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Fish and Wildlife Service
Southeast Region



Endangered Species Act
Section 7(a)(1)
Southeast Region Implementation Framework:
Promoting Conservation through Interagency Cooperation



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About the Cover Photo: The federally endangered Interior least tern (*Sternula antillarum*), along with the endangered pallid sturgeon (*Scaphirhynchus albus*) and fat pocketbook mussel (*Potamilus capax*), is the subject of the largest Endangered Species Act section 7(a)(1) plan in the southeastern United States. This plan covers engineering activities of the U.S. Army Corps of Engineers' Channel Improvement Program along the Lower Mississippi River. This 955 mile river reach begins at the confluence of the Mississippi and Ohio Rivers and flows southward to Head-of-Passes, Louisiana. The Interior least tern has exceeded its recovery criteria due in large part to the success of this conservation strategy, leading the U.S. Fish and Wildlife Service to recommend delisting in its review of the species status. For more information on this species and the U.S. Army Corps of Engineers' section 7(a)(1) conservation plan, see U.S. Army Corps of Engineers 2013, summarized in Case Study 1 of Appendix A of this document and available at: https://www.fws.gov/mississippies/pdf/1_USACE_LMR_Conservation.pdf

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EXECUTIVE SUMMARY

The conservation provisions of the Endangered Species Act (ESA; sections 2(c)(1), and 7(a)(1)) provide all Federal agencies with both the authority and obligation to assist in the recovery of threatened and endangered species within the limits of their authorities. To date, Federal regulations and guidance for implementation of this obligation have been minimal. Appropriately implemented, these provisions can achieve conservation, minimize interagency conflicts, promote primary mission success, and document compliance with the ESA.

Since the ESA was amended in 1978, the primary mechanism of Federal agency interactions regarding threatened and endangered species conservation efforts has been through the jeopardy provisions of section 7(a)(2). This has resulted in, at best, status quo or minimal improvement of many species listed under the ESA, or, at worst, in the piecemeal loss of habitat or conservation value of habitat. Utilization of the jeopardy provision has fostered an interagency cultural environment that is reactive, confrontational, and minimizes collaboration between threatened and endangered species conservation agencies and Federal action agencies tasked with other legal and congressionally mandated primary missions.

Over the past two decades, legal challenges and judicial opinions have focused attention on the ESA's conservation requirements. This attention has prompted attempts to increase cooperative conservation planning at local levels. For example, in 2013 the U.S. Fish and Wildlife Service's (Service) Mississippi Field Office engaged with the U.S. Army Corps of Engineers (USACE) Mississippi Valley Division to develop and complete a section 7(a)(1) Conservation Plan for the endangered Interior least tern, pallid sturgeon, and fat pocketbook mussel in the Lower Mississippi River. This plan represents a paradigm shift in which the primary threat to all three species (i.e., channel engineering under the Lower Mississippi River Channel Improvement Program) has become the primary conservation tool in this portion of the species' ranges. This and other successes have demonstrated that section 7(a)(1) cooperative conservation can align expertise, capability, opportunities, and operations within Federal programs to cost-effectively achieve positive conservation outcomes using existing resources and authorities.

Successful section 7(a)(1) cooperative conservation programs over the past decade have also demonstrated the ability to involve State conservation agencies, non-governmental organizations, and the private sector into the cooperative conservation paradigm (e.g., USACE's Mississippi River management). Section 7(a)(1) successes have primarily occurred at local levels, typically involving a single action agency and its partners. Unifying Federal action agency conservation programs and actions on wider geographic or regional scales could increase cumulative net gains for species by offsetting unavoidable negative impacts caused by any single action agency. However, challenges with fully achieving collaborative conservation between governmental agencies on a larger scale include:

- A currently unbalanced reliance on section 7(a)(2) consultations for conservation purposes;
- A lack of understanding, involvement, or commitment by Federal action agencies in section 7(a)(1) conservation planning;
- A reactionary Federal agency culture; and,
- The lack of early involvement and integration of Federal action agencies in conservation planning.

Addressing these and other challenges to elevating and fully incorporating collaborative conservation into the Federal business model will require a change in the manner in which the section 7 provisions of the ESA are weighted. Section 7(a)(1) conservation commitments and resources should equal or exceed those devoted to section 7(a)(2). Currently, this is not the case. In order to effect change, regulations and policies may be needed to provide guidance to federal agencies on how to achieve section 7(a)(1) conservation. This cultural shift will require training, education and, more importantly, support from the highest levels of Federal action and conservation agencies.

Developing and implementing an inclusive threatened and endangered species interagency collaborative conservation concept complies with the original intent of the ESA, can significantly reduce current levels of conflict, and facilitate positive interagency collaboration and leverage with non-federal stakeholders. In addition, unified federal conservation action across a species' range that results in an improved species baseline will benefit all federal agencies as the improved status will result in greater flexibility and fewer restrictions under future section 7(a)(2) consultations. This approach also benefits the taxpayer by providing a pathway to collaborative scoping, cost-sharing, cooperative monitoring, and adaptive management.

SECTION 7(a)(1) GUIDING PRINCIPLES

1. Section 7(a)(1) Conservation Programs have a visible and significant potential to benefit both listed species and Federal action agency missions.
2. The goals of section 7(a)(1) consultation are to incorporate endangered and threatened species considerations into an action agency Conservation Program to:
 - a. Offset anticipated adverse impacts from routine action agency operations; and,
 - b. Achieve a net gain in listed species population and/or habitat baselines.
3. Action agency section 7(a)(1) Conservation Programs are proactive, strategic, and provide a net-conservation (recovery) benefit to any listed species that the action agency may affect within its authorities.

4. Section 7(a)(1) Conservation Programs are documented in action agency program or project specific Conservation Plans developed by the action agency in cooperation and consultation with the Service.
5. Section 7(a)(1) Conservation Plans address the adverse effects of action agency programs to listed species, as well as conservation opportunities within any areas affected by the action agency's authorities. One size does not fit all. As such, creativity and flexibility are essential to successful development and implementation of Conservation Plans.
6. Conservation Programs may be geared towards ecosystems and may consider and address candidate species, petitioned species, and/or species of concern, in addition to species listed as threatened or endangered. Conservation Plans may address individual or multiple species and their habitats, as situations warrant. Conservation Plans may incorporate wholly or in part, as appropriate, approved Recovery Plans for listed species.
7. The Service's primary role under section 7(a)(1) is to encourage and support the Action Agency in developing and implementing applicable Conservation Programs and Conservation Plans. It is implicit that the Service will not ask action agencies to reach beyond their authorities so that each Conservation Plan will complement the action agency's existing statutory authorities consistent with their supplemental obligations under the Endangered Species Act.
8. Successful section 7(a)(1) consultation requires developing and fostering relationships between the Service and action agency through significant and sustained interagency communication, coordination, and cooperation. This includes recognizing action agency mandates and constraints, using action agency expertise, and focusing on areas of mutual benefit.
9. **Section 7(a)(1) Conservation Programs and Plans do not, and were not intended to, take the place of section 7(a)(2) consultations;** however, they do have the potential to reduce conflict while complementing, streamlining, and facilitating section 7(a)(2) consultations.

I. Introduction

The purpose of the Endangered Species Act of 1973 (16 U.S.C. § 1531 *et seq.*) (ESA or Act) is to conserve threatened and endangered species and their ecosystems (ESA section 2(b)). The statutory framework of the ESA sets forth provisions to list species as threatened or endangered and plan their recovery in section 4. In addition, the ESA provides for the conservation and protection of listed species through land acquisition (section 5), cooperation with States (section 6), avoidance of jeopardy and adverse modification of critical habitats (section 7(a)(2)), various prohibitions (section 9), and permitting certain activities (section 10). However, it is only section 7(a)(1) of the ESA that identifies the role of Federal interagency cooperation in achieving recovery of listed species.

Section 7(a)(1) establishes the shared responsibility and cost of listed species recovery by directing all Federal agencies to *utilize their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species* (50 CFR 402.01). Section 7(a)(1) provides a path to identify and focus listed species conservation efforts across each Federal agency's entire authority and/or program footprint, which together will cumulatively promote proactive recovery of listed species.

Box 1. Benefits of Section 7(a)(1) Implementation

- Cost-effective mechanism to use existing Federal programs and budgets to conserve listed species
- Listed species needs and potential conflicts considered early in action agency planning and budgetary processes
- Incorporates elements of adaptive management, incorporating new information as it becomes available and allowing modification of plans and actions as necessary
- Establishes a comprehensive administrative record demonstrating consideration, planning, commitments, and compliance with ESA by the Service and action agency
- Reduces regulatory impact of listed species on action agency missions
- Reduces interagency conflict and encourages cooperation

Despite decades of court cases and judicial reviews recognizing the affirmative conservation duty of all Federal agencies under section 7(a)(1), to date, there has been little guidance and few details on what the required conservation programs should look like (O'Neill 1999-2000; Rohlf 2001; Wood 2004). Consequently, section 7(a)(1) has not realized its potential to achieve cooperative and proactive conservation

programming (*sensu* Ruhl 1995). However, isolated cases of interagency cooperation in the U.S. Fish and Wildlife Service's (Service) Southeast Region, have recently demonstrated the value and potential of section 7(a)(1) consultation to purposefully engage Federal action agencies in developing and implementing conservation strategies and programs for listed species affected by these agencies' actions (see Case Studies in Appendix A for examples). Utilizing the components and principles of the Service's Strategic Habitat Conservation (SHC) framework on a landscape level (see <http://www.fws.gov/landscape-conservation/shc.html>), these section

7(a)(1) programs have achieved measurable conservation of listed species and their ecosystems while reducing interagency conflicts (see Box 1 for a list of additional benefits of implementing section 7(a)(1)). These programs have also highlighted that both the Service's Ecological Services (ES) and Federal action agency personnel are poorly informed about the intended purpose and potential of the section 7(a)(1) consultation process, and are hampered by the lack of implementation guidance.

The following information is provided to clarify the authorized purpose and scope of section 7(a)(1) of the ESA, summarize the legislative and judicial history surrounding its implementation, provide examples of successful interagency cooperation under the ESA, and identify benefits to listed species and their ecosystems, as well as benefits that may accrue to Federal action agencies resulting from section 7(a)(1) implementation (see Box 1). This information is intended to encourage and facilitate interagency discussion and development of proactive conservation reviews, programs, and/or actions. In the current absence of formal section 7(a)(1) guidance, there is considerable flexibility to address the variety of potential situations where conservation programs can be developed and implemented, and to accommodate the various means different Federal agencies might undertake to implement this important, but underutilized, provision of the ESA.

II. What is section 7(a)(1) conservation?

Section 2(c)(1) of the ESA declares that it is "...the policy of Congress that *all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act*" (emphasis added). The primary mechanism for implementing this policy is identified under section 7 of the ESA, titled "Interagency Cooperation," which **obligates** all Federal agencies and **provides** them the **authority** to reasonably modify their actions and conduct their missions in a manner that assists in the conservation (i.e., **recovery**) of species listed as endangered or threatened. Section 7, therefore, provides a mechanism to **share the responsibility and cost** of listed species recovery **among all Federal agencies**. Furthermore, section 7 also serves as a pathway to identify and focus conservation efforts across the agencies' entire authorities and/or program footprints (Ruhl 1995).

Federal action agencies are intimately familiar with section 7(a)(2) of the ESA, which requires Federal agencies to ensure that their actions *do not jeopardize* the continued existence of listed species or adversely modify their critical habitats *within defined action areas*. In contrast, section 7(a)(1)'s conservation mandate applies widely to *authorities*, not simply actions (cf. Ruhl 1995), *providing Federal agencies a mechanism to distribute conservation obligations program-wide, as well as to make the most of conservation opportunities outside of defined action areas*. Box 2 compares sections 7(a)(1) and 7(a)(2).

Section 7(a)(1) conservation programs not only **benefit listed species**, but also have the potential to **benefit Federal action agencies** when successfully incorporated into agency operations. While the ESA directs Federal agencies to develop programs to conserve listed species, discretionary implementation allows agencies to strategically commit resources, including type, timing, extent, and frequency of actions. It also allows opportunistic mitigation of past, present, or future adverse effects of agency actions by raising the species' population and/or habitat baselines. Therefore, utilizing Federal agency authorities to conserve listed species has the potential for cost-effectively transforming some Federal programs and actions from potential threats to listed species into resources and tools for their conservation (see U.S. Army Corps of Engineers [USACE] 2013, Appendix A – Case Study 1). The discretionary nature of section 7(a)(1) also allows implementation with little to no effect on the congressionally authorized and mandated primary missions or their budgets.

This is in contrast to the dominant section 7 culture that has developed in recent decades, under which many Federal agencies view section 7(a)(2) consultation (i.e., avoiding jeopardy/adverse modification) as their only responsibility under the ESA. Although section 7(a)(2) provides for discretionary implementation of conservation actions, the obligation imposed by this subsection of the ESA is to avoid jeopardy/adverse modification, and to minimize incidental take that might result from Federal actions. Unless beneficial activities are included in a proposed Federal action, section 7(a)(2) consultation generally results in, at best, a “status quo” situation without any improvement to the species' baseline status.

Box 2. Section 7(a)(1) vs. Section 7(a)(2)

Attribute	7(a)(1)	7(a)(2)
Consultation	Mandatory	Mandatory
Implementation	Discretionary	Non-discretionary
Scale	Program-wide	Action Area
Process	Proactive	Reactive
Flexibility	Embraced	Inhibited
Adaptive Potential	High	Low
Approach	Cooperative	Regulatory
Objective	Recovery	Avoid Jeopardy / Adverse Modification

Judicial and Statutory Background

Judicial guidance for the conservation mandate of the ESA has been ambiguous. Several courts have recognized the mandatory and affirmative conservation obligations of Federal agencies under section 7(a)(1). In 1977, the U.S. District Court, District of Columbia, found that the Service failed to consider the mandatory nature of section 7 to “...utilize [its] programs in furtherance of the [conservation] purposes of [the ESA]” (*Defenders of Wildlife v. Andrus*, 428 F. Supp. 167, D.C. 1977). This was reaffirmed by the Supreme Court in 1978, which recognized that section 7 created two independent obligations: one to conserve and one to avoid jeopardy/adverse modification of critical habitats (*TVA v. Hill*, 437 U.S. 153, 1978). While

noting that it was Congress’s intent for each and every Federal agency “...to take whatever actions are necessary to ensure the survival of each endangered and threatened species,” the court did not specify what an agency’s conservation program should look like. These cases strongly influenced the 1978 amendments to the ESA, which included separating section 7’s obligation to conserve (now section 7(a)(1)) from the obligation to avoid jeopardy/adverse modification (now section 7(a)(2)). These amendments also included an additional 15 subsections (sections 7(b–p)) under section 7(a)(2) to address various requirements, components, and exemptions to the consultation process.

Congress’s disproportionate attention to detail (i.e., a single sentence for section 7(a)(1) authority *versus* 15 subsections covering section 7(a)(2)) in the 1978 amendments to the ESA resulted in Service–Federal action agency interactions focusing on the avoidance of jeopardy and adverse modification (i.e., maintaining the status quo of listed species). However, this section 7(a)(2) focus has been repeatedly challenged in the courts, with most rulings recognizing the mandatory nature of section 7(a)(1), as well its importance to the success of the ESA. For example, the U.S. District Court, Southern Division, clearly noted in 1994, that “Section 7(a)(1) of the ESA imposes an affirmative obligation on all federal agencies...” (*Florida Key Deer v. Stickney*, 864 F. Supp. 1222, S.D. Fla. 1994). This ruling further stated that failure of any Federal agency to consider or undertake conservation actions consistent with the “...mandatory obligations under Section 7(a)(1)...” is, therefore, “...in violation of that provision of the ESA”. Additionally, in 1998, the U.S. Court of Appeals for the 5th Circuit found that “...[section] 7(a)(1) contains a clear statutory directive (it uses the word “shall”) requiring the federal agencies to consult and develop programs for the conservation of each of the endangered and threatened species listed pursuant to the statute.” (*Sierra Club v. Glickman*, 156 F. 3d 606 5th Cir. 1998). The Court further clarified that “...under section 7(a)(1), each federal agency must consult with [the Service] and develop programs for the conservation of each endangered species that it can affect within its authorities.” This Decision also emphasized that section 7(a)(1) consultation must be for “each...listed species, not just...a generalized consultation.”

Other judicial findings, however, have focused on the discretionary nature of section 7(a)(1), while in some cases interpreting the lack of explicit instruction for conservation as evidence of inadequate authority to force agency action. In these cases the courts have deferred to the agency’s individual interpretation of the statute (e.g., *Platte River Whooping Crane Critical Habitat Maintenance Trust v. Federal Energy Regulatory Commission*, 962 F. 2d 27 [D.C. Cir. 1992]; *Seattle Audubon Society v. Lyons*, 871 F. Supp. 1291 [W.D. Wash. 1994]; *North West Environmental Advocates v. U.S. Environmental Protection Agency*, 268 F. Supp. 2d 1255 [D. Or. 2003]; *National Association of Homebuilders v. Defenders of Wildlife*, 127 S. Ct. 2518 [2007]). Nevertheless, even when the duty to conserve imposed under section 7(a)(1) is ruled as discretionary, it has been recognized that conservation programs must be developed and have some beneficial effect to the conservation of listed species (e.g., *Pyramid Lake Paiute Tribe of Indians v. United States Department of the Navy*, 898 F. 2d 1410 [9th Cir. 1990]).

The conservation mandate of section 7(a)(1) has most recently been confirmed in the Service's Southeast Region by the 2008 11th Circuit Court finding that "...while agencies might have discretion in selecting a particular program to conserve...*they must in fact carry out a program to conserve, and not an 'insignificant' measure that does not, or is not reasonably likely to, conserve endangered or threatened species*" (emphasis added; *Florida Key Deer v. Paulison*, 522 F. 3d 1133 (11th Cir. 2008)). Therefore, while implementation of specific conservation actions under section 7(a)(1) may be discretionary, *the duty of all Federal agencies to develop programs and implement significant actions for the conservation of listed species is not discretionary*.

Regulatory Background

Current regulations provide little guidance for implementing section 7(a)(1), simply stating: "Section 7(a)(1) of the Act directs Federal agencies, in consultation with and with the assistance of the Secretary of the Interior or Commerce, as appropriate, to utilize their authorities to further the purposes of the Act by carrying out conservation programs for listed species. Such affirmative conservation programs must comply with applicable permit requirements...for listed species and should be coordinated with the appropriate Secretary" (50 CFR 402.01).

The *Endangered Species Act Consultation Handbook (Handbook)* provides some guidance on national implementation of section 7(a)(1) applicable to reviews of major national programs or plans where project-specific information is lacking (U.S. Fish and Wildlife Service and National Marine Fisheries Service [Services] 1998, Chapter 5.1: Proactive Conservation Reviews). Such conservation reviews, however, have been primarily confined to national programs (e.g., plans, regulations) conducted or coordinated by the Washington Offices of the Services. Development of avoidance and minimization measures so that "stepped-down" (programmatic) consultations can be expedited is also described as one of the purposes of conservation review in the *Handbook*. In addition, other purposes described in the *Handbook* include the Services providing concurrence and/or recommendations for:

- A blueprint of conservation activities (including section 7(a)(2) consultations);
- Section 10 permits;
- Assistance in developing and implementing recovery plans; and,
- Assistance in candidate monitoring and management programs.

An example of such a conservation review is the Bureau of Land Management's Solar Energy Program (<http://blmsolar.anl.gov/program/laws/esa/>).

Unfortunately, many Service ecological services biologists' experience with section 7(a)(1) is limited to the discretionary Conservation Recommendation components of Biological Opinions developed under section 7(a)(2) consultations. However, while guidance for implementing section 7(a)(1) at the field level is very limited, the potential role of **interagency cooperation** in

the conservation of endangered and threatened species is recognized throughout the *Handbook*. Examples of such potential opportunities to initiate section 7(a)(1) consultations at the field level are presented below in Section V – Opportunities to Initiate and Develop a Culture of Cooperation.

III. Promoting Interagency Cooperation

Overcoming the interagency inertia that regards 7(a)(1) as a “secondary mission” and a “discretionary” responsibility requires developing and fostering relationships through significant and sustained interagency communication, coordination, and encouragement. This process has been termed “interagency lobbying” (DeShazo and Freeman 2005) and is recognized as an important mechanism for influencing agency discretion. Interagency lobbying may include State conservation agencies, Tribal governments, local governments, relevant industry groups, and/or appropriate conservation non-governmental organizations (NGOs). *Intra*-agency lobbying is also sometimes necessary to develop and maintain a unified Service vision and foster support among multiple Field Offices and Regional Offices, and between the Field and Regional Offices.

Box 3. Interagency Cooperation: Keys to Success

1. Recognize **action agency** mandates and constraints
2. Focus on areas of **mutual benefit**
3. Recognize areas of expertise and **use expert input**

Recognition of Federal Action Agency Mandates and Constraints

The first step to developing or improving interagency cooperation is recognition of each action agency’s unique mandates and constraints. Mandates imposed on Federal action agencies by Congress are important and are intended to meet the economic, infrastructure, safety, recreational, and/or other needs of the American public. Human infrastructure and actions have become a part of, not apart from, ecosystems (Alberti et al. 2003). Congress clearly recognized this fact in developing the ESA, noting that economic growth and development untempered by adequate concern and conservation had led to the extinction and endangerment of species of fish, wildlife, and plants, and, without adequate consideration, they can have serious effects on ecosystem diversity and function (see ESA section 2). *The ESA, therefore, is not intended to dismantle economic development or reverse economic growth, but, rather, is intended to find solutions, when and where possible, to their coexistence with biodiversity and ecosystems.* This will become increasingly complicated with continued human population and economic growth and requires close coordination with and cooperation between agencies to avoid or minimize future conflicts.

Constraints within Federal action agencies include conflicts between mission mandates and listed species conservation, budgetary and statutory limitations, and the perception of listed species conservation as being in conflict with the action agencies’ primary missions. These constraints are not trivial. Past conflicts have affected both the Service and action agencies by eroding trust,

limiting our inclinations to cooperate, and restricting management options to defined action areas. However, recognizing past constraints and conflicts helps focus a dialogue on opportunities to improve interagency cooperation, avoid future conflicts, and fulfill the intent of the ESA.

Regardless of the size of the action agency or its budget, funding limitations and agency priorities affect all Federal agencies, including the Service. Additionally, availability of conservation resources for endangered and threatened species conservation appears to be strongly related to regional and national funding priorities. In the Service's 2011 expenditures report to Congress, 90% of all expenditures to conserve listed species were directed to only 12% of the species (Service 2011). In fact, 60% of the tracked species received <\$100,000/species out of a total expenditure of \$1.3 billion by all State and Federal agencies. Federal action agencies also expend disparate levels of conservation effort per species (e.g., Czech and Krausman 2001; Negrón-Ortiz 2014). In 2010, more than 92% of U.S. Army Corps of Engineers expenditures for threatened and endangered species conservation (\$213 million) were directed to only 19 species (Henderson 2013). The Budget Control Act of 2011 (Pub. L. 112-25, S. 365, 125 Stat. 240; <https://www.congress.gov/bill/112th-congress/senate-bill/365/text>), budget reductions resulting from the 2013 sequestration, and similar reductions projected through 2021 send a strong signal to all Federal agencies that resources are declining, and fulfilling primary missions will be challenging. These budget constraints and disparities that are beyond Service and Federal action agency control emphasize the need for interagency cooperation to increase cost-effectiveness of conservation efforts.

In the past, the Service has attempted to use section 7(a)(2) consultations for conservation and recovery purposes, often with the support of Federal action agencies. At its core, however, section 7(a)(2) consultation is strictly intended to ensure that any specific Federal action does not bring a listed species to or below a jeopardy threshold or adversely modify its critical habitat. Section 7(a)(2) consultations must address Federal actions as they are proposed. Actions that do not include conservation features will not contribute to recovery; however, such actions may still comply with section 7(a)(2) as long as they do not appreciably reduce the likelihood of a species' survival and recovery in the wild or appreciably diminish the conservation value of designated critical habitat. Therefore, in the absence of effective conservation programs under 7(a)(1), successive actions in compliance with section 7(a)(2) consultations can lead to a progressive decline of listed species and/or their habitats (Wood 2004) and limit future options for the action agency.

To resist the progressive decline of listed species baselines, some Service offices have improperly used the mandatory measures, terms, and conditions of Incidental Take Statements, intended to reduce and monitor take within the action area, for recovery purposes. Action agencies may object to and resent the imposition of such conditions, especially when they are costly. Such attempts to achieve "conservation by take statement" have fueled, and will continue to fuel, an adversarial interagency relationship that defeats the intent of interagency cooperation

under section 7 and leads to longer consultation times, increased staffing commitments, and greater costs.

Recognizing and utilizing the potential of section 7(a)(1) conservation programs to expand the type, timing, and area of conservation opportunities can reverse this cultural conflict and stimulate cooperative and proactive conservation and recovery of ESA-listed species. Action agencies involved in section 7(a)(1) conservation programs have found that designing projects to be compatible with conservation needs of listed species and their ecosystems can be effective in ensuring an efficient section 7(a)(2) consultation process, as well as species recovery (e.g., Appendix A – Case Study 1, USACE 2013; Case Study 2, U.S. Marine Corps 2012; USACE 2015). Indeed, due in large part to conservation success of the USACE Mississippi Valley Division's section 7(a)(1) *Conservation Plan for the Interior Least Tern, Pallid Sturgeon, and Fat Pocketbook Mussel in the Lower Mississippi River* (USACE 2013, Appendix A – Case Study 1), the Service (2013) recommended delisting the Interior Least Tern.

Focus on Areas of Mutual Benefit

Multiple Federal laws, regulations, and policies require agency consideration of trust species (e.g., threatened and endangered species, migratory birds, marine mammals), and coordination with the Service relative to sensitive species, habitats, and ecosystems. Examples include, but are not limited to: National Environmental Policy Act (NEPA; 42 U.S.C. 4231 *et seq.*); USACE's Civil Works Ecosystem Restoration Policy (ER 1165-2-501); Executive Order 13186 (66 FR 3853) under the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-712); USACE's Environmental Operating Principles [<http://www.usace.army.mil/Missions/Environmental/EnvironmentalOperatingPrinciples.aspx>]; USACE's Procedures for Implementing NEPA (ER 200-2-2); and the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e). Guidance and goals are clearly defined for some of these regulations and policies; however, there is little guidance for implementing or, equally important, measuring the success of others. All of these mandates are compatible with the purposes of section 7(a)(1) and may be addressed through cooperative conservation planning.

Foremost among the concerns Federal agencies have with listed species are potential conflicts that may arise between accomplishing their primary missions and complying with ESA's section 7(a)(2) directives. Such conflicts usually involve poorly studied species where action agency and Service biologists must use their best professional judgment to assess actions, determine action effects, and recommend modifications to these actions. In cases where there is disagreement, the Service must base its recommendations on their interpretation of the best available information, sometimes resulting in the imposition of mandatory actions with which the action agency may not agree. When the public perceives such disagreement as evidence of arbitrary or capricious decisions, citizens may slow or stop Federal actions with a claim under the Administrative Procedure Act (5 U.S.C. 551-559). The section 7(a)(1) process may address both of these problems through establishment of research programs strictly oriented to action

agency information needs and by establishing an administrative record that documents decisions, supporting data, management, and conservation actions, thereby demonstrating compliance with applicable laws and regulations.

Section 7(a)(1) programs have a visible and significant potential to benefit both the species and the Federal action agency. As noted previously, section 7(a)(1) mandates that Federal action agencies develop conservation programs and provides for strategic and practical commitment of resources in implementation of conservation actions. The discretionary nature of implementation allows action agencies, in consultation with the Service, to determine the type and extent of project modifications necessary for conservation, the timing and frequency of research and monitoring efforts necessary to inform future decisions, and the type and location of mitigation for impacts of future or past agency actions on the species.

There are few examples of section 7(a)(1) conservation programs and there are no regulations or official templates to guide action agencies or the Service in their development. Therefore, in consultation, both the action agency and the Service have tremendous flexibility to identify and select the research, resource management, and monitoring options that best suit the agencies' authorities and the species' conservation needs. Apart from flexibility, other potential benefits include:

- Reducing regulatory surprises and interagency conflicts by fostering transparent, open communication and by consideration of listed species' needs and potential conflicts with agency missions early in the planning and budgetary process.
- Fostering agency commitment to actions it is predisposed to undertake, contingent upon the agency's authority and ability to fund and implement such actions.
- Creating a path to seek and justify appropriation requests for conservation actions through the normal budgetary process. Whether or not funds are appropriated, the process documents and demonstrates the agency's attempted compliance with the affirmative conservation duties under the ESA.
- Providing an avenue for adaptive management (see Box 4) and mitigation as new information is developed and made available.
- Providing a proactive, coordinated strategy that resolves listed species conflicts prior to litigation, thereby conserving resources and providing better legal service to Federal action agencies (e.g., Diner 1993).
- Creating an administrative record demonstrating the development and implementation of the section 7(a)(1) conservation program and showing consideration, planning, and commitments by the action agency in compliance with the ESA, should litigation occur. This administrative record may prevent both the action agency and the Service from appearing arbitrary and capricious in their decisions and actions.
- Supporting an increase in the species' baseline within the action agency footprint, which

diminishes or offsets the adverse effects of agency actions and, therefore, will facilitate section 7(a)(2) consultations and, more importantly, recovery of listed species.

- Increasing action agency control of the section 7(a)(2) consultation process, which can also be used to elevate realistic and cost-effective operational management commitments through the action agency's funding process.
- Facilitating increased action agency awareness of the species' status within and beyond the action area, thereby allowing the agency to predict early in the planning process if a project is likely to jeopardize the species. This provides the action agency the opportunity to consider and develop any reasonable and prudent alternatives prior to initiating the formal consultation process. Furthermore, if there are no reasonable and prudent alternatives and the action is essential to the agency's congressionally mandated mission, they will have the information necessary to seek an exemption under section 7(g) of the ESA.

Even where conservation programs achieve recovery goals, maintaining viable populations of listed species generally will require continuing at least some management commitments prior to and following delisting. Species requiring continued management have been termed "conservation-reliant species" (Scott et al. 2005, 2010; Goble et al. 2012). Section 7(a)(1) conservation programs should be developed under a vision that **recovery can be achieved** and with the intent that the action agency management approach and actions identified and incorporated into the program will be institutionalized, regardless of the species' status under the ESA (i.e., the program can also serve as a post-delisting management program).

Recognize Expertise and Use Expert Input

Section 7(a)(1) consultation should allow both the Service and action agency to use and share their expertise. The action agency is the authority on agency mission, strategy, design, and execution, and must be considered the authority on how, where, when, and to what extent actions may be modified to provide conservation opportunities and benefits. The action agency may also have species experts, in general, however, the Service is the authority on the species' biology, ecology, and habitats, and can provide insight on potential responses of the species to proposed methods and actions. The Service's regional species lead biologist should be aware of or involved in all levels of planning, as necessary. Utilizing outside experts, where appropriate, can help to alleviate and mediate conflicts. Developing mutual goals, objectives, and trust is essential to applying the full scope of interagency expertise.

IV. Conservation Program Framework

Due to the nature of section 7(a)(1) implementation, the design of conservation programs is inherently flexible and adaptable. Such flexibility allows for development of conservation programs that can be as large as the Federal action agency deems feasible and inclusion of multiple species may also be pursued, if practicable. Implementation of discrete 7(a)(1) actions

on a limited geographic/project scale can be pursued when opportunities are presented but should eventually be incorporated into a program. The goals of conservation programs should be to offset the anticipated adverse impacts from standard action agency operations and to achieve a net gain in listed species population and/or habitat baselines.

Basic conservation program objectives may also consider:

- 1) Reducing, removing, or quantifying identified threats to listed species;
- 2) Implementing recovery actions or part of a recovery action;
- 3) Acquiring information that is lacking about a potential effect of a program/action to listed species or ecosystems;
- 4) Acquiring information necessary to develop measures to significantly increase the likelihood of recovery or avoid/minimize a threat (potential or ongoing) to listed species.

Minimal conservation program considerations and components should include:

- 1) Defining action agency authorizations, primary missions, operations, and actions;
- 2) Defining the species' range-wide status baseline and data limitations;
- 3) Defining the species' baseline and data limitations relative to the agency's program action area/footprint, including a description of all applicable past, present, and future program actions that may affect the species or its habitats;
- 4) Identification and consideration of operations scenarios and potential conservation opportunities (including minimization, mitigation, and restoration actions);
- 5) Conducting an effects analysis (including cumulative); culminating in,
- 6) A programmatic process incorporating elements of adaptive management (see Box 4) to: address data needs; modify or implement actions to conserve the species and its habitats; and improve those baselines within the footprint of the program.

In addition, the final conservation program design should be thoroughly integrated into the action agency's operations to an extent that it provides for post-recovery management/monitoring.

The resulting conservation design and strategy must have the complete support of both the action agency and the Service, and recognize that both agencies bring important components and expertise into the process. It must also be clearly understood and noted that Federal agency conservation programs developed under section 7(a)(1) of the ESA are intended to assist Federal agencies and their potential partners in planning and implementing actions to protect and recover endangered or threatened species that may be beneficially affected by agency activities. Conservation measures outlined within the plan serve as a guide for meeting the goals and objectives of the program and do not obligate any party, including the action agency, to undertake specific actions at specific times. Rather, implementation of these conservation

Box 4. Elements of Adaptive Management: Deliberation with Analysis

The Service's Strategic Habitat Conservation (SHC) approach uses an adaptive management framework (Service 2008; Williams et al. 2009). Adaptive management is a collaborative, multidisciplinary approach that treats actions and policies as testable hypotheses from which learning derives, and that subsequently provides the basis for changes in actions and policies (Stankey et al. 2005). Developing a *sensu stricto* adaptive management program for listed species is seldom a realistic option (see Doremus 2001; Runge 2011). Reasons for this may include, but are not limited to:

- Lack of basic life history and habitat information for many listed species;
- Lack of dedicated funding for research and monitoring;
- Practical constraints due to action agency missions (e.g., maintaining public safety and infrastructure integrity); and,
- High levels of uncertainty in predicting or measuring species and/or habitat responses.

However, elements of adaptive management can be incorporated into section 7(a)(1) conservation programs under a decision support and learning process that has been termed "deliberation with analysis" (National Research Council [NRC] 2009). Deliberation with analysis is described as "an iterative process that begins with multiple participants to a decision working together to define objectives and other parameters, working with experts to generate and interpret decision-relevant information, and then revisiting the objectives and choices based upon that information" (NRC 2009, p. 73). Furthermore, deliberation with analysis's decision support framework explicitly considers "multiple actors with different objectives and partly conflicting values" (p. 78) while "emphasiz[ing] wide participation...among affected parties" (p. 80).

measures is contingent upon opportunity and annual appropriations and/or other budgetary constraints.

Service Review of Conservation Programs

Section 7(a)(1) conservation programs do not, and were not intended to, take the place of section 7(a)(2) consultations. If, as per section 7(a)(2), actions proposed in a section 7(a)(1) conservation plan are not likely to adversely affect any endangered or threatened species, the Service's review and evaluation of the program may be transmitted by a letter of concurrence under the informal consultation process. Any adverse effect to the species that may result from agency actions must be considered and addressed via the section 7(a)(2) formal consultation process (see Services 1998); however, this consultation process will be streamlined due to the overall net benefit that should accrue to a species under the section 7(a)(1) program. Additional information concerning components of a Service review is presented in Appendix C.

V. Opportunities to Initiate and Develop a Culture of Cooperation

There are many potential avenues to pursue higher levels of interagency cooperation in the conservation of threatened and endangered species and other species at risk, and to initiate discussion of section 7(a)(1) conservation opportunities. Sustained interagency contact, coordination, and encouragement under any of these avenues may be required to overcome interagency inertia to fully addressing “secondary” missions and the conservation mandates of the ESA. These opportunities include:

- Existing Biological Opinions (e.g., see USACE 2017, Fat pocketbook mussel, Appendix A – Case Study 3; USACE 2016, Interior Least Tern, Appendix A – Case Study 4);
- Biological Assessments (e.g., U.S. Marine Corps 2012, Red-cockaded Woodpecker, Appendix A – Case Study 2);
- National Environmental Policy Act documents;
- Fish and Wildlife Coordination Act Reports;
- U.S. Army Corps of Engineers Documents such as Feasibility Studies; General and Detailed Design Reports; Operation, Maintenance, Repair, Replacement, and Rehabilitation Manuals; Master Plans; Operational Management Plans; Water Control Manuals; and Shoreline Management Plans;
- Integrated Natural Resource Management Plans (e.g., see U.S. Army National Guard et al. 2003, Camp Shelby burrowing crayfish, Appendix A – Case Study 5);
- U.S. Forest Service Land Management Plans and individual Forest Management Plans (e.g., see U.S. Army National Guard et al. 2003, Camp Shelby burrowing crayfish, Appendix A – Case Study 5);
- Bureau of Land Management and Bureau of Reclamation Resource Management Plans;
- Federal Energy Regulatory Commission Licenses;
- Species Status Assessments (e.g., see U.S. Army National Guard et al. 2003, Camp Shelby burrowing crayfish, Appendix A – Case Study 5);
- 5-year Reviews (e.g., see USACE 2016, Interior Least Tern, Appendix A – Case Study 4);
- Recovery Planning.

Seeking earlier and greater levels of involvement of Federal action agencies in the candidate assessment, listing and recovery planning, and implementation processes could also facilitate interagency cooperation. Early involvement in the candidate assessment and listing processes may result in Federal agency action modifications and management programs that alleviate threats prior to listing (e.g., Camp Shelby burrowing crayfish, Appendix A – Case Study 5), or that can prepare the agency for action modification and collaborative conservation planning post-listing. More involvement in the recovery planning process by agencies with potential to impact a listed species could constitute early initiation of consultation under section 7(a)(1), facilitating

the development of conservation programs. This could result from recovery planning discussions emphasizing Federal agency responsibilities under the statute, evaluating potential action agency effects on the species, identifying appropriate conservation goals and timelines, and initiating a logical institutional relationship between conservation and action agency activities as well as between the agency and the Service. The Service's SHC approach and strategy (Service 2008) also offers opportunities to retroactively and purposefully engage Federal action agencies in developing and implementing conservation strategies for species where recovery planning has been completed (e.g., Lower Mississippi River Conservation Plan 2013, Appendix A – Case Study 1). See also Appendix D, which highlights opportunities for cooperative conservation throughout the ESA process.

VI. Conclusion

Section 7(a)(1) is not intended to impede the agencies' accomplishment of their primary missions. Instead, section 7(a)(1) requires Federal agencies to review their authorities, and, in consultation with the Service, develop programs that will operate to conserve listed species in a manner consistent with the accomplishment of the agencies' mandates. Section 7(a)(1) conservation is not a novel approach, and its potential and under-utilization to create effective species recovery programs has been recognized by a variety of legal scholars (e.g., Eider-Orley 1978; Ruhl 1995; O'Neill 1999-2000; Wood 2004; Gersen 2009).

Section 7(a)(1) is not an alternative to section 7(a)(2), but, rather, it has the potential to complement, streamline, and facilitate section 7(a)(2) consultations through addressing cumulative and direct impacts, filling data gaps, mitigating the adversarial process between agencies, and fulfilling legal obligations while reducing agencies' vulnerabilities to litigation. With section 7(a)(1), adverse actions can be cost-effectively compensated or mitigated, and conservation of listed species can be achieved. The reduction of interagency conflict that results from conservation planning, will allow refocusing efforts towards the species as intended by the ESA, and recovery actions can be cost-effectively incorporated into an action agency's standard operations. Where successfully implemented, section 7(a)(1) programs will lead to higher levels of Federal action agency stewardship, and result in improved species baseline statuses, recovery, and post-delisting management (see Appendix A).

While previous attempts to incorporate section 7 conservation into Service and action agency business models have met with mixed success, expected recovery needs and costs for listed species are far outpacing Federal conservation budgets. Nationwide, between 2009 and 2012, over 700 species were petitioned for listing as threatened or endangered under the ESA, with more than 400 of these species occurring within the Service's Southeast Region; (e.g., Center for Biological Diversity 2010; Center for Biological Diversity et al. 2010, 2012). Processing and making decisions regarding species included in these petitions have outpaced the Service's ability to comply with mandated deadlines. Further, because many of the same Service staff processing these petitions are the same with recovery responsibilities, the Service's ability to

meet recovery objectives for species that are already listed is strained (Jesup 2013, 2014). Additional listings will add to these difficulties. Improved collaborative relationships between the Service and action agencies fostered by section 7(a)(1) consultations for currently listed species also have the potential to identify and address threats to candidate species and other at-risk species prior to listing. Interagency cooperation under section 7 presents a timely and viable option to reduce costs and improve conservation results. It is incumbent upon the Service's Ecological Services Program to promote a culture of interagency cooperation in the recovery of endangered and threatened species.

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APPENDIX A – CASE STUDIES

All case studies identified below are available at <https://www.fws.gov/mississippies/>

Case Study 1 – U.S. Army Corps of Engineers. 2013. Conservation plan for the Interior least tern, pallid sturgeon, and fat pocketbook mussel in the Lower Mississippi River. Mississippi Valley Division, Vicksburg, MS.

SUMMARY

For more than a decade, the U.S. Army Corps of Engineers (USACE) worked with the U.S. Fish and Wildlife Service (Service) and state conservation agencies under section 7(a)(1) of the Endangered Species Act (ESA) to identify and resolve endangered species and ecosystem management issues associated with USACE Lower Mississippi River (LMR) Channel Improvement Program (CIP). The primary mission of the CIP is to provide flood risk management infrastructure and to facilitate navigation. During this extended consultation process it became apparent to both the Service, USACE and their State partners that the activities conducted under the CIP could be the most important and cost-effective tools to maintain and enhance the ecological functions necessary for three endangered species: the Interior least tern (*Sternula antillarum*), pallid sturgeon (*Scaphirhynchus albus*), and fat pocketbook mussel (*Potamilus capax*). This transformation was accomplished by considering and incorporating ecological engineering opportunities during the design phase of channel improvement and channel maintenance projects. Early consideration of conservation designs resulted in minimizing adverse effects as well as localized improvements in habitat function and value for the three species, with little to no effect on flood risk management, navigation, or project cost. USACE also opportunistically implemented cost-effective secondary channel restoration actions in the LMR by sharing responsibilities and resources with partner agencies and NGOs. Cumulatively, both the site-specific engineering actions and the restoration opportunities have significantly benefitted the habitat and population baselines of the three endangered species, as well as benefitting other channel wildlife and enhancing recreational opportunities. USACE subsequently adopted engineering practices beneficial to the species and the cooperative planning process as Best Management Practices of the CIP. As a result, the CIP of the Mississippi River and Tributaries project has become the primary mechanism to maintain and improve habitat values within the LMR for recovery of endangered and other trust species inhabiting the river channel. In addition, due in large part to the conservation success of the CIP, the Service recommended delisting the Interior Least Tern. This section 7(a)(1) program also demonstrates compliance with USACE Environmental Operating Principles, Civil Works Ecosystem Restoration Policy (ER 1165-2-501), and the conservation intent of Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds.

This document is available at

https://www.fws.gov/mississippies/pdf/1_USACE_LMR_Conservation.pdf

Case Study 2 – U.S. Marine Corps. 2012. Red-cockaded woodpecker (*Picoides borealis*) recovery and sustainment program. Marine Corps Installations East, Marine Corps Base Camp Lejeune.

SUMMARY

The primary purpose of the Red-cockaded Woodpecker (RCW) Recovery and Sustainment Program (RASP) was to develop an achievable process in compliance with the ESA that allowed Marine Corps Installations East – Marine Corps Base Camp Lejeune (MCB Camp Lejeune) Range and Training Area (RTA) to be developed or reconfigured in a timely manner to maintain and enhance operational and training flexibility. The RASP was developed by a team that included MCB Camp Lejeune and U.S. Fish and Wildlife Service (Service) personnel with contractor support in the format of a Biological Assessment (BA), which was the basis for a Biological Opinion by the Service.

According to the 2003 RCW Recovery Plan, the CNCPC recovery objective is 350 RCW potential breeding groups distributed among MCB Camp Lejeune, Croatan National Forest, and the North Carolina Department of Wildlife Conservation Commission's Holly Shelter Game Land. Attaining the recovery population size objective requires habitat restoration with RCW recruitment clusters to induce new RCW groups and to increase population size. The RASP established a process by which other spatially appropriate properties with the potential to increase the RCW population are being identified, evaluated, protected, and managed in perpetuity, thereby enhancing the recovery of the Coastal North Carolina Primary Core (CNCPC) RCW population. Under the RASP the Marine Corps enters into agreements or contracts with agencies, non-government organizations or private landowners to fund the management of RCW on off-base properties. This implementation may include purchase of conservation easements, and/or funding of short and long-term management costs directly or through a third party.

MCB Camp Lejeune continues to manage habitat to sustain and increase RCWs on the installation. During Section 7 evaluations of proposed MCB Camp Lejeune training actions, however, the affected baseline now includes all protected and managed habitat and future RCW clusters on RASP properties that provide a biological function to the CNCPC population, including off-base benefits that have accrued due to the program. This is in contrast to previous consultations, which were conducted entirely "within the fence" of MCB Camp Lejeune. This RCW conservation program is expected to benefit MCB Camp Lejeune by reducing restrictions on military training through effectively increasing the amount of the CNCPC population goal that is supported on other conservation land and reducing the goal on lands required for military training.

MCB Lejeune currently is in the process of securing management and funding to support two off-base RASP properties with a potential future RCW population segment of 54 potential

breeding groups. As supported by spatially explicit individual-based RCW population and landscape modeling, the Service has concurred that both properties with future RCWs will function with and contribute to CNCPC population recovery.

This document is available at

https://www.fws.gov/mississippi/ pdf/2_USMC_7a1_plan_9_July_2012.pdf

Case Study 3 – U.S. Army Corps of Engineers. 2017. Conservation plan for the endangered fat pocketbook mussel in the St. Francis River Basin. Memphis District, Memphis, TN.

SUMMARY

The science, information, and collaboration used to develop this conservation program was initiated through a series of formal and informal consultations under section 7(a)(2) of the Act. Over the past century, the St. Francis River system and watershed has been largely converted from a bottomland hardwood drainage ecosystem into an agricultural drainage system. USACE is congressionally mandated to work with local drainage districts to maintain drainage and flow through this network. Although modification has been on a landscape level, the drainage network continues to function as a riverine aquatic ecosystem supporting numerous native species, including the endangered fat pocketbook mussel (FPM), and to provide other important ecosystem services.

For over a decade, the USACE Memphis District (MVM) has worked with the Service and other parties to resolve issues associated with construction and maintenance activities in the St. Francis River Basin and suspected impacts to the endangered FPM. This has primarily been accomplished through consultations under section 7(a)(2), as well as through collaborative efforts to identify and resolve information gaps and research needs. The information derived from these efforts has led to a better understanding of local and Basin-wide patterns of FPM response to ditch construction, operations, and maintenance actions.

The goal of this USACE-MVM conservation plan is to contribute to the conservation of the FPM through management of the network of ditches and floodways in the St. Francis River Basin. The objectives are to:

- Utilize and continue to develop ecological and engineering data to increase understanding of FPM and the St. Francis River ecosystem;
- Identify, implement, and, when appropriate, modify reasonable, prudent, and cost-effective channel maintenance, management, and monitoring practices that maintain or improve channel habitat values for the FPM and other native species;
- Work with the drainage districts and other partners to develop and apply data and Best Management Practices; and,
- Establish a management program that will continue to benefit the FPM, its ecosystem, and associated species regardless of the status of the species under the ESA.

This document is available at

https://www.fws.gov/mississippi/pdf/3_MVM_FPM_Conservation_Plan_2017.pdf

Case Study 4 – U.S. Army Corps of Engineers. 2016. Conservation plan for the Interior least tern in the Arkansas, Canadian, and Red River Basins. Southwestern Division, Dallas, TX; Tulsa and Little Rock Districts.

SUMMARY

For more than a decade the USACE Southwestern Division Tulsa and Little Rock Districts and Southwestern Power Administration have worked with Service under section 7(a)(2) of the Act to identify and resolve ecosystem management issues and endangered species conservation, associated with USACE civil works projects in the Arkansas, Canadian, and Red River systems within Arkansas, Oklahoma, and Texas. These projects provide flood risk management, hydropower, and facilitate navigation in the McClellan-Kerr Arkansas River Navigation System (MKARNS). In the 2013 5-year review of the status of Interior least tern (ILT), USFWS recommended removing the species from the Federal list of endangered and threatened species due to recovery. Prior to delisting, however, USFWS recommended developing conservation agreements with USACE Divisions within the range of the ILT committing to post-delisting monitoring and management. The purpose of this ESA Section 7(a)(1) Conservation Plan is to identify and commit to continue operational modifications incorporated into USACE operations and navigation projects that benefit the ILT. Operational modifications identified in the conservation plan resulted from a series of formal consultations between USACE and the Service under section 7(a)(2) of the Act. This Southwestern Division plan commits to continue:

- The use of reservoir storage and operational flexibility to reduce flooding of nesting habitats below dams during nesting season and for ILT habitat restoration and maintenance off season;
- Maintenance dredge material to develop or improve nesting islands at appropriate locations within river channels;
- Vegetation control on nesting habitats;
- Targeted monitoring of ILTs during the nesting season;
- Collaboration with the Service and other partners to periodically monitor and measure habitat;
- Working with State and other partners to minimize human disturbance of nesting ITLs; and,
- Working with other Federal and State agencies and NGOs in sharing restoration, research, and monitoring responsibilities and costs through partnerships.

The Southwestern Division Tulsa and Little Rock Districts committed to continued implementation of the strategies and actions outlined above, following removal of the ILT from the protections of the ESA due to recovery, as opportunities within authority and funding allow.

This document is available at

https://www.fws.gov/mississippies/pdf/4_USACE_SWD_Plan_2016.pdf

Case Study 5 – U.S. Army National Guard, U.S. Forest Service, U.S. Fish and Wildlife Service, Mississippi Department of Wildlife, Fisheries, and Parks. 2003. Candidate conservation agreement for the Camp Shelby burrowing crayfish. U.S. Fish and Wildlife Service, Mississippi Field Office, Jackson, MS.

SUMMARY

This Candidate Conservation Agreement (CCA) for the Camp Shelby burrowing crayfish (CSBC), *Fallicambarus gordonii*, was developed as a cooperative effort between State and Federal resource agencies to identify and implement management measures and commitments necessary for the conservation of the species. Over the years, implementation of this CCA has significantly reduced or eliminated known and potential threats to the CSBC and its habitat.

The CSBC has a small, naturally limited range, typical of most species of *Fallicambarus*, wholly within a localized portion of the Leaf River watershed in central Perry County, Mississippi, on properties of the De Soto National Forest. All of this area is currently under lease to the Mississippi Army National Guard's (MSNG) Camp Shelby for troop and tank training grounds. Vulnerable to certain silvicultural activities by the USFS, as well as to entombment from MSNG tank and troop maneuvers, the goal of the CCA was to define the distribution and habitats of CSBC, and to protect and improve these habitats such that any known or potential threats were eliminated or reduced to the degree that the species would not become threatened or endangered within the foreseeable future.

Surveys by MSNG and others since development of the plan have identified multiple locations supporting CSBC. All locations of occurrence are associated with pitcher plant bogs and adjacent wetlands, and densities of the species are directly correlated with the condition of the habitat. Pitcher plant bogs and wetlands are easily delineated, and there are well-developed management actions that have been shown to maintain and improve the bog habitat (e.g., periodic burning, select timber removal, etc.). Therefore, the conservation actions have focused on protection, management and improvement of the pitcher plant bog and associated wetland habitats of the CSBC. Information obtained from surveys, habitat management, and monitoring has increased our understanding of the CSBC and its management needs, and this knowledge has been applied through periodic assessment and modification of conservation actions as appropriate. Continued monitoring indicates that CSBC populations have responded favorably to management, thus ensuring the conservation of the CSBC and precluding the need for its protection under the ESA. Management and monitoring efforts are being continued under the De Soto National Forest Management Plan and the Mississippi National Guard Integrated Natural Resource Management Plan.

This document is available at

https://www.fws.gov/mississippi/pdf/5_CSBC_final_CCA_with_signatures.pdf

APPENDIX B – DEFINITIONS

Action: An activity or program of any kind authorized, funded, or carried out, in whole or in part, by a Federal agency in the United States or upon the high seas, such as: (a) an action intended to conserve listed species or their habitat; (b) the promulgation of a regulation; (c) the granting of a license, contract, lease, easement, right-of-way, permit, or grant-in-aid; or (d) an action directly or indirectly causing modification to the land, water, or air.

Action Agency: The Federal agency authorized and funded to conduct or permit activities that may positively or negatively affect a listed species population or habitats.

Adverse Effect: A negative effect to a listed species or its habitat resulting from a specific action.

Adverse Modification/Destruction of Critical Habitat: A direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and **recovery** of a **listed species**.

Baseline (Species or Habitat): Species baseline refers to population estimates and distribution at a particular time, such as when a species is listed, at the time of a consultation under section 7(a)(2), or at the time a conservation plan is developed. Habitat baseline refers to habitat conditions, suitability, and/or extent at a particular time.

Biological Assessment: A document prepared for the section 7 process to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.

Biological Opinion: A document stating the opinion of the U.S. Fish and Wildlife Service or National Marine Fisheries Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Conservation: The use of methods and procedures necessary to bring any endangered or threatened species to the point at which the measures provided under the ESA are no longer necessary; includes research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transportation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Conservation Action: An action limited in scale, scope, and/or timing that is incorporated into a Federal project or program and designed to reach project or program objectives as well as conservation goals. Previously implemented actions may be combined to create a **conservation plan** or **program** as appropriate.

Conservation Plan/Program: Conservation Plans or Programs consist of goals, strategies, and actions to maintain and/or improve the population or habitat baselines of one or more

endangered or threatened species within the scope of Federal agency authorities.
Conservation Plans may also serve as the biological evaluation or assessment for section 7(a)(2) consultation on the program or plan.

Conservation Recommendation: A suggestion that the U.S. Fish and Wildlife Service or National Marine Fisheries Service may provide with a **biological opinion** describing discretionary **conservation actions**; it is advisory and does not carry any binding legal force.

Conservation Review: A review that is undertaken by the Service of any **Conservation Plan** or **Program** that is developed by a Federal agency under authority of section 7(a)(1) (see Appendix C).

Consultation: The process required of a Federal agency under section 7 of the ESA when any activity authorized, carried out, or conducted by that agency may affect a listed species or designated critical habitat; consultation is with the U.S. Fish and Wildlife Service or National Marine Fisheries Service and may be either **informal** or **formal**.

Critical Habitat: Specific geographic areas that are essential for the conservation of a **listed species** and that have been formally designated by rule published in the Federal Register.

Formal Consultation: The required process under section 7 of the ESA between the U.S. Fish and Wildlife Service or National Marine Fisheries Service and a Federal agency or applicant conducted when a Federal agency determines its action is likely to adversely affect a listed species or its critical habitat; used to determine whether the proposed action is likely to jeopardize the continued existence of listed species or adversely modify critical habitat. This determination is stated in a biological opinion.

Informal Consultation: An optional process that includes all discussions, correspondence, etc., between the U.S. Fish and Wildlife Service or National Marine Fisheries Service and the Federal agency or the designated non-Federal representative prior to formal consultation, if required.

Jeopardy: The determination by the U.S. Fish and Wildlife Service or National Marine Fisheries Service that a Federal action is likely to jeopardize the continued existence of a **listed species** or result in the destruction or adverse modification of critical habitat.

Listed Species: A species, subspecies, or distinct population segment that has been added to the Federal list of endangered and threatened wildlife and plants.

Recovery: Improvement in the status of a **listed species** to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act. Said another way, recovery is the process by which species' ecosystems are restored and/or threats to the species are removed so self-sustaining and self-regulating populations of listed species can be supported as persistent members of native biotic communities.

Recovery Plan: A document drafted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other knowledgeable individual or group, that serves as a guide for

activities to be undertaken by Federal, State, or private entities in helping to recover and conserve **listed species**.

Take: To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

APPENDIX C – SERVICE REVIEW OF CONSERVATION PROGRAMS

Section 7(a)(1) consultations and negotiations must include the Service’s lead biologist(s) for the target species as well as the appropriate consultation biologist(s) and may also include other entities as mentioned in Section III – Promoting Interagency Cooperation. If there are no adverse effects to the species that may result from implementation of the program, the Service’s review and evaluation may be transmitted in a formal letter of response. If adverse effects may occur (e.g., through monitoring) the review and evaluation must be transmitted in the form of a biological opinion authorizing the take, per section 7(a)(2). Regardless, the Service review must clearly show how we analyzed the effects of the conservation program and determined that the program will aid in the recovery of a listed species (i.e., something greater than an “insignificant effect” to the species baseline).

Minimal considerations and components of a conservation review should include:

1. How anticipated adverse impacts from an agency’s action or operations may be offset and a net gain in the baseline can be accomplished;
2. Documentation of any actions within the program that may not result in a net benefit to the species, as well as actions that will be less of a benefit than is suggested by the program;
3. Acknowledgment of any factors that determine the implementation of discretionary actions;
4. Adequacy of monitoring; and,
5. How program implementation and monitoring results will be transmitted to the Service (e.g., annual reports, routine interagency meetings, etc.).

Since the conservation program is developed in a cooperative environment (i.e., consultation) with the Service these considerations and components should be clear prior to Service review of the program. Any future section 7(a)(2) review or consultation on program actions must consider and should reference the action agencies conservation program.

APPENDIX D – SECTION 7(a)(1) AND COOPERATIVE CONSERVATION OF LISTED SPECIES

Early and Often: Opportunities for
Federal Action Agency Involvement
in ESA-Listed Species Conservation

