1531-1544).

[3] Michael Bean, Rebecca Kihslinger, & Jessica Wilkinson, Design of U.S. Habitat Banking Systems to Support the Conservation of Wildlife Habitat and At-Risk Species (Environmental Law Institute, 2008).

[4] 33 U.S.C. § 1344.

[5] *Id.* § 403.

[6] 33 C.F.R. Parts 320-332; 40 C.F.R. Parts 230-233.

[7] A mitigation bank is a site or suite of sites where aquatic resources are restored, established, enhanced, or preserved for the purpose of compensating for impacts authorized by Corps of Engineers permits. In general, a bank sells compensatory mitigation credits to permittees, whose obligation to provide compensatory mitigation is then assumed by the bank sponsor. 33 C.F.R. § 332.2; 40 C.F.R. § 230.92.

[8] An ILF program involves the payment of funds to a governmental or nonprofit natural resources management entity to satisfy compensatory mitigation requirements through certain activities aquatic resources are restored, established, enhanced, or preserved for the purpose of compensating for impacts authorized by Corps permits. Similar to banking, the compensatory mitigation obligation is assumed by the ILF sponsor. 33 C.F.R. § 332.2; 40 C.F.R. § 230.92.

[9] Permittee-responsible mitigation is an aquatic resource restoration, establishment, enhancement, and/or preservation activity undertaken by the permittee (or its authorized agent or contractor) to satisfy compensatory mitigation obligations required in connection with a Corps permit. The permittee remains fully responsible for the satisfaction of the mitigation requirements. 33 C.F.R. § 332.2; 40 C.F.R. § 230.92.

[10] 16 U.S.C. § 1536.

[11] *Id.* § 1539.

in order to obviate a potential listing and provide an enhancement of survival permit under Section 10(a)(1)(A).

• State conservation banking to satisfy state threatened and endangered species laws, and, with federal approval, federal ESA requirements previously noted.

All of these compensatory mitigation mechanisms can be carried out in connection with larger-scale conservation planning, which improves their utility, predictability, and effectiveness.[12] The Compensatory Mitigation Rule requires use of a "watershed approach," which invites the entities approving wetland and stream mitigation banks and ILF sites—the federal-state Interagency Review Team (IRT)—to adopt or recognize new or existing watershed planning mechanisms when approving the establishment of banks or ILFs. Recognition of watershed plans includes reference to these when defining the service areas within which banks or ILFs may offer and provide mitigation credits to permit applicants. Corps regulators also consult these plans, where available, when approving use of bank or ILF credits to offset impacts in a particular location, or in deciding to authorize permittee-responsible compensatory mitigation activities. The species-related offset mechanisms also rely heavily on conservation planning at different scales—especially for HCPs and conservation banks that cover multiple species or large areas of potential habitat impact.

This report examines the legal issues that affect the ability of state transportation agencies to participate in conservation planning activities, particularly in advance of specific impacts and demands for offsets.[13]

From a sporadic, ad hoc process of conservation planning and crediting of mitigation a few decades ago, federal laws now firmly authorize participation in planning activities and closely define how crediting of mitigation is handled. Key legal documents are the 2008 Compensatory Mitigation Rule issued by the Corps of Engineers and EPA to define mitigation, planning areas, the "watershed approach," and the mitigation hierarchy for purposes of addressing wetland and stream impacts; the FWS's 1981 Mitigation Policy and 2003 Conservation Banking Guidance, both of which were updated in 2016 and 2017; and the developments in federal transportation legislation and rules that now firmly support contributions to "statewide and regional efforts to conserve, restore, enhance, and create natural habitats and wetlands," as well as "development of statewide and regional environmental protection plans, including natural habitat and wetland conservation and restoration plans."[14]

State laws play a relatively minor role in this universe, given the federal funding framework and the federal regulatory interests in waters and species. State transportation agency participation in conservation planning has occurred primarily in places where substantial federal ESA issues have arisen, and, also on the basis of pilot projects and memoranda of agreement using existing laws.

II. ADVANCE MITIGATION FOR WETLAND AND HABITAT IMPACTS—LEGAL FRAMEWORK

A. Compensatory Wetland Mitigation Banking and ILF Compensatory Mitigation

1. History of Compensatory Mitigation under the Clean Water Act

The federal Clean Water Act, was enacted to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Section 404 of the Act regulates discharges of "dredged or fill material" to the waters of the United States, including wetlands and other aquatic resources. It requires dischargers to apply to the Corps for a permit authorizing any such discharge. Permitting activities are carried out by the Corps' 38 district offices. The Corps has authority to issue individual permits or general permits. General permits are issued for categories of activities that are similar in nature and are determined to have only minimal adverse environmental impacts; general permits include a suite of "nationwide permits" that are issued by the Corps every five years to cover common activities. Although the Corps is the permitting authority, the EPA is responsible for establishing the environmental guidelines—(404(b)(1) guidelines)—that the Corps uses to evaluate the impact of a proposed project when considering permit applications and/or adoption of general permits. In addition, the EPA has authority under section 404(e) to veto permits

[12] Jessica B. Wilkinson, James M. Mcelfish, Rebecca Kihslinger, Robert Bendick & Bruce A. Mckinney, The Next Generation of Mitigation: Linking Current and Future Programs with State Wildlife Action Plans and Other State and Regional Plans (Environmental Law Institute, 2009).

[13] Marie Venner, Early Mitigation for Net Environmental Benefit: Meaningful Off-Setting Measures for Unavoidable Impacts (National Cooperative Research Program, Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine, 2005) [hereinafter Venner]; Jaimee Lederman & Martin Wachs, Transportation and Habitat Conservation Plans: Improving Planning and Project Delivery While Preserving Endangered Species (University of California Transportation Center, UCTC-FR-2014-04, 2014) [hereinafter Lederman & Wachs].

[14] 23 U.S.C. § 119(g), § 133(b) (14).

approved by the Corps. Other agencies, including the FWS, NOAA, and the Natural Resources Conservation Service, have the opportunity to review and comment upon Corps permits. EPA, FWS, and NOAA may "elevate" disputes over specific proposed permits and policies under section 404(q).

Under the section 404(b)(1) guidelines, all wetlands are considered special aquatic sites, and the Corps is required to engage in a "practicable alternatives analysis" before issuing a section 404 permit. A permit cannot be issued if there is a "practicable alternative to the proposed discharge, which would have less adverse impact on the aquatic ecosystem" so long as that alternative does not itself have other significant adverse environmental consequences.[15] The applicant bears the burden of showing that its proposed action is the least environmentally damaging practicable alternative in light of overall project purposes.

The guidelines are also intended to support the national policy goal of no net loss of wetlands values and functions and provide for a mitigation "sequence" derived from the Council on Environmental Quality National Environmental Policy Act[16] (NEPA) regulations, but further explained in a 1990 federal Memorandum of Agreement (MOA) between the Corps and EPA and further confirmed in the 2008 Compensatory Mitigation Rule. The mitigation sequence is:

- Avoid impacts (in accordance with the practicable alternatives analysis requirements);[17]
- Minimize impacts that cannot be avoided;[18] and finally
- Compensate for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required.[19]

The Clean Water Act also requires § 404 permits to be in accordance with state water quality standards under section 401, which gives states an opportunity to assert requirements supported in law and regulation with respect to individual 404 permit decisions and with respect to use of nationwide or general permits within their state boundaries.[20] States can and have imposed additional conditions or limitations based on their adopted water quality standards when providing or withholding state water quality certifications to the Corps.

Compensatory mitigation under 404 has a long history of development. The Corps and EPA have often required mitigation in connection with the issuance of permits. The FWS's 1981 Mitigation Policy regarded mitigating adverse impacts of land and water development on fish, wildlife habitats, and uses of habitat.[21] It governed FWS recommendations to other agencies (including the Corps and EPA) for permit conditions as well as the FWS's implementation of its own authorities to protect habitat. The FWS issued interim Guidance on Mitigation Banking in 1983, informing its posture on use of banks for offset of damages to wetland habitats, even before a formal banking policy had been adopted by the regulatory agencies.[22]

In 1989, the "no net loss policy" for wetlands led to further development of compensatory mitigation in section 404 permitting. This was embodied in a 1990 Corps-EPA Memorandum of Agreement[23] and in the 1995 *Federal Guidance for the Establishment, Use and Operation of Mitigation Banks*,[24] both of which governed compensatory mitigation and wetland banking for the next decade and a half. The 1995 mitigation banking guidance noted that wetland mitigation banking is helpful when on-site compensation is not practicable, or in instances when use of a mitigation bank is environmentally preferable. In the transportation context, the Transportation Equity Act for the 21st Century (TEA-21)[25] created a preference for mitigation banking over permittee-responsible mitigation in 1998. Over time mitigation banks and ILFs achieved an increasing share of the compensatory mitigation universe. In 2000, the Corps and EPA, together with the FWS and NOAA, issued guidance for ILF programs, to maintain greater parity with the guidance standards in use for banks.[26] And in 2002, the Corps issued a Regulatory

[15] 40 C.F.R. § 230.10(a).

[16] Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified at 42 U.S.C. ch. 55).

[17] 40 C.F.R. § 230.10(a).

[18] *Id.* § 230.10(d); id. 230, Subpart H.

[19] *Id.* 230, Subpart J.

[20] 33 U.S.C § 1341.

[21] U.S. Fish & Wildlife Service, Mitigation Policy, 46 Fed. Reg. 7656 (Jan. 23, 1981). (This policy was revised and updated by a new Mitigation Policy in November 2016, discussed, *infra*).

[22] U.S. Fish & Wildlife Service, Ecological Service Instructional Memorandum No. 80, Interim Guidance on Mitigation Banking (June 1983) (the interim guidance established a hierarchy from wetlands of highest value to those of minor habitat value, and discouraging use of banking for the highest value wetlands and preferring in-kind mitigation for those of lesser value).

[23] U.S. Environmental Protection Agency and U.S. Department of the Army, Memorandum of Agreement Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (1990).

[24] 60 Fed. Reg. 58,605 (1995).

[25] Pub. L. No. 105-178, 112 Stat. 151 (1998).

[26] U.S. Dept. of the Army, U.S. Environmental Protection Agency, U.S. Dept. of Interior, U.S. Dept. of Commerce, Federal Guidance on the Use of In-Lieu Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (2000).

Guidance Letter[27] incorporating some additional practices and approaches that had been recommended by a 2001 National Academy of Sciences study to improve the long-term performance and accountability of compensatory mitigation.[28]

2. The 2008 Compensatory Mitigation Rule

In December 2003, Congress included a provision in the Department of Defense appropriations bill requiring the Department of the Army to promulgate regulations providing fair and efficient standards and procedures for wetland and stream mitigation. The Corps and EPA elected to develop the regulations together, and published proposed regulations in 2006,[29] and final regulations in 2008.[30] The 2008 Compensatory Mitigation Rule regularizes the process for the mitigation sequence, and it standardizes the various types of compensatory mitigation (mitigation banks, ILFs, and permittee-responsible) to achieve comparable requirements and promote more environmentally protective and durable compensatory mitigation projects. As a regulation, it has a direct effect on permittees as well as regulators, and it introduced and formalized key practices that matter substantially to conservation planning that includes compensatory mitigation for impacts to aquatic resources.

The rule is intended to improve planning, implementation, and management of compensatory mitigation; to create higher standards for compensatory mitigation; and to require, to the extent practicable and appropriate, that all mitigation decisions be made in the context of a "watershed approach." The Corps has recently summarized the key improvements embodied in the rule as: (1) Use of the watershed approach, which involves "consideration of watershed needs and how locations and types of compensatory mitigation projects address those needs;" (2) Establishment of a mitigation hierarchy that requires each Corps district engineer to consider the prioritization of compensatory mitigation in the following order[31]—credits from a mitigation bank; credits from an ILF program; permittee-responsible mitigation under a watershed approach; permittee-responsible onsite, in-kind mitigation; permittee-responsible offsite and/or out-of-kind mitigation; (3) Preparation of a "mitigation plan" with 12 required elements ensuring effectiveness and durability; and (4) Clear timelines for decision making.[32]

The rule contains several provisions that are especially relevant to the use of conservation plans involving wetlands and aquatic resources as the predicate for compensatory mitigation activities.

The rule created and defined the role of an IRT in planning and implementing the compensatory mitigation process. The IRT consists of federal, state, tribal, and or local regulatory and resource agency representatives with expertise and/or jurisdiction over natural resources activities in the area of the proposed impacts and the proposed compensatory mitigation activities. The IRT "reviews documentation for, and advises the district engineer on, the establishment and management of a mitigation bank or an in-lieu fee program."[33] The role of the IRT means that since 2008, conservation planning, siting of compensatory mitigation projects, and integration of section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act (section 404/10) mitigation with state programs and with habitat concerns is surfaced and addressed early in the process of establishing banks and ILFs. Multiagency objectives may be pursued and tracked as uses of credits and implementation of the watershed approach occurs over time.[34]

The wetland mitigation bank or ILF program instrument must include key provisions:[35]

- Definition of the geographic service area for use of credits in compensatory mitigation. This is typically determined by the approved banking instrument or ILF prospectus, which must demonstrate use of the watershed approach.
- Accounting procedures for tracking generation and sale of credits.
- Legal responsibility for carrying out compensatory mitigation obligations and implementing the mitigation plan.
- Default and closure procedures and guarantees.
- Reporting protocols.
- A mitigation plan with the elements required by the rule.
- Credit release schedule and milestones for the release and ability of credits (or advance credit allocation, credit and fee methodology, and description of program account, for ILFs).

[27] Corps of Engineers, Guidance on Compensatory Mitigation Projects for Aquatic Resource Impacts under the Corps Regulatory Program Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, RGL No. 02-2 (Dec. 24, 2002).

[28] National Research Council, Compensating for Wetland Losses Under the Clean Water Act (Washington, D.C., National Academy Press, 2001).

[29] Compensatory Mitigation for Losses of Aquatic Resources, 71 Fed. Reg. 15,519 (Mar. 28, 2006).

[30] Compensatory Mitigation for Losses of Aquatic Resources, 73 Fed. Reg. 19,594 (Apr. 10, 2008).

[31] 33 C.F.R. § 332.3(b); 40 C.F.R. § 230.93(b).

[32] Institute for Water Resources, The Mitigation Rule Retrospective: A Review of the 2008 Regulations Governing Compensatory Mitigation for Losses of Aquatic Resources (October 2015) [hereinafter Institute for Water Resources].

[33] 33 C.F.R. § 332.2; 40 C.F.R. § 230.92.

[34] 33 C.F.R. § 332.8(b); 40 C.F.R. § 230.98(b).

[35] 33 C.F.R. § 332.8(d)(6); 40 C.F.R. § 230.98(d)(6).

Mitigation banks and ILFs must prepare a mitigation plan, which must include the following elements, many of which relate to conservation planning and landscape-scale issues:[36]

a. The mitigation plan must describe the objectives for the compensatory mitigation project(s) including resource type, methods of compensation, and relationship to watershed needs.
b. Site selection factors must be documented, including the consideration of watershed needs and practicality of self-sustaining ecological outcomes.
c. Legal arrangements for long term site protection must be described and documented to ensure the legal status of the site in perpetuity.
d. Baseline ecological characteristics of the compensatory mitigation site must be described, including descriptions of historic and existing plant communities, hydrology, soils, mapped characteristics, and delineation of waters of the U.S.
e. The number of credits to be generated by the compensatory mitigation sites must be described, including the rationale and methodology used to determine the credits.
f. A mitigation work plan must be provided, including engineering specifications, construction methods, timing, sequence, source of water, methods for establishing plant communities, grading, erosion control and other relevant factors.
g. Maintenance activities must be described and a schedule provided to ensure the continued viability of the resources once construction has been completed.
h. Ecological performance standards must be established, which will enable the operator and regulators to determine whether the compensatory mitigation project is achieving its objectives.
i. Monitoring requirements, including description of the parameters to be monitored, must be established and a schedule for monitoring and reporting must be supplied.
j. A long-term management plan must be established to ensure continued performance of the site after all performance standards have been met, and must provide for a long-term financing mechanism and identification of the party responsible for long-term management.
k. An adaptive management strategy must be provided to address unforeseen changes in site conditions or other components of the project, including identification of the party or parties responsible for implementing adaptation measures and responses.
l. Financial assurances must be documented, including their type and sufficiency to ensure a "high level of confidence that the compensatory mitigation project will be successfully completed in accordance with its performance standards.

ILF programs must also provide a "Compensation Planning Framework" that will guide their selection, securing, and implementing of future sites for compensatory mitigation activities. The compensation planning framework must support a watershed approach.[37] The compensation planning framework must contain the following elements:

a. Geographic service areas for the ILF, including a watershed-based rationale for the delineation of each service area;
b. Description of the threats to aquatic resources in the service area(s), including how the ILF program will help offset impacts resulting from those threats;
c. Analysis of historic aquatic resource losses in the service area(s);
d. Analysis of current aquatic resource conditions;
e. Statement of aquatic resources goals and objectives for each service area, including a description of the general amounts, types, and locations of aquatic resources the program will seek to provide;
f. A prioritization strategy for selecting and implementing compensatory mitigation activities;
g. Explanation of how any preservation objectives satisfy criteria limiting the use of preservation as a compensatory mitigation tool;
h. Description of public and private stakeholder involvement in the ILF planning and implementation;
i. Long-term protection strategies for activities conducted by the ILF sponsor;
j. Strategy for periodic evaluation and reporting on progress, and process for revising the planning framework as necessary.[38]

The "Watershed Approach" and Its Relevance to Conservation Planning

The "Watershed Approach" required by the Compensatory Mitigation Rule applies to all forms of aquatic compensatory mitigation, and especially to the siting and use of wetland banks and ILFs. The purpose of a watershed approach is to "maintain and improve the quality and quantity of aquatic

[36] 33 C.F.R. § 332.4(c); 40 C.F.R. § 230.94(c).

[37] 33 C.F.R. § 332.8(c); 40 C.F.R. § 230.98(c).

[38] *Id.*

resources within watersheds through strategic selection of compensatory mitigation sites."[39] Corps district engineers use existing watershed plans, when available, but they may also use other types of plans and information to guide their decisions. In the absence of a prepared watershed plan, district engineers may use data on trends in habitat conversion and loss, cumulative impacts, presence and needs of sensitive species, site conditions that affect the success of compensatory mitigation, and other information. The "size of watershed addressed using a watershed approach should not be larger than is appropriate to ensure that the aquatic resources provided through compensation activities will effectively compensate for adverse environmental impacts."[40] The watershed approach is designed to enhance the aquatic resource mitigation program rather than diminish the ability of the program to support the no net loss policy.

Site selection for mitigation often includes locations that are part of large wetland and aquatic complexes because these are more readily self-sustaining once established. The rule expressly requires consideration of "the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site."[41] Site sustainability includes "appropriate siting to ensure that natural hydrology and landscape context" will support the functions of the site over the long term.[42]

While finding suitable compensatory mitigation sites within the same watershed as the impacts can sometimes be difficult, particularly where land development has been intensive or where aquatic sites are scarce to begin with, the Compensatory Mitigation Rule helps to address this by strongly encouraging prior identification of sites by wetland mitigation bankers and ILF providers, and the evaluation of such sites by IRTs. The preference for these forms of mitigation also can have the effect of incentivizing advance identification and protection of potential mitigation sites ahead of impacts from state transportation agencies and other mitigation users, so that sites will be available when needed. The rule also provides a safety valve, allowing the Corps district engineer to approve other forms of compensatory mitigation, including those that are off-site and out-of-kind, if the preferred mitigation opportunities are not practicable; the watershed approach is required "to the extent appropriate and practicable."[43]

[39] 33 C.F.R. § 332.3(c)(1); 40 C.F.R. § 230.93(c)(1).

[40] 33 C.F.R. § 332.3(c)(4); 40 C.F.R. § 230.93(c)(4).

[41] 33 C.F.R. § 332.4(c)(3); 40 C.F.R. § 230.94(c)(3).

[42] 33 C.F.R. § 332.7(b); 40 C.F.R. § 230.97(b).

[43] 33 C.F.R. § 332.3(b)(6), (c)(1); 40 C.F.R. § 230.93(b)(6), (c)(1).

The rigorous provisions of the 2008 Compensatory Mitigation Rule have led to greater emphasis on landscape-scale ecological performance when approving banks and ILFs. At the same time, the number of approved banks has increased dramatically and a substantial number of ILFs (required to meet these more rigorous standards by 2010) have also been approved by the Corps. The Corps has determined that for those permit actions between 2010 and 2014 that required compensatory mitigation, 41 percent were satisfied using mitigation bank credits, 11 percent using ILF credits, 37 percent were on-site permittee-responsible mitigation, and 10 percent were off-site permittee-responsible mitigation.[44]

Under the rule, compensatory mitigation projects used to satisfy section 404/10 permitting obligations may also be used to provide compensatory mitigation under the ESA, including HCPs under that Act as set forth in this digest in Section II. B. However, under no circumstances may the *same credits* be used to provide mitigation for more than one permitted activity.[45] In effect, additional values and functions must be provided to holistically address compensatory mitigation needs under different programs. This typically means that aquatic resources compensatory mitigation activities must be combined with additive habitat restoration activities if the same mitigation site is addressing needs under separate regulatory programs.

Site Protection and Adaptation

Compensatory mitigation sites must be managed under permanent land protection instruments such as deed restrictions and conservation easements. The terms of these for any compensatory mitigation site, bank, or ILF, are set forth by the relevant Corps district in accordance with the Compensatory Mitigation Rule.[46] Elements must include:

- Enforceability by appropriate third party (government or nonprofit resource management agency),
- Prohibition of incompatible uses of the site,
- Notice requirements before actions affecting the site or its ownership
- Substitution of other lands if the project is on public lands and management changes, and

[44] Institute for Water Resources, *supra* note 32.

[45] 33 C.F.R. § 332.3(j)(1), (3); 40 C.F.R. § 230.93(j)(1), (3).

[46] 33 C.F.R. § 332.4(c)(4); 40 C.F.R. § 230.94(c)(4). In July 2016, the Corps issued a *Compensatory Mitigation Site Protection Instrument Handbook* to assist its district engineers in understanding and approving appropriate site protection instruments, *available at* https://www.epa.gov/cwa-404/compensatory-mitigation-site-protection-instrument-handbook-and-fact-sheet.

• Approval of the site protection instruments by the district engineer in advance of, or concurrent with, the activity causing the impact.[47]

If more than one Corps district is responsible for permitting the impacts, the mitigation must meet the requirements of each district engineer—although typically the watershed approach means that each impact using permittee-responsible mitigation will be subject to the same practices and standards used by that district in its administration of the rule. When a mitigation bank or ILF Program is to be used for mitigation, the terms of the relevant land protection covenant(s) will have already been set out with the IRT's approval of the banking instrument or ILF instrument and will not be revisited as credits are drawn.[48]

Among the other site protection requirements are provisions for changes in condition, including adaptive management. Long term management plans must also anticipate long term management needs and provide for adequate funding of activities that will be needed for successful operation of the site.[49] Site standards may include anticipation of climate change impacts and activities that may be needed to address hydrology, vegetation, and other conditions. Site sustainability must be provided for, including minimization of active engineering features, and site selection to support long term function of the site.[50]

B. Habitat Conservation Plans and Mitigation Activities under the Endangered Species Act

The Endangered Species Act of 1973 (ESA) provides the basis for mitigation activities to protect listed threatened and endangered species and their critical habitats. Two key provisions under the ESA drive habitat conservation activities by state transportation agencies. Section 7 requires consultation with the FWS or NOAA (depending on species) when a federal activity (including federal funding activities) may have a direct or indirect adverse impact on a listed species or critical habitat. And section 10 provides an opportunity for a non-federal actor to obtain an "incidental take permit" in connection with activities that may otherwise result in a take of listed species, in exchange for certain affirmative conservation activities. Mitigation may also occur under a CCA for species not yet listed.[51] State transportation agencies may encounter either of these requirements when determining how best to structure their activities and to mitigate for impacts.[52] In general, mitigation driven either by section 7 or section 10 will lead to the need for thorough understanding of impacts and development of ecologically sound conservation measures, often involving conservation plans either developed by the state transportation agency itself, or by a resource agency or conservation bank provider offering to provide the mitigation credits needed.

1. History of ESA and Mitigation Requirements

The ESA was passed in recognition of the value of biodiversity and the risk of its loss due to the extinction of plant and animal species. Prior federal wildlife protection laws only required action when "practicable" or lacked firm authority to enforce species protection measures.[53] In response to these limitations, the ESA was passed to "halt and reverse the trend of species extinction"[54] and declared to be "the most comprehensive legislation for the preservation of endangered species ever enacted…."[55] The ESA aimed to achieve its plant and wildlife species protection goals through ecosystem conservation, development of a conservation program, and support of international treaties and agreements.[56] Furthermore, it set forth a general policy for all federal departments and agencies to conserve threatened and endangered species and use their authorities to further the conservation goals of the ESA.[57]

Congress vested authority to administer the ESA in both the FWS and NOAA's National Marine Fisheries Service (NMFS).[58] The FWS and the NMFS (collectively, the Services) are responsible for determining which species under their authority will be listed (or removed) as threatened or endangered, designating critical habitat, consulting with or assisting other agencies in species conservation, and overseeing recovery plans for listed species.[59] The majority of listed species are terrestrial or freshwater species under the jurisdiction of FWS, while NMFS is generally responsible for overseeing marine life and anadromous fish. Currently, there

[47] 33 C.F.R. § 332.7(a); 40 C.F.R. § 230.97(a).

[48] 33 C.F.R. §§ 332.8(a), (t), (u); 40 C.F.R. §§ 230.98(a), (t), (u).

[49] 33 C.F.R. §§ 332.7(c), (d); 40 C.F.R. 230.97 §§ (c), (d).

[50] 33 C.F.R. § 332.7(b); 40 C.F.R. § 230.97(b).

[51] U.S. Department of Interior, Office of Policy Analysis, A Preliminary Analysis of the Conservation Banking Program and Results for a Survey of USFWS Staff (Sept. 2013) [hereinafter Interior Sept. 2013a].

[52] Lederman & Wachs, *supra* note 13.

[53] Endangered Species Preservation Act of 1966, Pub. L. No. 89-669, 80 Stat. 926 (1966); Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (1969).

[54] Tennessee Valley Authority v. Hill, 437 U.S. 153, 184, 98 S. Ct. 2279, 57 L. Ed. 2d 117 (1978).

[55] *Id.* at 180.

[56] Pub. L. No 93-205 § 2(b).

[57] *Id.* at § 2(c).

[58] 50 C.F.R. § 402.01(b) (1986).

[59] Pub. L. No. 93-205 § 4(a)(1) - (f)(1).

are 1,374 animal species and 906 plant species listed as threatened or endangered under the ESA.[60]

After the decision is made to list a species as threatened or endangered pursuant to the requirements of ESA section 4, critical habitat must also, "to the maximum extent prudent and determinable… concurrent with issuing proposed and final listing rules, respectively," be designated to support its conservation.[61] Critical habitat is defined as "the specific areas within the geographical area occupied by the species, at the time it is listed…(I) essential to the conservation of the species and (II) 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…upon a determination by the Secretary that such areas are essential for the conservation of the species."[62] The Services are directed by the ESA to make their critical habitat determinations based on the "best scientific data available," after taking into consideration its potential impact on the economy, national security, and other relevant issues.[63]

The designation of critical habitat also carries a significant regulatory impact under the ESA and has been the subject of much litigation over the years. In early 2016, the Services revised the language in the regulations governing this process to clarify certain ambiguities.[64] The Services released a final policy regarding their determination to exclude certain areas from critical habitat.[65] Through what is known as a "discretionary 4(b)(2) exclusion analysis," the Services may exclude land that would otherwise be considered critical habitat if the exclusion benefits outweigh the benefits of inclusion. A number of factors may be considered in this analysis and broad discretion is given to the Services in regard to how much weight is applied to any one factor in each situation.[66] In particular, land already subject to a *conservation plan*, agreement, partnership, or other encumbrance may provide other benefits outside those of a critical habitat designation. This latter opportunity provides the basis for conservation activities (by state transportation agencies and others) that can obviate the need for listing, designation of critical habitat, and other procedural factors that may affect the timing and cost of mitigation activities and planning and construction of projects.

2. Section 9—Prohibited Acts

ESA section 9 outlines certain acts that are prohibited with respect to listed species. Although most of the prohibitions specifically refer to endangered species, the implementing regulations generally apply the section 9 prohibitions uniformly to both threatened and endangered species.[67] Additionally, the prohibited acts vary among animal and plant species. Pursuant to the ESA, it is unlawful for any person to import, export, take, possess, sell, deliver, carry, transport, ship, or engage in any commercial activities in respect to an endangered wildlife species.[68] Similar prohibitions are asserted for endangered plants, but also include the removal or destruction of plants from federal or private land.[69]

The take provision has the broadest implications of all the prohibited acts under ESA. "Take" is defined by ESA to include: harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempts to engage in any such conduct.[70] "Harass" is further defined as "intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering" and harm denotes an "act which actually kills or injures wildlife" or which may cause "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[71]

3. Section 7—Conservation and Consultation Requirements

ESA section 7 imposes duties on federal agencies with respect to the conservation of listed and proposed species.

First, it places an affirmative duty on all federal agencies to "utilize their authorities in furtherance of [the ESA] by carrying out programs for the conservation of [listed species]."[72] This will typically take the form of partnerships or a Memorandum of Understanding with the Services to implement management

[60] U.S. Fish & Wildlife Service, *Environmental Conservation Online System: Species Reports, available at* http://ecos.fws.gov/ecp0/ (last visited Nov. 18, 2016).

[61] 50 C.F.R. § 424.12.

[62] Pub. L. No. 93-205 § 3(5)(A)(i)-(ii).

[63] *Id.* § 4(a)(3)(b).

[64] Listing Endangered and Threatened Species and Designating Critical Habitat; Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7414 (Feb. 11, 2016); *See also* 50 C.F.R. § 424.01, .02, .12.

[65] Policy Regarding Implementation of Section 4(B)(2) of the Endangered Species Act, 81 Fed. Reg. 7226, 7228 (Feb. 11, 2016).

[66] *Id.* at 7227.

[67] 50 C.F.R. § 17.31 (a).

[68] Pub. L. No. 93-205 § 9(a)(1).

[69] *Id.* § 9(a)(2).

[70] *Id.* § 3(19).

[71] 50 C.F.R. §17.3.

[72] Pub. L. No. 93-205 § 7(a)(1).

or recovery plans or conservation agreements concerning listed species.[73] It is preferable to enter into this type of relationship with the Services as opposed to addressing conflicts after they arise, but the extent of this responsibility has been shaped by case law over the years. While agencies are obligated to take some action toward the conservation of listed species, it has generally been held to be a minimal requirement, with agencies being granted wide discretion in how they exercise their authority in this regard.[74]

Second, all federal agencies are required to ensure their actions will "not jeopardize" the continued survival of any listed species or result in the destruction or adverse modification of critical habitat.[75] This section is triggered any time a prospective action "authorized, funded, or carried out, in whole or in part, by Federal agencies" may have a direct or indirect adverse impact on any listed species or critical habitat.[76] Potentially qualifying actions include, but are not limited to:

- actions intended to conserve listed species or their habitat;
- the promulgation of regulations;
- the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or
- actions directly or indirectly causing modification to the land, water, or air.[77]

For all such actions, agencies are required to *consult* with the Services to avoid any ESA violations.[78] It is important to note that the acting agency is ultimately responsible for remedying any adverse impacts to listed species or critical habitat.[79] The Services play the critical advisory role in assisting other agencies in the process of complying with the ESA.[80]

The definition of "destruction or adverse modification" of critical habitat is an important term in the ESA and has been modified over the years. A recent amendment revised the definition to mean, "a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development."[81]

Informal Consultation

An agency's consultation with the Services may begin as either an informal or formal process. An *informal consultation* is defined as "an optional process that includes all discussions and correspondence between the Services and a Federal agency or designated non-Federal representative, prior to formal consultation, to determine whether a proposed Federal action may affect listed species or critical habitat."[82] In most situations, an informal consultation is recommended and sufficient to discover and resolve potential ESA violations. Informal consultations allow agencies, or a designated non-federal representative, to:

- clarify whether and what listed, proposed, and candidate species or designated or proposed critical habitats may be in the action area;
- determine what effect the action may have on these species or critical habitats;
- explore ways to modify the action to reduce or remove adverse effects to the species or critical habitats;
- determine the need to enter into formal consultation for listed species or designated critical habitats, or conference for proposed species or proposed critical habitats; and
- explore the design or modification of an action to benefit the species.[83]

If adverse impacts are *not likely* to occur, or the proposed action is modified to avoid adverse impacts, the consultation process concludes.[84] In the alternative, if adverse impacts are likely, a *biological assessment* must be conducted to further evaluate the potential effects and determine if a formal consultation is necessary.[85]

Upon request, the Services will provide agencies with information regarding the presence of any

[73] U.S. Fish & Wildlife Service & National Marine Fisheries Service, Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act 1-1 (1998) [hereinafter Consultation Handbook], available at https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

[74] *See* Pyramid Lake Paiute Tribe of Indians v. Dep't of the Navy 898 F.2d 1416 (9th Cir. 1990); Sierra Club v. Glickman, 156 F.3d 606 (5th Cir. 1998).

[75] Pub. L. No. 93-205 § 7(a)(2).

[76] 50 C.F.R. § 402.02. (Definition of "Action")

[77] *Id.* § 402.02. (Definition of "Effects of Action")

[78] Pub. L. No. 93-205 § 7(a)(2).

[79] Interagency Cooperation-Endangered Species Act of 1973, as amended: Final Rule, 51 Fed. Reg. 19,926, 19,949 (June 3, 1986).

[80] *Id.* at 19,950.

[81] Management of Non-Federal Oil and Gas Rights, 81 Fed. Reg. 7212 (Feb. 11, 2016). Courts had previously found the prior definition to be invalid or inconsistent with the conservation goals of ESA, and the revision better reflects the standard that conservation includes more than mere survival of a species. Sierra Club v. U.S. Fish & Wildlife Service, 245 F.3d 434 (5th Cir. 2001); Gifford Pinchot Task Force v. U.S. Fish & Wildlife Service, 378 F.3d 1059 (9th Cir. 2004).

[82] 50 C.F.R. § 402.13; *see also* Consultation Handbook, *supra* note 73, at xv.

[83] Consultation Handbook, *supra* note 73, at 3-1.

[84] 50 C.F.R. § 402.13.

[85] Pub. L. No. 93-205 § 7(c)(1).

listed species or critical habitat in the action area.[86] The action agency may also present a preliminary list of species and critical habitat identified in the action area for the Services to confirm.[87] The Services have 90 days to respond, using the best available science and commercial data, by confirming, revising, or providing a list of species and critical habitats to the acting agency.[88] Thereafter, the action agency must conduct the biological assessment within 180 days or within a mutual agreed upon timeframe.[89] This is also required for any federal action that involves "major construction activities," such as building roads or water resource development projects, and prior to any permanent exemptions granted from ESA section 7(a)(2).[90] Biological assessments vary based on the nature of the action and its expected impact, but may include:

- results of an on-site inspection of the area affected by the action to determine if listed or proposed species are present or occur seasonally;
- views of recognized experts on the species at issue;
- review of the literature and other information;
- analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and the results of any related studies; and
- analysis of alternate actions considered by the federal agency for the proposed action.[91]

Formal Consultation

A *formal consultation* must occur if adverse impacts from a proposed federal action are likely or if deemed to be necessary after an informal consultation and preparation of a biological assessment.[92] A written initiation of a formal consultation is required of the action agency. It must describe:

- the action to be considered;
- the specific area that may be affected by the action;
- any listed species or critical habitat that may be affected by the action;
- the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effects;
- relevant reports, including any environmental impact statement, environmental assessment, or biological assessment prepared; and
- any other relevant available information on the action, the affected listed species, or critical habitat.[93]

After a formal consultation has been initiated, the ESA prohibits agencies from making "any irreversible or irretrievable commitment of resources with respect to the agency action" which may prevent reasonable and prudent alternative actions.[94] During the formal consultation, the Services will review all the information available or provided by the acting agency to evaluate the current status of the listed species and critical habitat and both the direct and cumulative impacts of the action.[95] Unless an extension has been granted, the formal consultation will typically conclude within 90 days of its initiation, at which time the Services have an additional 45 days to issue a biological opinion on the proposed action.[96]

Biological Opinions

The biological opinion is the product of a formal consultation and will outline the Services' finding of "jeopardy" or "no jeopardy" in regards to the concerned listed species or critical habitat.[97] It will include a summary of the information upon which the opinion is based, a description of the effects on listed species or critical habitat, and the determination by the Services on whether or not the action is likely to jeopardize the continued existence of the listed species or result in the destruction or adverse modification of crucial habitat.[98] If a "jeopardy" opinion is issued by the Services, it will also include reasonable and prudent alternatives based on "the best scientific and commercial data available," or an explanation of why alternatives are not available for the particular action.[99]

If relevant, a "no jeopardy" opinion may also include an incidental take statement for actions that will result in some level of a taking or adverse modification or destruction of critical habitat.[100] Similar to the exemptions provided by section 10 (discussed below), the Services may grant federal agencies an exception from the prohibited acts listed in section 9, under the condition that the action, or proposed reasonable and prudent alternative, and the incidental take will not result in a section 7 violation. The incidental take statement will include details about the impact of the incidental take, specify reasonable and prudent measures to minimize the impact, and set forth conditions of the "permit" that acting agency must comply with.[101]

[86] 50 C.F.R. § 402.12(c).
[87] *Id.*
[88] *Id.* § 402.12(d).
[89] Pub. L. No. 93-205 § 7(c)(1).
[90] 50 C.F.R. § 402.12(b).
[91] *Id.* § 402.12(f).
[92] *Id.* § 402.14 (a).
[93] *Id.* § 402.14(c).
[94] Pub. L. No. 93-205 §7(d).
[95] 50 C.F.R. § 402.14 (g)(1)-(3).
[96] *Id.* § 402.14 (e); *see also* Consultation Handbook, *supra* note 73, at 4-6.
[97] 50 C.F.R. § 402.14 (h) (3).
[98] *Id.* § 402.14 (h)(1)-(3).
[99] *Id.*
[100] Pub. L. No. 93-205 § 7(b)(4); 50 C.F.R § 402.14(i).
[101] 50 C.F.R § 402.14(i)(1).

After a biological opinion has been issued, the consultation process concludes and the acting agency must determine "whether and in what manner to proceed with the action," considering its obligation under section 7 and the recommendations provided in the biological opinion.[102]

The consultation process and its outcomes drive the preparation of conservation plans and mitigation activities for transportation projects that are subject to section 7. Many state transportation agency projects fall under section 7 because of the extent of federal funding (the "federal nexus"). Also, where Federal Highway Administration (FHWA) has delegated its ESA functions to a state transportation agency, projects are evaluated under section 7.[103]

In the context of section 7 consultation, the FWS has recognized the use of "recovery crediting systems" as ways for federal agencies to offset harm to listed species and advance their recovery by activities on non-federal lands. In a 2008 guidance document the FWS explained, "In a recovery crediting system (RCS), the action agency would present credits as part of its project description. A pledge represented by a credit must be a legally binding commitment such as a contract with a private landowner."[104] Under the guidance, the combined effects of the adverse and beneficial actions "must provide a net benefit to the recovery of the species."[105]

If a "jeopardy" opinion is issued, the action agency has the option to apply for an exemption within 90 days, a very rarely invoked process.[106] The agency must submit a writing to the Endangered Species Committee that includes a description of consultation process and reasons for why the action cannot be altered or modified to avoid a section 7(2) violation.[107] The committee will make a decision within 30 days and only grant the exemption if it determines that there are no reasonable and prudent alternatives; the benefits of the action clearly outweigh alternatives and are in the public interest; the action is of regional or national significance; and neither the applicant nor the federal agency concerned made any prohibited irreversible or irretrievable commitments of resources.[108] This exemption must include reasonable mitigation and enhancement measures necessary and appropriate to minimize the adverse effects on the listed species or critical habitat.[109]

Reinitiation of a formal consultation may be triggered for an action where "discretionary federal involvement or control has been retained or is authorized by law"[110] if one of the following occurs:

- the amount or extent of taking specified in the incidental take statement is exceeded;
- new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or new species are listed or critical habitat designated that may be affected by the identified action.

4. Section 10—Exemptions and Incidental Take Permits

Changes to the ESA were enacted in 1982 to provide an avenue for non-federal projects to move forward with appropriate mitigation and conservation activities.[112] The amendments were based on experience with development in the San Bruno Mountains of California that would have affected endangered butterflies.[113] In order to proceed with development, the first HCP was drafted and became a model for the 1982 ESA amendments.[114] The permitting system that subsequently emerged under ESA section 10 allows non-federal or private landowners to apply for exemption from ESA section 9 prohibitions and, under certain circumstances, to receive economic and regulatory assurances.[115]

Permits may be issued for scientific purposes or for actions that aid in the "propagation or survival" of a listed species.[116] Under this provision, "enhancement of survival" permits may be issued, with Safe Harbor Agreements (SHAs) and Candidate Conservation Agreements with Assurances (CCAAs) authorizing ESA section 9 violations that might occur in connection with the conservation measures implemented through these agreements.[117] Under these agreements,

[102] *Id.* § 402.15.

[103] Lederman & Wachs, *supra* note 13.

[104] Endangered and Threatened Wildlife and Plants; Recovery Crediting Guidance, 73 Fed. Reg. 44,761, 44,768 (July 31, 2008).

[105] *Id.*

[106] Pub. L. No. 93-205 § 7(g).

[107] *Id.* § 7(f).

[108] *Id.* § 7(h).

[109] *Id.* § 7(h)(1)(B).

[110] 50 C.F.R. § 402.16.

[111] *Id.*

[112] Al Donner, *Where it all Began—San Bruno Mountain*, Endangered Species Bulletin (Fall 2010), available at https://www.fws.gov/pollinators/pdfs/fall2010-p26.pdf.

[113] Friends of Endangered Species v. Jantzen, 760 F.2d 976 (9th Cir. 1985).

[114] Alejandro E. Camacho. Elizabeth M. Taylor, & Melissa L. Kelly, Lessons from Area-Wide, Multi-Agency Habitat Conservation Plans in California (University of California, Irvine, School of Law, Center for Land, Environment, & Natural Resources, 2016) [hereinafter Camacho].

[115] Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, 96 Stat. 1411.

[116] Pub. L. No. 93-205 § 10 (a)(1)(A).

[117] Safe Harbor Agreements and Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32,706; 50 C.F.R. §§ 17.22(c)-(d) and 32(c)-(d).

non-federal landowners voluntarily undertake conservation measures in exchange for assurances that no further land-use restrictions or regulation will be imposed beyond what is contained in the original agreement. SHAs are initiated by non-federal parties to voluntarily enhance their land for the benefit of listed species.[118]

CCAAs are similar except that they must benefit a candidate species or critical habitat that has been identified for possible future listing. Participants in a CCAA receive an enhancement of survival permit that protects the permittee in the event that activities covered by the permit subsequently result in "take" of the species should it subsequently be listed.[119] In contrast, Candidate Conservation Agreements (CCAs) provide no assurances in limiting future liability or regulation of land and have primarily been used by federal agencies to assist the Services in protecting proposed or candidate species to avoiding future listings.[120]

HCPs serve as the major conservation/mitigation approach used for listed species by non-federal actors who are not covered by the section 7 duty to consult but are subject to the section 9 take provisions. Under the 1982 amendments, an exception may be granted from the take prohibition if the taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."[121] A requisite for an incidental take permit (ITP) is the preparation of an HCP, which must include details on the impacts that will likely occur, steps to be taken to minimize and/or mitigate the impacts, funding sources, and possible alternative actions.[122] ITP applicants must show that the taking will be incidental, impacts will be minimized and mitigated to the maximum extent possible, the applicant will ensure adequate funding for the plan, the taking will not reduce the survival or recovery of a listed species in the wild, and that other measures required by the Secretary will be met.[123]

The Services later implemented a "No Surprises" rule to provide ITP applicants and landowners with long-term assurances regarding the future regulation of their property due to "unforeseen circumstances" arising in connection with the HCP.[124] Although HCPs must contain flexibility, the rule provides that no significant additional mitigation requirements will be imposed beyond what is already contained in the HCP.

Procedures and Requirements for HCPs

The *Habitat Conservation Planning and Incidental Take Permit Processing Handbook (HCP Handbook)* was jointly released by the Services in 1996.[125] The HCP Handbook was developed to assist the Services in administering the ITP program by: ensuring that the goals and intent of the conservation planning process under the Endangered Species Act are realized; establishing clear standards that ensure consistent implementation of the section 10 program nationwide; and ensuring that FWS and NMFS offices retain the flexibility needed to respond to specific local and regional conditions and a wide array of circumstances.[126]

The Habitat Conservation Planning Handbook Addendum,[127] also known as the "Five-Point Policy," provided updates and guidance in five key areas for both existing and developing HCPs.

1. Biological Goals and Objectives: Biological goals and objectives have always been considered an implied component of the HPC development process, and the addendum further emphasized its importance by making it an explicit requirement in future HCPs. Clearly defined goals and objectives ensure communication among the permit applicants, federal agencies, and the scientific community. Biological

[118] U.S. Fish & Wildlife Service, For Landowners – Safe Harbor Agreements, https://www.fws.gov/endangered/landowners/safe-harbor-agreements.html (last updated on Aug. 18, 2016).

[119] U.S. Fish & Wildlife Service, *Candidate Conservation Agreements* (March 2011), https://www.fws.gov/endangered/esa-library/pdf/CCAs.pdf; Candidate Conservation Agreements with Assurances were defined by rule and policy, Safe Harbor Agreements and Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32,706 (June 17, 1999); Announcement of Final Policy for Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32,726 (June 17, 1999), and the rule was revised in 2004; Safe Harbor Agreements and Candidate Conservation Agreements with Assurances; Revisions to the Regulations, 69 Fed. Reg. 24,084 (May 3, 2004). Revisions to both the rule and the policy were proposed and finalized in 2016, Candidate Conservation Agreements with Assurance Policies, 81 Fed. Reg. 95,164 (December 27, 2016). The new rule and policy require a "net conservation benefit" to the covered species; however, the effective dates of both the rule and policy were deferred pending internal review, Candidate Conservation Agreements with Assurances Policy (announcement of revised policy; delay of effective date), 82 Fed. Reg. 8540 (Jan. 26, 2017). Although the deferral ran out March 21, 2017, it is very likely that the revised rule and policy will be reconsidered in a comprehensive review of mitigation policies as discussed below in the Section II.B.6.

[120] *Using Existing Tools to Expand Cooperative Conservation for Candidate Species Across Federal and Non-Federal Lands* (Sept. 2008), *available at* https://www.fws.gov/endangered/esa-library/pdf/CCA-CCAA%20%20final%20guidance%20signed%208Sept08.PDF

[121] Pub. L. No. 93-205 § 10 (a)(1)(B).

[122] *Id.* § 10(a)(2)(A).

[123] *Id.* § 10(a)(2)(B).

[124] Habitat Conservation Plan Assurances Rule, 63 Fed. Reg. 8859 (Feb. 23, 1998).

[125] U.S. Department of the Interior & U.S. Department of Commerce, Habitat Conservation Planning and Incidental Take Permit Processing Handbook (1996), http://www.nmfs.noaa.gov/pr/pdfs/laws/hcp_handbook.pdf.

[126] *Id.*

[127] HCP Handbook Addendum, 65 Fed. Reg. 35,242 (June 1, 2000).

goals establish the guiding principle for the conservation program of an HCP. Biological objectives can be used in more complex situations to further breakdown the goals into manageable steps. Both may be gradually refined as the HCP is implemented.

2. Adaptive Management: The addendum encourages the use of adaptive management to address uncertainty in an HCP. Adaptive management is defined as "a method for examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation management actions according to what is learned."[128] This planning strategy entails identifying uncertainty and listing possible adjustments and circumstances that could trigger changes to an HCP. It is required when significant biological uncertainty exists for a listed species and should incorporate a mechanism to respond to new or changing information. An adaptive management strategy should be able to:

- identify the uncertainty and the questions that need to be addressed to resolve the uncertainty;
- develop alternative strategies and determine which experimental strategies to implement;
- integrate a monitoring program that is able to detect the necessary information for strategy evaluation; and
- incorporate feedback loops that link implementation and monitoring to a decision-making process (which may be similar to a dispute-resolution process) that result in appropriate changes in management.

3. Monitoring: No new monitoring requirements were imposed by the addendum. Instead it provided further guidance and clarification. Monitoring of HCPs must be able to: evaluate compliance with terms of the permit, HCP, or implementing agreement; determine if biological goals and objectives are being met; and provide feedback for an adaptive management strategy. The scope of monitoring should be comparable to the extent of the impacts and conservation program implemented by the HCP. Both the Services and permittees have a responsibility in overseeing the implementation of an HCP: Services are responsible for ensuring compliance with the agreed upon terms, whereas the permittee is generally responsible for monitoring the effects and effectiveness of the mitigation. Typically, monitoring reports must be submitted annually to the Services and should include a description of the effects on the species or habitat, location of sampling sites, methods for data collection and variables measured, and details about the data analysis and progression towards achieving goals and objectives. Permittees are required to provide adequate funding mechanisms to support monitoring prior to approval of the HCP.

[128] *Id.* at 35,245.

4. Permit Duration: After receiving a permit application, the Services consider numerous factors when making a determination on permit duration.[129] The duration and nature of the impacts, such as if it will be a one-time action or a recurring activity, will be a significant factor in this decision. Also considered is an analysis of the HCP implementation timeframe and anticipated achievement of benefits. The HCP's ability to adequately address biological uncertainty and incorporate adaptive management techniques also affects the permit duration. HCPs that can show a significant reduction of risk through these strategies may justify a longer permit term.

5. Public Participation: The ESA and its implementing regulations imposed a 30-day public comment period for HCP applications.[130] The addendum extended this requirement to 60 days for most HCP applications and further expanded it to 90 days for large-scale, regional, or extremely complex HCPs. Exceptions are granted for low-effect HCPs and individual permits under a programmatic HCP, which are still held to the 30-day minimum. The Services publicly post HCP applications in the Federal Register for public comment and in some cases may announce applications online or in local newspapers.

In June 2016, the Services released proposed revisions to the *HCP Handbook*.[131] The entire handbook was reorganized to better reflect the step-by-step progression of ITP issuance and HCP development, and many of the revisions attempt to streamline these processes. It introduces the new concept of "start slow to go fast" to emphasize the benefit of pre-planning prior to the development of a full HCP, particularly with respect to complex or landscape-scale HCPs. Other significant revisions or updates include:

- Clarification of the concept of "maximum extent possible"
- Ensuring consistency with other related policies currently being revised or updated.
- Updating and further clarification of the permit duration policy.
- Guidance on complying with section 106 of the National Historic Preservation Act.
- Guidance on addressing climate change.
- Clarification on the difference between adaptive management and foreseen/unforeseen circumstances.

5. Conservation Banking

Conservation banking is the practice of restoring, enhancing, or preserving habitat in perpetuity to

[129] *E.g.*, 50 C.F.R. § 17.32; 50 C.R.F. § 222.307 (e).

[130] Pub. L. No. 93-205 § 10(c); 50 C.F.R. § 17.32.

[131] Notice of Availability and Request for Public Comments on the Joint U.S. Fish & Wildlife Service and National Marine Fisheries Service Habitat Conservation Handbook, 81 Fed. Reg. 41,986 (June 28, 2016).

compensate for adverse impacts to listed species or their habitats. The concept was first formally introduced at the state level in California, which released its policy on conservation banking in conjunction with the first official conservation bank, the Carlsbad Highlands Conservation Bank.[132] The FWS soon recognized the value of conservation banking, and developed guidance documents to allow the recognition of conservation banks to meet section 7 and section 10 mitigation commitments.

The first conservation bank was developed in conjunction with a regional planning effort in California. In response to public concern over rapid development and habitat loss, the state legislature passed the Natural Community Conservation Planning Act of 1991 (NCCPA),[133] which was revised in 2003.[134] The NCCPA implemented a large-scale regional planning process to protect entire biological communities, as opposed to focusing on a single species.[135] Similar to HCPs, but on a larger scale, the development of Natural Community Conservation Plans (NCCPs) are required under NCCPA in order to authorize incidental take permits under California's Endangered Species Act.[136]

While California continues to lead the country in the number of conservation banks established, other states have made progress in this regard. A total of 142 conservation banks have been approved by the FWS in 14 states (Arizona, California, Colorado, Florida, Kansas, Maryland, Mississippi, Oklahoma, Oregon, South Carolina, Texas, Utah, Washington, and Wyoming) and Saipan.[137] The Department of the Interior reviewed the sponsors of all conservation banks in a 2013 study, and found that private commercial and nonprofit sponsors accounted for 75 percent of all extant banks, while five percent were public commercial banks. State transportation agencies could purchase credits from these. Ten percent were public-private banks (which could include state agency cosponsors), ten percent were single-client banks (some of which were state transportation agency banks).[138]

Conservation banking is continuing to increase in popularity and usage,[139] and as described below, is subject to an evolving set of norms, practices, and regulatory standards.

Federal Guidance on Conservation Banking

The first federal policy on conservation banking was issued in the 2003 FWS memorandum, *Guidance for the Establishment, Use, and Operation of Conservation Banks*. This document was intended to guide FWS and applicants through the conservation bank development, management, and monitoring processes.[140] It incorporates lessons learned from the prior development and monitoring of conservation banks and state policies with the goals of encouraging future consistency, compliance, and success in conserving threatened or endangered species.[141]

Generally, conservation banks are used to mitigate for activities regulated under the ESA section 7 and section 10, but they can also be used to satisfy state and local programs.[142] They are created through the acquisition or protection of existing habitat, restoration or enhancement of disturbed habitat, creation of new habitat, or the management of habitat for specific biological characteristics.[143] After the value of the land is calculated, a set number of credits are generated to be sold or traded to offset impacts occurring within the service area of the conservation bank. Once a bank releases credits they may only be used once, however, the same credit could satisfy more than one authorizing program for the same activity.

To establish a conservation bank, a legally binding agreement is required between the property owner and the participating regulatory agencies. The conservation bank agreement includes specific information on the property, management activities, funding sources, and long-term stewardship of the bank. It also governs the responsibilities and duration of involvement for all concerned parties. Although each conservation bank agreement is unique to the specific property and species covered and some may require additional information, the main components of a bank agreement include:

- Conservation bank name, property location, legal description, and GPS coordinates.

[132] Consultation Handbook, *supra* note 73, at 9.

[133] Cal. Fish and Game Code §§ 2800-2840.

[134] Paul Cylinder et al., Understanding the Habitat Consecration Planning Process in California: A Guidebook for Project and Regional Conservation Planning, 3, (2004), http://www.ca-ilg.org/sites/main/files/file-attachments/resources__HCP_book_2004_final.pdf.

[135] *See* Cal. Fish and Game Code, § 2801 (2003).

[136] Cal. Fish and Game Code §§ 2050-2069.

[137] Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) (Reports on approved conservation banks), *available at* https://ribits.usace.army.mil/ribits_apex/f?p=107:61:8565811771389 (last visited Dec 12, 2016).

[138] U.S. Department of Interior, Office of Policy Analysis, Conservation Banking Overview and Suggested Areas for Future Analysis (Sept. 2013) [hereinafter Interior Sept. 2013b].

[139] U.S. Department of Interior, Office of Policy Analysis, Results from a Survey of Conservation Banking Sponsors And Managers (Sept. 2016) [hereinafter Interior Sept. 2016].

[140] FWS Guidance for the Establishment, Use, and Operation of Conservation Banks (May 8, 2003), 68 Fed. Reg. 24,753 (May 8, 2003) [hereinafter Guidance].

[141] Earthscan, Conservation & Biodiversity Banking: A Guide to Setting Up and Running Biodiversity Credit Trading Systems, (Ricardo Bayon, Jessica Fox, & Nathaniel Carroll eds., 2008) [hereinafter Carroll].

[142] Guidance, *supra* note 140, at 8.

[143] *Id.* at 16-17.

• A map of the property on a minimum scale of seven minutes, a U.S. Geological Survey quad map or finer scale if available.

• Name of the person(s)/organization(s) to hold fee title to the conservation bank.

• Name of the person(s)/organization(s) to hold conservation easement.

• Name of the person(s)/organization(s) to hold those who will have management responsibilities and timeframe of management.

• A preliminary title report on any pre-existing easements or encumbrances on the property, including any mineral, water, hunting, or prescriptive rights associated with the property.

• A list of compatible activities or land uses possible on the property, such as public access.

• A description of the biological value of the property, including information on the types of habitats and species present on the land.

• The number and types of credits to be generated by the conservation bank and the methodology used in this determination.

• Accounting system to track credits, funding, and reporting requirements.

• A description of the conservation bank's service area, to be determined in conjunction with the Services.

• The performance standards that must be achieved.

• If the conservation bank will be implemented in phases, a description and delineation of each phase is required, in addition to an explanation for the use of phases and the process for terminating the bank prior to implementation of all the phases.

• Explanation of compliance with any applicable state and federal laws.

• Results of Phase I Hazardous Materials survey for the property and any plans to remove trash, structures, or other items that reduce the conservation value of the property.

• Provisions allowing the regulatory agency to enter the property for inspections, assurances, or other duties.

• Contingency plans and a dispute resolution process to be used if the conservation bank owner/manager fails to comply with the provisions outlined in the agreement.[144]

A management plan is also a required element in a conservation bank agreement.[145] It provides a more in-depth description of the property and its management requirements. The bank manager is responsible for meeting the obligations outlined in the plan, which should be updated to reflect any changes as they occur. At a minimum, a management plan should contain details about the following information:

• Property description, biological resources, cultural/historical features, surrounding land uses, and proximity to open spaces or conservation lands.

• Identification of biological goals and objectives and how to implement them.

• Authorized and prohibited activities on the property.

• Management needs of the property, including control of public access/use, restoration and enhancement of habitats, and maintenance of facilities.

• Budget and necessary endowment funds.

• Monitoring schedule and reporting requirements.

• Adaptive management practices, decision trees, or other future management structures.[146]

This guidance document has served as the template for the 144 federally recognized conservation banks to date, but it provides far less detail and certainty of requirements than the comparable Compensatory Mitigation Rule does for wetland and aquatic impacts. The Department of the Interior conducted a detailed evaluation of existing conservation banks in 2013 to identify opportunities and needs for regularizing conservation banking.[147]

6. Recent Developments in Habitat Mitigation and Conservation Banking

A number of recent developments substantially affect habitat mitigation goals, the practice of compensatory mitigation for species and habitats, and the standards for conservation banking. However, updates and actions taken from 2013 through early 2017 are now in flux because of subsequent actions as described below.

Presidential Mitigation Memorandum (2015)

On November 3, 2015, a Presidential Memorandum was released entitled *Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment*.[148] The Presidential Memorandum established as a policy that federal agencies and departments tasked with managing natural resources must "avoid and then minimize harmful effects to land, water, wildlife, and other

[144] *Id.*

[145] *Id.* at 15.

[146] *Id.*

[147] Interior Sept. 2013a, *supra* note 51; Interior Sept. 2013b, *supra* note 138; Interior Sept. 2016, *supra* note 139.

[148] Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment, *available at* https://www.whitehouse.gov/the-press-office/2015/11/03/mitigating-impacts-natural-resources-development-and-encouraging-related; 80 Fed. Reg. 68,743 (Nov. 3, 2015).

ecological resources (natural resources) caused by land- or water-disturbing activities, and ensure that any remaining harmful effects are effectively addressed, consistent with existing mission and legal authorities."[149] It emphasized the adoption of clear and consistent policies, the use of *landscape-scale plans* to inform decision making, and the importance of private investment in natural resource restoration. It also encouraged federal agencies to incorporate into their mitigation plans and approvals a "net benefit goal" or, at a minimum, no net loss of natural resources.[150] It concluded with specific directives for certain agencies and departments to update or create their policies and guidelines to meet the goals set forth in the memorandum.[151]

Revised FWS Mitigation Policy (2016)

In response to evolving conservation challenges and the 2015 Presidential Memorandum, FWS revised its 1981 Mitigation Policy in November 2016 following an extensive notice-and-comment process.[152] The updated policy applies to actions under all authorities by which FWS can recommend or require mitigation, such as the Clean Water Act, the Fish and Wildlife Coordination Act, and NEPA, and it now expressly includes ESA-related mitigation under its umbrella.[153] The updated policy allows agencies and the public working with FWS to anticipate recommendations and plan for mitigation requirements. It also provides for variations from the framework when appropriate to the action or natural resources involved.[154] The policy sets forth several overarching mitigation principles:

- Achieve a net conservation gain, or at a minimum, no net loss.
- Observe the mitigation sequence (avoid, minimize, and then compensate for remaining impacts), but recognize that some situations may warrant deviations.
- Avoid all impacts to high-value habitats.
- Use a landscape approach to inform mitigation.
- Ensure consistency and transparency in the mitigation process.
- Use best available science to formulate and monitor mitigation.
- Aim for long-lasting mitigation benefits that last at least as long as the impacts.
- Ensure effective mitigation that is in place at the time of the impacts and additional to any other planned or foreseeable conservation benefits.[155]

The policy also outlines nine components of the mitigation framework.[156] This framework provides the means by which FWS can assess the effects of an action, formulate appropriate mitigation measures, and implement the mitigation principles.

- *Integrating Mitigation with Conservation Planning:* Mitigation and conservation planning will be integrated whenever possible to better protect biodiversity and the ecological function of habitats. Proactive mitigation planning, which is developed before an impacting action is proposed, should complement pre-existing conservation and land-use plans. Large-scale planning at the landscape level is particularly important when multiple impacts to the same resources are possible, and it will allow for the best mitigation opportunities to be identified.[157]

- *Collaboration and Coordination:* FWS will collaborate and coordinate with action proponents and federal, state, local, and tribal conservation agencies or stakeholders in the mitigation process to conserve natural resources.[158]

- *Assessment:* FWS will consider the risk and uncertainty associated with both the predicted impacts of the action and the expected result of the mitigation measures. Action proponents should provide reasonable predictions about the environmental condition of the action and mitigation areas that includes comparisons to baseline conditions and cumulative impacts in a landscape context. Assessment methodologies should consider future conditions and changes over time, incorporate new information as needed, and have equivalent metrics for both adverse and beneficial impacts.[159]

- *Evaluation Species:* FWS will identify one or more evaluation species (fish, wildlife, or plant resources within or relevant to the affected area) to provide analysis and develop mitigation measures for a proposed action. Selected evaluation species should represent the smallest selection necessary in preparation of biological opinions, permits, or other mitigation documents.[160]

- *Habitat Valuation:* Assessing the value of habitats based on their scarcity, suitability, and importance to conservation goals will allows FWS to prioritize locations when making determinations about avoiding, minimizing, and compensating for impacts.[161]

- *Means and Measures:* To achieve the policy goals, five types of mitigation are considered in this policy: (1) avoid; (2) minimize; (3) rectify; (4) reduce over time; and (5) compensate. In certain actions, such as permitting under the Clean Water Act, the third and fourth types of mitigation are combined with minimization. Equivalent ecological, procedural, and administrative standards will be

[149] *Id.* at § 1.

[150] *Id.* at § 3(b).

[151] *Id.* at § 4.

[152] U.S. Fish & Wildlife Service Mitigation Policy, 81 Fed. Reg. 83,440 (Nov. 21, 2016) [hereinafter Mitigation Policy].

[153] *Id.* at § 2.

[154] *Id.* at § 1.

[155] *Id.* at § 4.

[156] *Id.* at § 5.

[157] *Id.* at § 5.1.

[158] *Id.* at § 5.2.

[159] *Id.* at § 5.3.

[160] *Id.* at § 5.4.

[161] *Id.* at § 5.5.

applied to all mechanisms of mitigation, regardless of who is implementing it or where it is located.[162]

• *Recommendations:* Mitigation recommendations will be developed by FWS in cooperation with the action proponent, based on best scientific information, and will be provided at the earliest stage practicable to allow for full consideration. Advance compensatory mitigation that is implemented prior to the impacts to resources is preferred. It is also preferred that the location of the compensatory mitigation be within existing conservation networks or landscape conservation plans.[163]

• *Documentation:* FWS analysis of a proposed action will be documented and provided to agencies and other action proponents at each stage of the planning process (early planning, effects assessment, and final recommendations). Documentation should be provided by FWS early enough to inform decision makers at each stage and be at a comparable level of scope and detail relevant to the severity of the potential impacts to resources.[164]

• *Follow-up:* To ensure implementation and effectiveness of mitigation, post-action monitoring studies and evaluations will be carried out or supported to the extent it is practicable and within the authority of FWS. Corrective action or assurance measures will be requested or initiated by FWS when necessary.[165]

Final ESA Compensatory Mitigation Policy (2016) and Interim Guidance (2017)

In addition to updating its general mitigation policy, FWS also issued a final Endangered Species Act Compensatory Mitigation Policy [hereinafter Compensatory Mitigation Policy] on December 27, 2016, after notice and comment.[166] The Compensatory Mitigation Policy establishes compensatory mitigation standards for threatened and endangered species and critical habitats, implements the landscape-based mitigation principles established in the 2016 FWS Mitigation Policy, and clarifies previous guidance documents on mitigation mechanisms and conservation banking under the ESA.[167] Three weeks later, the FWS issued its Interim Guidance on Implementing the Final Endangered Species Act Compensatory Mitigation Policy, providing additional detail and procedures.[168]

The Compensatory Mitigation Policy's stated goals are to provide greater clarity, to improve consistency and predictability of compensatory mitigation actions, and to promote landscape-scale approaches to mitigation. Additionally, through programmatic approaches and planning, it seeks to achieve a "net conservation gain", to reduce the cost of compensatory mitigation, and to improve regulatory procedural efficiency.[169] The preamble to the Policy states that it aims to encourage "strategic planning at the landscape level" as well as to set "standards that mitigation programs and projects must meet."[170]

The Compensatory Mitigation Policy, as further elaborated by the FWS Interim Guidance, makes the FWS framework for conservation banking under the ESA much more like the frameworks for wetland mitigation banking and ILFs established by the Corps-EPA Compensatory Mitigation Rule under the Clean Water Act.

The Compensatory Mitigation Policy sets forth nine compensatory mitigation standards:

1. Siting Sustainable Compensatory Mitigation: Mitigation should be located in areas identified in a landscape-scale conservation plan or mitigation strategy that will provide the greatest long-term benefits to affected resources.[171]

2. In-Kind for Species: While compensatory mitigation for adversely impact species must be in-kind, the habitat type does not necessarily need to be the same as the type affected. Depending upon the needs of the affected species, the best conservation outcome may be achieved by offsetting a different type of habitat for the affected species, such as in the varying needs of migratory species.[172]

[162] *Id.* § 5.6. Compare mitigation under the NEPA regulations [Section II.B.7].

[163] *Id.* at § 5.7.

[164] *Id.* at § 5.8.

[165] *Id.* at § 5.9.

[166] Endangered and Threatened Wildlife and Plants: Endangered Species Act Compensatory Mitigation Policy, 81 Fed. Reg. 95,316 (Dec. 27, 2016). [hereinafter Compensatory Mitigation Policy]. See Endangered and Threatened Wildlife and Plants: Endangered Species Act Compensatory Mitigation Policy; Notice, 81 Fed. Reg. 61,032 (Sept. 2, 2016).

[167] Compensatory Mitigation Policy § 1, § 3. The policy does not apply retroactively. It "clarifies" guidance given in the 2003 Conservation Banking Guidance and the 2008 Recovery Crediting Guidance, 81 Fed. Reg. 95,316. However, both of these influential guidance documents were expressly "replaced" just three weeks later by the FWS "Interim Guidance on Implementing the Final Endangered Species Act Compensatory Mitigation Policy (Jan. 17, 2017) [hereinafter Interim Guidance].

[168] Interim Guidance. The Interim Guidance was issued without its own notice and comment but was constructed in large part from detailed provisions that had been in the proposed Compensatory Mitigation Policy in September 2016 that were moved to the Interim Guidance when the final Compensatory Mitigation Policy was adopted. *See* Endangered and Threatened Wildlife and Plants: Endangered Species Act Compensatory Mitigation Policy; Notice, 81 Fed. Reg. 95,316, 95,319-95,320 ("We have removed these elements from this policy and will address them in the implementation guidance").

[169] Compensatory Mitigation Policy § 1.

[170] *See* Endangered and Threatened Wildlife and Plants: Endangered Species Act Compensatory Mitigation Policy; Notice, 81 Fed. Reg. 95,316 (Dec. 27, 2016). This approach was expressly based on the 2015 Presidential Mitigation Memorandum and the 2013 Department of Interior mitigation policy.

[171] Compensatory Mitigation Policy § 5.1.

[172] *Id.* § 5.2.

3. Reliable and Consistent Metric: To the extent possible, the metrics used to calculate both conservation credits and debits must be consistent and reliable. Any deviations or uncertainties should be transparent, explained, and based on the best available science.[173]

4. Judicious Use of Additionality: The benefits of compensatory mitigation must be additional to those that would normally have occurred in the course of routine practices or mandates. A mitigation measure is considered "additional" if the "benefits of the measure improve upon the baseline conditions of the impacted resources and their values, services, and functions in a manner that is demonstrably new and would not have occurred without the compensatory mitigation measure."[174]

5. Timing and Duration: The timing and duration of projects are also important components to successful mitigation. Conservation objects must be achieved in a reasonable timeframe and must at a minimum continue for the duration of the impacts.[175]

6. Ensure Durability: As most mitigation measures must be maintained in perpetuity, adequate legal and financial protection must be in place to ensure long-term viability. Long-term management needs and compatible activities or land uses allowed on the site must be carefully considered.[176]

7. Effective Conservation Outcomes and Accountability: Assessment of mitigation will ensure that conservation goals and objectives are being achieved.[177]

8. Encourage Collaboration: Landscape scale mitigation planning requires coordination at all levels of government with the affected community and stakeholders. FWS will solicit input at all stages of the mitigation process.[178]

9. Maintain Transparency and Predictability: The policy emphasizes the need to maintain transparency and regulatory predictability for all parties involved in mitigation. Information such as mitigation instruments, plans, and other documents will be shared publicly and timely via RIBITS maintained by the Corps of Engineers, or other online systems available to the public.[179]

Compensatory mitigation mechanisms are divided into two categories: habitat-based and non-habitat-based programs or projects.[180] Habitat-based mitigation includes restoration of damaged or degraded habitat, enhancement or preservation of existing habitat, establishment of new habitat, or any combination of these habitat protection measures. There are four potential habitat-based mechanisms available to applicants:[181]

- Permittee-Responsible Compensatory Mitigation
- Conservation Bank Program
- In-Lieu Fee Program
- Habitat Credit Exchange

Non-habitat-based mitigation consists of actions that are closely connected to conservation measures identified in species recovery plans, five-year reviews, or based on the best available science.[182] Potential mitigation of this type may include the transfer or retirement of property rights (i.e., timber, mineral, or water), captive breeding or reintroduction of species to impacted areas; creation of wildlife corridors or underpasses, or the restriction of human access, land uses, or future development in certain areas.

Credit stacking and bundling may be used to leverage conservation efforts generated from a single activity, but are limited under the policy. Stacking occurs when more than one credit type is generated on the same area of land.[183] The Compensatory Mitigation Policy makes it clear, however, that stacked credits can only be used to mitigate the impacts of one permitted action:

> [T]he stacked credits cannot be used to provide mitigation for more than one permitted impact action even if all the 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).[184]

Similarly, bundled credits (combined credits from a single mitigation site that are grouped into a single credit type, such as providing both stream mitigation and satisfaction of a habitat obligation) can only be used for a single permitted action. "A bundled credit may be used to compensate for all or a subset of the functions or services included in the credit type but may only be used once."[185]

Tracking of projects is required to ensure compliance with operating instruments and performance criteria.[186]

The Compensatory Mitigation Policy outlines minimum requirements necessary to establish and operate a compensatory mitigation program under the ESA. However, the details for establishing such programs and projects are laid out in the Interim Guidance. The Interim Guidance expressly replaces both the 2003 *Conservation Banking Guidance* and

[173] *Id.* § 5.3.
[174] *Id.* § 5.4.
[175] *Id.* § 5.5.
[176] *Id.* § 5.6.
[177] *Id.* § 5.7.
[178] *Id.* § 5.8.
[179] *Id.* § 5.9.
[180] *Id.* §§ 7.1, 7.3.
[181] *Id.* §§ 7.1.1-7.1.4.
[182] *Id.* § 7.3.
[183] Carroll, *supra* note 141.
[184] Compensatory Mitigation Policy § 8.3.
[185] *Id.* § 8.3, Appendix B.
[186] *Id.* § 9.

the 2008 *Recovery Crediting Guidance*. Under the Interim Guidance:

- All habitat-based mitigation projects "must be sited on ecologically appropriate habitat for the proposed covered species. Advance planning for mitigation projects will include the use of landscape-scale conservation plans and mitigation strategies where such plans exist."[187]
- Habitat-based mitigation projects must be of sufficient size to "ensure the maintenance of ecological integrity in perpetuity" and will be determined case-by-case.[188]
- Mitigation project boundaries must include appropriate buffers against effects from adjacent lands.[189] Developed areas should be excluded, and mineral split-estate lands acquired where possible to protect conservation values of the project.[190]
- The FWS will review each stage of mitigation planning when it involves only FWS-administered resources. However, if a mitigation program is intended to address impacts under other authorities or generates credits to be sold, the FWS will serve on an Interagency Mitigation Review Team, which may be the Interagency Review Team (IRT) created under the Clean Water Act Compensatory Mitigation Rule when the mitigation includes wetlands and waters of the United States.[191]
- Prospective mitigation sponsors must submit draft mitigation proposals with required elements, followed by a complete mitigation proposal with information about the site, qualifications of the mitigation provider, objectives of the project, site selection considerations, baseline information, credit evaluation methods, a mitigation work plan, ownership arrangements and a long-term management strategy, title report, environmental risk assessment, and assurances of water rights.[192]
- For conservation banks, ILF programs, or habitat credit exchange[193] programs the mitigation proposal must also include determination of need for the project, proposed service areas, and proposed types and number of conservation credits to be generated.[194]
- A long-term management plan is required, along with short-term and long-term financial assurances, and a closure plan that describes at what point a mitigation project or program is closed and what responsibilities remain.[195]
- Compliance monitoring and reporting are required.[196]

[187] Interim Guidance § 4.1.

[188] *Id.* § 4.1.1.

[189] *Id.* § 4.1.1.1.

[190] *Id.* §§ 4.1.2, 4.1.3.

[191] *Id.* § 5.1.2.

[192] *Id.* § 5.2.2.

[193] Habitat Credit Exchanges (HCEs) are a relatively new approach consisting of an "environmental market operating as a clearinghouse" to match compensatory mitigation providers with permittees who need habitat or species conservation credits. HCEs are subject to FWS approval and are required to meet all the same standards and elements as other forms of compensatory mitigation. *Id.* § 3.1.

[194] *Id.* § 5.2.2.

[195] *Id.* §§ 5.2.3.4.2, 5.2.3.6, 5.2.3.8.

[196] *Id.* § 9.1, 9.2.

If the Mitigation Policy, the Compensatory Mitigation Policy, and the Interim Guidance, or any of them, are ultimately rescinded, the terms of the rescission should indicate whether the previous FWS Policies and Guidance documents from 1981, 2003, and 2008 are reinstated.

Candidate Conservation Agreements with Assurances Revised Rule and Policy (2016)

In December 2016, the FWS also updated its regulations and its policy that governs its approval of CCAAs: conservation agreements under which it provides assurances to applicants who undertake voluntary conservation actions for species that are eligible for listing as threatened or endangered but not yet listed.[197] CCAAs provide assurances and a permit providing incidental take protection should the property owner's agreed-upon conservation actions and routine property actions result in take of the covered species. These new amendments and revised policy differ from prior rules and policy by requiring a "net conservation benefit" to the covered species and defining how such benefit will be determined.[198]

Policy Regarding Voluntary Prelisting Conservation Actions (2017).

The FWS issued Director's Order No. 218 on January 18, 2017, "effective immediately." This Order provides that landowners can generate mitigation credits for declining species that are not listed as threatened or endangered, if they participate in a "qualifying State-administered species conservation program." Unlike CCAAs, the new policy can be used by federal agencies as well as non-federal entities. It allows states to use federal funds to monitor species and the impacts of these voluntary conservation actions. If the species is later listed, the credits can be "redeemed to offset or mitigate actions that are detrimental to a species," and allows credits to be traded or sold to a third party for use. The Order is intended to incentivize voluntary conservation and implement well-crafted species conservation strategies, using a landscape approach and setting action priorities, site selection

[197] 50 C.F.R. §§ 17.22, 17.32.

[198] Candidate Conservation Agreements with Assurances Policy, 81 Fed. Reg. 95,164 (Dec. 27, 2016). The effective dates were deferred until March 21, 2017. See Endangered and Threatened Wildlife and Plants; Revisions to the Regulations for Candidate Conservation Agreements with Assurances, 82 Fed. Reg. 8499, 8501, (Jan. 26, 2017) (Final Rule; delay of effective date) and Candidate Conservation Agreements with Assurances Policy, 82 Fed. Reg. 8540 (Jan. 26, 2017) (Announcement of revised policy; delay of effective date). Although the deferral ran out March 21, 2017, it is likely that these actions will be reviewed under Secretarial Order 3349.

principles, measures and metrics, and credit release schedules.[199] The FWS estimates that up to ten states may choose to participate in the first three years of the program; however, the Order itself expires by its own terms in 18 months unless amended, superseded, or revoked. Those previously enrolled in CCAA projects will be able to market any excess conservation improvements to others needing to offset unavoidable impacts.

Presidential Executive Order on Promoting Energy Independence and Economic Growth (2017)

Executive Order 13783,[200] signed on March 28, 2017, expressly revoked the Presidential Memorandum on *Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment*.[201] The Executive Order further directed all agencies to "identify existing agency actions relating to or arising from" the revoked Presidential Memorandum, and to "as soon as practicable, suspend, revise, or rescind, or publish for notice and comment proposed rules suspending, revising, or rescinding any such actions" as appropriate and consistent with the policies set forth in the new Executive Order.[202]

On March 29, 2017, Interior Secretarial Order No. 3349 was issued carrying out these directives and launching reviews and rescissions.[203] The Order revoked Secretarial Order No. 3330, issued in October 2013. Secretarial Order 3330 had established a comprehensive "landscape-scale approach" to habitat mitigation, and had directed updates of mitigation policies by Interior Department agencies including the U.S. Fish & Wildlife Service.[204] Secretarial Order 3349 directed that all Department of Interior actions taken to implement the prior approach must be "reviewed for possible reconsideration, modification, or rescission, as appropriate."[205] These actions were to be identified and a determination made within 30 days whether to proceed with their reconsideration, modification, or rescission.

[199] FWS, Directors Order No. 218, Policy Regarding Voluntary Prelisting Conservation Actions (Jan. 18, 2017).

[200] Promoting Energy Independence and Economic Growth, 82 Fed. Reg. 16,093 (Mar. 31, 2017).

[201] Presidential Executive Order on Promoting Energy Independence and Economic Growth, *available at* https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economi-1, at § 3(a)(iii).

[202] *Id.* at § 3(d).

[203] Department of Interior, Secretarial Order No. 3349, American Energy Independence (March 29, 2017).

[204] Department of Interior, Secretarial Order No. 3330, Improving Mitigation Policies and Practices of the Department of the Interior (October 31, 2013).

[205] Department of Interior, Secretarial Order No. 3349, American Energy Independence (March 29, 2017), at §§ 4, 5.

7. Mitigation Under the National Environmental Policy Act (NEPA)

The National Environmental Policy Act provides an additional statutory and regulatory foundation for many of these mitigation policies. In general, it requires the identification of environmental impacts for major federal actions that may have a significant effect on the human environment, evaluation of alternatives, and identification of mitigation measures.[206] The NEPA regulations define mitigation as:

- 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.
- Compensating for the impact by replacing or providing substitute resources or environments.[207]

Mitigation is important in many contexts of environmental impact review, both as a way of addressing impacts and as a way of mitigating activities to below the threshold of "significance" when the action is covered by an "Environmental Assessment" resulting in a Finding of No Significant Impact (FONSI). In many cases, actions taken to mitigate potential impacts will allow USDOT or state transportation agencies to issue a "mitigated FONSI" for the proposed action rather than undertake preparation of an Environmental Impact Statement.[208]

III. OPERATIONAL ISSUES FOR CONSERVATION PLANNING/BANKING

A. Conservation Planning at Landscape Scale

Conservation planning at a larger scale offers substantial advantages over case-by-case mitigation of impacts to waters and wetlands and to actions potentially affecting threatened or endangered species and their habitats.[209] These advantages are

[206] 42 U.S.C. §§ 4321-4345. Discussion of the environment impact analysis provisions of NEPA, as affected by successive transportation laws providing for streamlining and state performance of functions is outside the scope of this report, which is focused on authority to engage in conservation planning.

[207] 40 C.F.R. § 1508.21.

[208] Albert M. Ferlo, Karin P. Sheldon, & Mark Squillace, The Nepa Litigation Guide (American Bar Assn. 2d ed. 2012).

[209] Venner, *supra* note 13.

important to state transportation agencies, and to state and federal regulatory agencies.[210]

- Advance planning allows better compensation for impacts. The use of conservation planning means that mitigation actions are not one-off decisions, but contribute to the function of ecosystems, the recovery of species, or the hydrological, chemical, and biological integrity of watersheds.
- Larger-scale plans also provide a broader context for conserving and restoring ecological function. The Compensatory Mitigation Rule expressly states that mitigation banks "typically involve large, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation."[211] The same observation is made with respect to ILF programs. And the rule further notes that they also "devote significant resources to identifying and addressing high-priority resource needs on a watershed scale, as reflected in their compensation planning framework."[212] Similar considerations apply to conservation banking and conservation plans.[213]
- Planning at these scales also contributes to the durability of mitigation by improving the prospect for long-term management of conserved sites and restored habitat, including monitoring, funding, and adaptive management.
- Increased regularity and predictability of mitigation improves the timeliness of project delivery and cost management for state transportation agencies seeking to mitigate for impacts.[214]

Satisfaction of regulatory requirements can address both ESA section 7 and section 10, which helps transportation planners focus on conservation and mitigation outcomes rather than solely on process.[215] As noted above, there can be a regulatory choice as to whether a project falls under section 7 or section 10, depending on the planning and funding, and portion of the project currently seeking approval. In many instances, conservation planning and conservation banking at scale can address both eventualities.

> Many HCPS have chosen to include transportation projects having a federal nexus so as to streamline the Section 7 consultation process. Although these projects will ultimately be subject to a Sec. 7 consultation, they have been included as a covered activity in most area-wide HCPs. The analysis done for an HCP provides the biological data necessary for the Sec. 7 consultation, reducing the time consumed by the Sec. 7 process. Furthermore, since the project was included in an HCP plan, time has already been spent negotiating with the FWS over what is acceptable mitigation, and that mitigation has been approved with the issuance of an ITP for the HCP.[216]

Conservation planning at scale can also obviate ESA issues *prior* to the listing of species as threatened or endangered. In 2015, the FWS and Bureau of Land Management approved land use plans to provide for sage grouse habitat restoration and recovery, thus supporting a decision not to list the greater sage grouse. Adherence to these management plans can save infrastructure projects from needing to undergoing section 7 consultations and development of new mitigation.

Timing can be an issue, however, as development of HCPs can take long periods of time. At the same time, however, having such plans in place makes it possible to abbreviate the time needed to approve mitigation.[217] Approval of conservation banks can also take time, with average planning times of up to one year, and an FWS approval taking an additional year and a half on average.[218]

In the waters and wetlands context, planning at scale has substantially improved permitting timing and predictability. Timing for wetland mitigation banks and ILFs has become more streamlined since the adoption of the 2008 Compensatory Mitigation Rule, although it has taken some time to get existing ILF programs into conformance with the regulatory requirements.[219]

1. State Transportation Agencies and Support for Advance Conservation Planning

State transportation agencies can support funding of advance conservation planning. Especially in California, where a robust habitat planning process has existed, Caltrans has on occasion chosen to participate in development of multi-species HCPs.

[210] Environmental Law Institute, Natureserve, Inr, Resources for the Future, A Practitioner's Handbook: Optimizing Conservation and Improving Mitigation Through the Use of Progressive Approaches (Presented by Cambridge Systematics to the NCHRP 25-25, Task 67), 2011 [hereinafter ELI, NatureServe].

[211] 33 C.F.R. § 332.3(b)(2); 40 C.F.R. 230.93(b)(2).

[212] 33 C.F.R. § 332.3(b)(3); 40 C.F.R. 230.93(b)(3).

[213] Memorandum from the FWS on Guidance for the Establishment, Use, and Operation of Conservation Banks (May 8, 2003) [hereinafter FWS Guidance], 68 Fed. Reg. 24,753 (May 8, 2003).

[214] Venner, *supra* note 13; ELI, NatureServe, *supra* note 210.

[215] Venner, *supra* note 13.

[216] Lederman & Wachs, *supra* note 13 at 26.

[217] Lederman & Wachs, *supra* note at 13, 12-14, 46-48.

[218] Interior Sept. 2016, *supra* note 139.

[219] Institute for Water Resources, The Mitigation Retrospective: A Review of the 2008 Handbook: Optimizing Conservation and Improving Mitigation Through the Use of Progressive Approaches, 2015-R-03, 2015. [hereinafter Institute for Water Resources Handbook].

At the same time, state agency participation in conservation planning across the nation has been ad hoc and sporadic for the most part, and even in California, the decision to engage or not has depended on subjective factors like personal relationships or the timing of particular planning processes.[220]

The availability of state transportation agencies funding also does not always match the need for development of large-scale conservation plans. In particular, funding practices are often closely tied to project plans such that there is limited ability to accommodate acquisition of habitat not needed for current mitigation, but that will be needed in the future. In general, the issue is not one of legal authority, but of anticipating needs and of the existence of willing conservation partners.

The linking of research and mapping to state transportation improvement planning can help facilitate taking the longer view. In some instances, this can be facilitated with state or local funding or dedicated tax revenues, as in the case of the Environmental Mitigation Program (EMP) of the San Diego Association of Governments (SANDAG), which uses proceeds of a county-wide sales tax to support habitat conservation and restoration to offset impact of regional and local transportation projects. These activities have included conservation activities on about 3,600 acres since 2008.[221]

Advance planning and funding for mitigation activities at scale is authorized by federal transportation legislation.[222] Large-scale, area-wide HCPs usually cover multiple species and habitats. They typically consist of:

- A geographically focused habitat conservation plan collaboratively prepared by a group of affected local, state and federal agencies and, in some cases, interests;
- An implementation agreement; and
- Ongoing conservation as contemplated by the conservation plan.

In general, these plans offer substantial opportunities to state transportation agencies who may engage in their initial preparation, or may join subsequently as participants. Programmatic conservation in coordination with infrastructure development means that long-term projects can be accommodated. For example, in California, Caltrans provided funding for development of both the East Contra Costa County HCP and the Butte County HCP, which were large-scale, multi-species efforts intended to accommodate a variety of species mitigation needs under state law and the federal ESA. Caltrans acted as a "paying permittee" in connection with the large-scale Western Riverside County and Coachella Valley HCPs, committing to purchases of conservation lands and other actions supporting the ITP.[223]

2. Credit Valuation and Issuance Concerns

In general, the units used for habitat credits, wetland credits, or stream credits are determined by the approved banking instruments. The Compensatory Mitigation Rule has eliminated confusion in this area by assigning the approval role to the IRT in each state.

For ILF credits, the rule also requires review to ensure that the credit prices reflect actual costs of production. For wetland and stream banks, the credit prices are entirely market driven.[224]

For conservation banking, the banking approvals have defined the credits. The proposed ESA guidance should place the process on a clearer footing. Markets determine the prices of conservation credits; which will ordinarily also reflect the costs of production.

In both wetland and habitat settings the state and federal regulatory agencies determine what will constitute suitable mitigation for the permitted activities. These decisions can be made up front in terms of a watershed approach or HCP, or can be approached permit-by-permit.

Key issues common to wetland mitigation banks, ILFs, and conservation banks include how to address crediting for different resource values, and how to assure and attain net gains (or at least no net loss) in functions and values when the same activity produces multiple benefits for habitat, water quality, connectivity, greenhouse gas mitigation, etc. Key issues involve when and whether multiple credits can be generated from or by the same parcel of land and conservation activities thereon, and whether they can be used by different permittees for mitigation. Credit stacking is the idea that multiple conservation values (carbon offset, wetland mitigation) can be supplied by the same activity. But under both aquatic mitigation and habitat mitigation, federal regulations and policies are in place to prevent double counting (or sale of the same thing twice), which would result in a net loss.[225]

[220] Lederman & Wachs, *supra* note 13.

[221] Camacho, *supra* note 114 at 36-37; *See e.g.* Ellen Wright, *SANDAG buys 50 Acres in Batiquitos Lagoon*, The Coast News Group, April 7, 2015, http://www.thecoastnews.com/2015/04/07/sandag-buys-50-acres-in-batiquitos-lagoon/.

[222] *See* next section (Section, III.A.2 "Credit Valuation and Issuance Concerns").

[223] Camacho, *supra* note 114 at 37; Lederman & Wachs, *supra* note 13 at 37.

[224] Institute for Water Resources Handbook, *supra* note 219.

[225] Carroll, *supra* note 141.

3. Legal Treatment of Conservation Credits Created or Purchased by State Transportation Agencies

In general, mitigation credits are treated as personal property rather than as interests in real property.[226] Given the release of liability related to purchase of credits from a third party, they may not be cancelled or revoked once regulatory approval has been granted for the impact mitigated by use of the credits. However, the creation of credits is subject to cancellation, revocation, or modification in accordance with the instruments under which the mitigation bank, ILF, or conservation bank has been approved. And the credit producer must continue to maintain the site in accordance with the approved instrument.

Production or acquisition of conservation and wetland credits are allowable expenditures under government rules, and these credit activities are treated like typical allowable on-site mitigation expenditures. In general, if procurement of mitigation is project-by-project, the acquisition of wetlands or habitat credits must follow procurement regulations, including competitive procedures.

For example, the Washington State Department of Transportation (WSDOT) guidelines provide that, "mitigation credits must be acquired using a competitive bid process."[227] These require preparation of a scope of work which defines requirements including certified mitigation banks, location of approved service area in relation to the project impact areas, and the availability of suitable bank credits. Where there is only one qualified provider, the state can negotiate an option to purchase agreement, including establishing prices for future acquisitions to meet future projected impacts.[228] However, competition is required if additional certified providers subsequently emerge in the area. WSDOT also has experience with operation of its own wetland mitigation banking sites, and has used those based on agreements and approvals. The FHWA has long acknowledged that credits obtained from third-party private mitigation banks should ordinarily be accomplished using competitive bidding "unless sole source procurement in this case is justified under state law."[229]

Long-term agreements between state transportation and natural resource agencies and/or other mitigation providers have reduced the need for each transaction to be a new competitive procurement, particularly in states where there is an umbrella bank or where the DOT has pre-funded mitigation programs to meet anticipated needs.

In 2003, the North Carolina Department of Transportation (NCDOT) entered into a long-term Memorandum of Agreement with the state environmental agency (then known as the Department of Environment and Natural Resources), establishing the Ecosystem Enhancement Program (EEP). The EEP was an innovative version of an ILF wetland and aquatic mitigation program. It provided advance mitigation of impacts from transportation projects on aquatic resources, using a programmatic approach. The EEP conducted basin-wide and local watershed planning to identify high-quality mitigation sites, and provide the basis for the selection and provision of mitigation. NCDOT provided advance funding based on anticipated mitigation needs to facilitate planning and siting. EEP was recognized by FHWA as an exemplary ecosystem initiative.[230] The EEP built on prior agreements to facilitate identification and provision of suitable mitigation, but was far more sophisticated because of the level of watershed planning and the advance of dollars to support planning, site identification, project acquisition, and mitigation design. NCDOT funding was provided under a biennial budget and directed toward watershed planning and mitigation. The EEP was subsequently altered by a 2008 MOA, and superseded by the current 2016 MOA between NCDOT and the North Carolina Department of Environmental Quality's Division of Mitigation Services (DMS).[231]

The NCDOT now provides funding to DMS to deliver stream and wetland mitigation as described in the North Carolina ILF (now operated in conformity with the 2008 federal Compensatory Mitigation Rule). NCDOT agrees to use the DMS program as its preferred mitigation source for all offsite mitigation; and DMS planning uses the "watershed approach" as described in the federal Compensatory Mitigation Rule. Orders for mitigation are delivered annually. According to the 2016 MOA, "All impacts to wetlands and streams will be estimated for NCDOT transportation projects that are prioritized for funding and expected to be let over the next 7 years, including those impacts for which the NCDOT has identified other sources of mitigation."[232] A 2:1

[226] Michael D. Minton & Christine L. Weingart, Legal and Tax Issues of Carbon Credit Trading, (Envt. Services Inc., 2016).

[227] WSDOT, Procurement of Wetland Mitigation Credits from Third-Party Sources, (Directional Memo ESO-2010-01) (March 2010).

[228] *Id.*

[229] FHWA, Use of Private Wetland Mitigation Banks as Compensatory Mitigation for Highway Project Impacts (July 5, 1995).

[230] Rebecca Kihslinger & James Mcelfish, Nature Friendly: Land Use Practices at Multiple Scales (Environmental Law Institute, 2009) [hereinafter Kihslinger].

[231] Memorandum of Agreement between the North Carolina Department of Environmental Quality and the North Carolina Department of Transportation (June 14, 2016).

[232] *Id.* at 3.4.

mitigation ratio is used unless otherwise agreed for specific projects.

The EEP approach led to a great deal of learning about the mitigation options and opportunities across the state and by helping to define relevant watersheds. Among other things, it facilitated the provision of mitigation by third party providers. The process was later streamlined, and further regularized by changing the state's approach into an approved ILF under the Compensatory Mitigation Rule, using the required "Compensation Planning Framework" approved by the Corps under the rule, and operated by DMS.

The Florida Department of Transportation (FDOT) has entered into agreements with the state's several regional Water Management Districts (WMDs) to provide mitigation credits. For example, FDOT partnered with the South Florida WMD for a conservation area with 850 acres of freshwater mitigation credits in the 1990s, to be used over time to mitigate for project impacts as they arose.[233] Since then, FDOT has been authorized to plan for advance wetland mitigation and funding under state law using "regional, long range wetland mitigation planning rather than on a project by project basis."[234] Using this law, FDOT identifies projects needing mitigation and deposits funds into escrow for use in wetland mitigation; the WMD requests funds to develop and implement mitigation projects. Some districts of FDOT have competitive bidding for mitigation and awarded contracts by county and habitat type; credits are assigned to particular transportation projects after the fact.[235]

IV. EXPERIENCE OF STATE TRANSPORTATION AGENCIES IN CONSERVATION PLANNING/ BANKING

A. Federal Legislation Addressing Mitigation by State Transportation Agencies

Federal transportation laws directly authorize environmental mitigation in the transportation planning and project development process.[236] Transportation legislation addressing conservation planning and mitigation has advanced in step with Corps-EPA rules governing wetland mitigation banking and ILFs, and FWS guidance and experience on HCPs and conservation banks.

Eligible projects under the National Highway Performance Program now include "environmental mitigation efforts related to projects funded under this section, as described in [section 119(g)],"[237] as well as environmental restoration and pollution abatement,[238] control of noxious weeds, and establishment of native species.[239] Section 119(g) specifically endorses funding participation in "natural habitat and wetlands mitigation efforts,"[240] including establishment and management, participation, and purchase of credits from mitigation banks and ILF programs. It also includes "contributions to statewide and regional efforts to conserve, restore, enhance, and create natural habitats and wetlands,"[241] as well as "development of statewide and regional environmental protection plans, including natural habitat and wetland conservation and restoration plans."[242]

1. Development of Federal Law

Development of funding provisions directed at mitigation has continued since compensatory mitigation was expressly addressed in federal transportation legislation 25 years ago in Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). ISTEA included provisions authorizing the use of federal funds for transportation projects on environmental mitigation measures, including wetland mitigation banking. Later, TEA-21 introduced a preference for mitigation banking over other forms of compensatory mitigation, and added eligibility for other natural habitats. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)[243] succeeded TEA-21, and added additional categories of eligible environmental measures. The Moving Ahead for Progress in the 21st Century Act (MAP-21)[244] set forth a more elaborate, multi-step eligibility process for environmental mitigation projects. Finally, the Fixing America's Surface Transportation Act (FAST Act),[245] continued eligibility requirements for expenditures for environmental compensatory mitigation measures.

ISTEA provided the foundation for the funding of environmental mitigation efforts in transportation projects.[246] ISTEA set forth provisions that explicitly

[233] Ann Broadwell, Florida Department of Transportation District Four's Wetland Mitigation Portfolio: Investing Today for Tomorrow's Transportation Improvement Projects (June 2013) [hereinafter Broadwell].

[234] Fla. Stat. 373.4137.

[235] Broadwell, *supra* note 233.

[236] Venner, *supra* note 13.

[237] 23 U.S.C. § 119 (d) (2) (O).

[238] *Id.* § 119 (d) (2) (M).

[239] *Id.* § 119 (d) (2) (N).

[240] *Id.* § 119 (g) (1).

[241] *Id.* § 119 (g) (1) (B).

[242] *Id.* § 119 (g) (1) (C).

[243] Pub. L. No. 109-59, 119 Stat. 1144 (2005).

[244] Pub. L. No. 112-141, 126 Stat. 405 (2012).

[245] Pub. L. No, 114-94, 129 Stat. 1312 (2015).

[246] U.S. Dep't of Transp. Fed. Highway Admin., Intermodal Surface Transportation Efficiency Act of 1991 Information, (archived), http://www.fhwa.dot.gov/planning/public_involvement/archive/legislation/istea.cfm (last visited July 29, 2016).

approved the use of federal funding for wetlands mitigation efforts under the National Highway System (NHS) and the Surface Transportation Program (STP). Wetlands mitigation efforts could include "wetlands mitigation banks; contributions to statewide and regional efforts to conserve, restore, enhance and create wetlands; and development of statewide and regional wetlands conservation and mitigation plans."[247] The timing of the wetlands mitigation effort could run concurrently or in advance of the onset of the project, within the bounds of the applicable federal law.[248]

TEA-21 in 1998 expanded the provisions for funding environmental mitigation efforts. Under TEA-21, restoration efforts under the NHS expanded to include natural habitats.[249] Additionally, TEA-21 designated mitigation banking as the preferred mitigation activity to compensate for unavoidable losses to wetlands or other natural habitat caused by transportation projects receiving federal assistance, when several factors are present. The impact must occur within the service area of the bank. The bank must contain enough available credits to offset the impacts of the project and meet federal guidelines for mitigation banks. The selection of eligibility preference must be in accordance with all applicable federal laws. The goal of a mitigation bank is to "provide economically efficient and flexible mitigation opportunities, while fully compensating for wetlands and other aquatic resource losses in a manner that contributes to the long-term ecological functioning of the watershed within which the bank is to be located."[250] For STP restoration projects, environmental restoration and pollution abatement projects were explicit categories for federal funding.[251]

In 2005, SAFETEA-LU slightly expanded the eligible mitigation projects under the NHS by adding environmental restoration and pollution abatement to the list of projects eligible for federal funding under section 328.[252] The section on eligible projects for the STP was modified by changing the language to "environmental restoration and pollution abatement in accordance with section 328."[253] Section 328 allows environmental restoration and pollution abatement projects to address water pollution or environmental degradation caused in part or wholly by a transportation facility.[254] SAFETEA-LU also amended sections 134 and 135 to require state transportation agencies and Metropolitan Planning Organizations to consult with natural resource agencies, to review conservation maps and plans, and to address "potential environmental mitigation activities."[255]

MAP-21 changed the title of the National Highway System to the National Highway Performance Program (NHPP).[256] Eligible projects must be part of a project for an eligible facility, and consistent with sections 134 and 135, which detail requirements for metropolitan transportation planning and statewide and nonmetropolitan transportation planning.[257] After meeting those requirements, the project has to match an enumerated activity,[258] which includes environmental mitigation.[259] Options for environmental mitigation efforts encompass natural habitat and wetlands mitigation efforts; those efforts may include participation in mitigation banking or "the purchase of credits from commercial mitigation banks, the establishment and management of agency sponsored mitigation banks; and the purchase of credits or establishment of in-lieu fee mitigation programs."[260] Further options are contributions to statewide and regional conservation and restoration efforts and the development of statewide and regional environmental protection plans.[261] Mitigation efforts can run concurrently or ahead of the transportation project in conjunction with all applicable federal law.[262] Additional language in MAP-21 mandated that credits from any agency-sponsored mitigation bank can only be used on the eligible projects under the act, or the agency must pay back the amount spent on credits used for a purpose other than mitigation.[263] While TEA-21 gave preference to mitigation banks, MAP-21 expanded that preference to include in-lieu fee or other third-party mitigation arrangements in addition to mitigation banking.[264]

[247] Pub. L. No. 102-40, §§ 1006(d)(i)(3), 1007(b) (11) (1991).

[248] *Id.*

[249] Pub. L. No. 105-178, § 1106(3)(b), (1998); Venner, *supra* note 13.

[250] U.S. Department of Transportation, Federal Guidance on the Use of the Tea-21 Preference for Mitigation Banking to Fulfill Mitigation Requirements Under Section 404 of the Clean Water Act (July 11, 2003) [hereinafter DOT Federal Guidance].

[251] Pub. L. No, 105-178, § 1108(a)(7)(14).

[252] Pub. L. No. 109-59, § 6006(a)(1).

[253] *Id.* § 6006(a)(2).

[254] *Id.* § 6006(b)

[255] *Id.* § 6001.

[256] Pub. L. No. 112-141 § 1106(a).

[257] *Id.* at § (d)(1)(A)-(B).

[258] *Id.* at § (d)(2).

[259] *Id.* at § (d)(2)(O).

[260] *Id.* at § (g)(1)(A).

[261] *Id.* at § (g)(1)(B)-(C).

[262] *Id.* at § (g)(3)(A).

[263] *Id.* at § (g)(3)(B)).

[264] *Id.* at § (g)(4)).

The FAST Act was signed into law in 2015. Eligibility requirements under the NHPP did not change. And under the STP, environmental measures that meet the requirements of sections 119(g), 328, and 329, are eligible for federal funding. Environmental measures include environmental mitigation, pollution abatement, control of noxious weeds, or transportation control measures under the Clean Air Act.

2. Federal Regulations

The relevant regulations are found primarily in 23 C.F.R. Part 777, "Mitigation of Impacts to Wetlands and Natural Habitat," which provides policy and procedures for the evaluation and mitigation of adverse environmental impacts to wetlands and natural habitat resulting from federal-aid projects.[265] They define key terms, including wetland or habitat enhancement, restoration, and preservation, as well as wetland or habitat functional capacity.[266] The regulations provide for funding either concurrent with or in advance of the construction of highway or other transportation projects, or even in advance of project level environmental reviews.[267] Under current regulations:

> Those measures which the FHWA and a State DOT find appropriate and necessary to mitigate adverse environmental impacts to wetlands and natural habitats are eligible for Federal participation where the impacts are the result of projects funded pursuant to title 23, U.S. Code. The justification for the cost of proposed mitigation measures should be considered in the same context as any other public expenditure….It is FHWA policy to permit, consistent with the limits set forth in this part, the expenditure of title 23, U.S. Code, funds for activities required for the planning, design, construction, monitoring, and establishment of wetlands and natural habitat mitigation projects, and acquisition of land or interests therein.[268]

The rules specifically provide that "federal-aid funds may participate in the development of statewide and regional wetlands conservation plans."[269] Contributions to these efforts may occur in advance of project construction if consistent with "all applicable requirements"[270] of federal law and regulations and state planning processes.[271] Federal-aid participation for replacement of wetlands or natural habitats is only authorized with sufficient legal assurances that the area "will be maintained as a wetland or natural habitat."[272] A state transportation agency may acquire privately owned lands in cooperation with another public agency or third party, and a state transportation agency may transfer the title to, or enter into an agreement with, an appropriate public natural resource management agency to manage lands acquired outside the right-of-way without requiring a credit to federal funds.[273] The reasonable costs of acquiring lands or interests therein to provide replacement lands with equivalent wetland or natural habitat are or functional capacity are eligible for federal participation. Activities to ensure the viability of these areas during establishment are eligible.[274]

3. FHWA/USDOT Guidance and Informational Documents

In 1995, the FHWA issued Guidelines for Federal-aid Participation in the Establishment and Support of Wetland Mitigation Banks, implementing the ISTEA provisions. In 2000, a further guidance document was issued to clarify the use of ILF mitigation for section 404 compensatory mitigation of federal-aid projects under TEA-21.[275] USDOT provided additional guidance in 2003 on use of the TEA-21 preference for wetland mitigation banking.[276] In 2005, an Information Memorandum on "Federal-Aid Eligibility of Wetland and Natural Habitat Mitigation" clarified previous FHWA guidance, including these previous documents.[277] It makes clear that participation in these activities for compensatory mitigation

> may occur concurrent with or *in advance of* the construction of highway or other transportation projects funded under Title 23, or even in advance of completion of project level environmental reviews, as long as the efforts are consistent with all applicable requirements of Federal law (including the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended), regulations, and State transportation planning requirements.[278]

Under 23 C.F.R. Part 710.513 (in effect from 1999 to 2016) a state could acquire property for environmental mitigation. A project agreement with FHWA was required in order for the acquisition to be eligible for federal-aid participation and the acquisition had to be in accordance with 23 C.F.R. Part 777.[279] In 2016 FHWA deleted 710.513 and for simplicity defined

[265] 23 C.F.R. § 777.1.

[266] *Id.* § 777.2.

[267] Venner, *supra* note 13.

[268] 23 C.F.R. § 777.5(a), (b).

[269] *Id.* § 777.9(b).

[270] *Id.* § 777.9(a)(4).

[271] *Id.* § 777.10(c).

[272] *Id.* § 777.11(b).

[273] *Id.* § 777.11(d), (e).

[274] *Id.* § 777.11(f), (h).

[275] Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, 65 Fed. Reg. 66,913 (Nov. 7, 2000).

[276] DOT Federal Guidance, *supra* note 250.

[277] FHWA, Federal-Aid Eligibility of Wetland and Natural Habitat Mitigation (March 10, 2005).

[278] *Id.* (emphasis in original).

[279] *Id.*

"mitigation property" as "real property interests acquired to mitigate for impacts of a project eligible for funding under title 23."[280] In 2008, the FHWA provided an Information Memorandum addressing funding of long-term management for compensatory mitigation provided by wetland and habitat banks and ILFs, concluding that these costs are typically reflected in the price of credits and affirming that they are eligible costs for federal aid.[281]

In 2006, FHWA and other federal agencies collaborated on a program called Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects.[282] It is intended to provide a methodology for integrating broader-scale ecological considerations into transportation planning and decision making, and reflects the value of participating in conservation planning at a variety of levels. A technical approach to collaboration on data and identification of mitigation opportunities is a further outgrowth of this approach.[283] A key aspect of this integrated process is the recommendation for creating a "regional ecosystem framework" that includes a conservation strategy, a crediting strategy, and a data framework with the ability to provide updated conservation and restoration priorities.[284] These activities provide an approach that can support state transportation agency participation in conservation plans at multiple scales in order to achieve better conservation outcomes and more efficient processes for project planning, funding, and delivery.

FHWA maintains a searchable database of state practices that can assist state transportation agencies in identifying useful approaches to conservation decision making. Search categories include, among other topics, watersheds and wetlands, habitat/ecosystem connectivity and conservation, wildlife and threatened and endangered species, mitigation, and interagency agreements dealing with conservation topics.[285]

4. Reporting Metrics for Environmental Review

The 2015 OMB-CEQ Memorandum on "Metrics for Permitting and Environmental Review of Infrastructure Projects"[286] contains a reporting protocol to determine whether the federal permitting and review process "resulted in reduced impacts" to environmental resources. This protocol includes brief explanations of the use of avoidance, minimization, or compensatory mitigation and the type of compensatory mitigation used.[287]

On January 13, 2017, OMB and CEQ issued "Guidance to Federal Agencies Regarding the Environmental Review and Authorization Process for Infrastructure Projects,"[288] carrying out certain requirements for tracking and timeliness of environmental permitting, and accountability for environmental and community outcomes under the FAST Act. The guidance provides for permitting timetables, coordination of environmental reviews, and time limits. Executive Order No. 13766, signed January 24, 2017,[289] directed the chair of the Council on Environmental Quality (CEQ) to determine, within 30 days after a request from any state governor or the head of a federal agency, whether a proposed infrastructure project is a "high priority" project, taking into account its importance to the general welfare, value to the nation, environmental benefits, and any other factor the chair deems relevant. For any project so designated, the chair must coordinate with the "relevant" federal agency head to establish expedited procedures and deadlines for completion of environmental reviews and approvals. These directives may affect the timing and coordination of conservation planning and permitting associated with transportation projects.

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[280] 23 C.F.R. 710.105(b), Right-of-Way and Real Estate: Final Rule, 81 Fed. Reg. 57,715, 57,730 (Aug. 23, 2016). Rationale for rule described at Right-of-Way and Real Estate: Proposed Rule, 79 Fed. Reg. 70,004, 70,007 (Nov. 24, 2014).

[281] FHWA. Federal-Aid Eligibility for Long-Term Management Activities in Wetland and Natural Habitat Mitigation (Oct. 3, 2008).

[282] Janice W. Brown, Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects, (U.S. DOT/FHWA, Apr. 2006).

[283] Patrick Crist, Marie Venner, Jimmy Kagan, Shara Howie, & Lisa Gaines, Manager's Guide to the Integrated Ecological Framework, RB SHRP 2 Report No. S2-CO6-RW-4 (Transportation Research Board of the National Academies of Science, Engineering, and Medicine, 2014).

[284] American Association of State Highway and Transportation Officials. Implementing Ecological: Integrating Transportation Planning and Ecological Decision Making (2016).

[285] FHWA, Environmental Review Toolkit, State Practices Database, *available at* https://www.environment.fhwa.dot.gov/strmlng/es3stateprac.asp

[286] Shaun Donovan & Christina Goldfuss, Memorandum for Heads of Federal Departments and Agencies: Guidance Establishing Metrics for the Permitting and Environmental Review of Infrastructure Projects, M-15-20, (Sept. 22, 2015).

[287] *Id.* § 3.1.

[288] Shaun Donovan & Christina Goldfuss, Memorandum for Heads of Federal Departments and Agencies: Guidance to Federal Agencies Regarding the Environmental Review and Authorization Process for Infrastructure Projects, M-17-14, (Jan. 13, 2017).

[289] Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects, 82 Fed. Reg. 8657 (Jan. 30, 2017).

B. Wetland Mitigation Banks and Umbrella Banks Established by State Transportation Agencies

The Corps of Engineers' RIBITS database currently shows 184 operating wetland/stream mitigation banks that are sponsored by state transportation agencies, in 23 states (Alabama, Arizona, California, Colorado, Delaware, Georgia, Indiana, Illinois, Kentucky, Maine, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, and Wisconsin).[290] The number of state transportation agency-sponsored banks has grown steadily since the initial 1993 study.[291] Some of the current transportation agency banks area multi-site or "umbrella" banks, operated under a single approved banking instrument, but with approvals for additional sites over time. The multi-site banking approach is expressly authorized by the compensatory mitigation rule. State transportation agencies may also purchase mitigation credits from mitigation banks for which they are not the sponsor.

In many cases, the mitigation bank is funded by the state transportation agency, which uses all of its credits as projects demand; but the long-term site management is carried on by a conservation agency (as is the approach under the 2008 Compensatory Mitigation Rule). For example, the Moses Lake Wetland Mitigation Bank in Washington State was approved in 2003, following several years of planning and construction. The site is owned and managed by the City of Moses Lake, subject to a conservation easement held by WSDOT. All credits generated by the bank are used by WSDOT to satisfy its own mitigation obligations in the watershed. Minnesota's multi-site bank provides mitigation for Minnesota Department of Transportation projects in each large watershed area in the state. Numerous other examples can be found in RIBITS.[292]

A quarter century of experience with state transportation agency mitigation banks has shown that upfront investments of transportation dollars in mitigation planning, construction, management, maintenance, and monitoring are fully consistent with state and federal financial and legal authorities. This track record provides a solid foundation for large-scale conservation planning addressing multiple resources.

[290] RIBITS database (https://ribits.usace.army.mil).

[291] *See* Environmental Law Institute and Institute of Water Resources, National Wetland Mitigation Banking Study: Wetland Mitigation Banking: Resource Document (1994).

[292] RIBITS, *supra* note 290.

C. ILFs Established by State Transportation Agencies

The RIBITS database maintained by the Corps of Engineers' Institute for Water Resources shows a total of 56 approved ILFS operating in 26 states across the United States.[293] No ILFs are specifically operated by state transportation agencies, but many have agreements with state transportation agencies to use their mitigation credits. Under the Compensatory Mitigation Rule, ILFs must be operated by governmental entities or nonprofit organizations. There is a pending application for approval of a Minnesota ILF which would exclusively provide mitigation credits for use in mitigation impacts of local road projects.[294]

The Environmental Law Institute's 2005 study of ILFs (operating under guidance documents prior to the Compensatory Mitigation Rule) showed 38 ILFs nationwide also with no state DOTs as sponsors,[295] although several of these enjoyed funding support through state DOT commitments to purchase advance mitigation, as in the North Carolina EEP.

D. HCPs/Conservation Banks Established by State Transportation Agencies

There are over 1,100 HCPs completed or in process, many of which are "landscape level" planning efforts greater than a thousand acres. This is a rapid increase in number and scale of HCPs over recent years.[296] A small minority of landscape-level HCPs directly support activities by state transportation agencies. A thorough study in 2014 of HCPs over 1,000 acres found that only a few HCPs could be identified that were driven by state or local transportation department needs or participation. In most cases the state transportation agency was not the primary permittee, but was a participant or paying user. Eleven state transportation agency-related HCPs were found in California, Nevada, Texas, and Wisconsin. In only six of these was the transportation agency (or local transportation authority) a permittee or partner in the underlying plan.[297]

Participation in area-wide HCPs can sometimes be difficult for state transportation agencies. It is important to note that, "in order for a transportation project to be a 'covered activity' in an HCP, it must be

[293] *Id.*

[294] Minnesota Local Road Replacement ILFP (pending approval).

[295] Jessica Wilkinson & Jared Thompson, 2005 Status Report on Compensatory Mitigation in the United States (Environmental Law Institute, 2006).

[296] The FWS maintains a database of all HCPs at https://ecos.fws.gov.

[297] Lederman & Wachs, *supra* note 13.

specified in the plan to a level at which FWS can ascertain the effect on endangered species to the legally required degree."[298] Review of area-wide HCPs covering transportation project impacts showed that the level of specificity could be adjusted. The Western Riverside HCP specified miles of road construction covered in designated geographic areas of the plan. The Balcones Canyonlands Conservation Plan in Texas, in contrast, identified general infrastructure "corridors" that would be covered by the plan. The Coachella Valley HCP identified a list of planned transportation projects over the life of the HCP, mapping them geographically and sorted by impact type: interchange projects and associated arterials; Caltrans projects; and regional road projects.[299]

E. State Laws Authorizing Transportation Agency Involvement in Conservation Planning

State laws have not been critical to enable state transportation agencies to engage in wetland mitigation activities or habitat mitigation. The main constraints seem to be institutional and funding related.[300]

It is true that the California Natural Community Conservation Planning Act has been important to the early development of large-scale conservation planning in that state, which has supported the development of multi-party HCPs and the use of conservation banking as a standard mitigation method for Caltrans as well as other public and private development activities.[301] But the key there was not authorization for Caltrans, but the development of a robust basis for the California Department of Fish & Wildlife to operate at scale on these issues.

The North Carolina EEP did facilitate widespread planning and advance funding of mitigation in that state, but was enabled primarily by a Memorandum of Agreement and the acquiescence of the legislature rather than by enabling legislation.[302] Adjustments to the program including limitations were subsequently added by the legislature.

In sum, the enactment of state legislation addressed to state transportation agencies is less important than is the establishment of policies, working relationships, and coordination of those agencies with other conservation planning organizations.

Federal transportation laws (FAST Act) and Corps-EPA regulations and FWS policies provide the needed legal support—as evidenced by the development of these tools across the nation in states without specific conservation planning laws or transportation-related conservation requirements.

IV. CONCLUSIONS

Participation in conservation planning at scale is authorized under federal transportation laws and has an emerging track record at the state level. It also reflects a maturing scientific and regulatory framework that values certainty and outcomes over repeated one-off negotiations. Sites are identified for conservation or restoration "based on the results of a regional ecological assessment process" which produces a higher potential for sustaining the restoration of a site and a higher level of ecosystem services[303] Barriers such as budget and procurement constraints can be overcome consistent with existing law.

Mitigation is believed to be better where the scale of planning for mitigation matches the long-term development of transportation projects.[304] Key advantages include: assured funds for mitigation earlier in the process, securing needed conservation lands when available and in advance of needs in order to assure they can be obtained at appropriate prices, and enhancing regulatory predictability and certainty in permitting.[305]

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[298] *Id.*

[299] *Id.*

[300] NatureServe, *supra* note 210.

[301] Camacho, *supra* note 114.

[302] Kihslinger, *supra* note 234.

[303] NatureServe, *supra* note 210.

[304] Lederman & Wachs, *supra* note 13, at 17-18 (citing California and Nevada transportation and conservation planning).

[305] *Id.* at 7-8.

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ACRONYMS

CCA	Candidate Conservation Agreement
CCAA	Candidate Conservation Agreements with Assurances
CEQ	Council on Environmental Quality
CORPS	Corps of Engineers
DMS	Division of Mitigation Services
DOI	Department of the Interior
DOT	Department of Transportation
EEP	Ecosystem Enhancement Program
EMP	Environmental Mitigation Program
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FONSI	Funding of No Significant Importance
FWS	U.S. Fish & Wildlife Service
HCA	Habitat Credit Exchange
HCP	Habitat Conservation Plan
ILF	In-Lieu Fee Program
IRT	Interagency Review Team
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITP	Incidental Take Permit
MAP-21	Moving Ahead for Progress in the 21st Century Act
MOA	Memorandum of Agreement
NCCP	Natural Community Conservation Plan
NCCPA	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NHS	National Highway System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OMB	Office of Management and Budget
RCS	Recovery Crediting System
RIBITS	Regulatory In-Lieu Fee and Bank Information Tracking System
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SANDAG	San Diego Association of Governments
SHA	Safe Harbor Agreement
STP	Surface Transportation Program
TEA-21	Transportation Equity Act for the 21st Century
WMD	Water Management Districts

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