Recovery Planning Handbook

Version 1.0




U.S Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

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NOAA FISHERIES

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Preface

This Recovery Planning Handbook was developed by the National Marine Fisheries Service (NMFS) with input from the U.S. Fish and Wildlife Service (FWS) (together, the Services). For NMFS, this Recovery Planning Handbook supersedes both the 1992 NMFS Recovery Planning Guidelines (NMFS 1992) and the NMFS Interim Endangered and Threatened Species Recovery Planning Guidelines, versions 1.0 – 1.4 (NMFS 2004-2018). In addition, this handbook reflects NMFS' withdrawal from the 1994 joint Interagency Cooperative Policy on Recovery Plan Participation and Implementation Under the Endangered Species Act (59 FR 34272; FWS and NMFS 1994c) made on April 30, 2019 (84 FR 18243). A drafting team representing extensive recovery experience in regional and national offices in NMFS drew on their own experience, that of their peers, and scientific literature to develop this handbook.

Draft and approved recovery plans are maintained in the following online database: NMFS Recovery Plans.

List of Acronyms

APA	Administrative Procedure Act
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CWA	Clean Water Act
DIC	Division of International Conservation
DPS	Distinct Population Segment
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FACA	Federal Advisory Committee Act
FDMS	Federal Docket Management System
FOIA	Freedom of Information Act
FR	Federal Register
FWS	U.S. Fish and Wildlife Service
GAO	Government Accountability Office
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
IQA	Information Quality Act
IWC	International Whaling Commission
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAO	NOAA Administrative Order
NCTC	National Conservation Training Center
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NWFSC	Northwest Fisheries Science Center

OMB	Office of Management and Budget
OPR	Office of Protected Resources
OSP	Optimum Sustainable Population
PEIS	Programmatic Environmental Impact Statement
PRA	Paperwork Reduction Act
PVA	Population Viability Analysis
RAMT	Recovery Action Mapping Tool
RIS	Recovery Implementation Strategy
RO	Regional Office
RPI	Recovery Planning and Implementation
SSA	Species Status Assessment
SSC	The Skagit System Cooperative
TBD	To be determined
TOR	Terms of Reference
TRT	Technical Recovery Teams
U.S.	United States
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
VP	Viability Parameters

1 Introduction to Recovery Planning

The purpose of this document is to guide NMFS staff in recovery planning and implementation activities under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq*.)[1]. It provides overarching guidance applicable to recovery efforts in order to achieve consistency in the format of and approach to recovery plans, but recognizes the need for flexibility to accommodate the unique circumstances of each species. Beyond the three statutory requirements of a recovery plan described at 1.3.1, The Legal Basis for Recovery Planning below, NMFS has considerable discretion in developing and implementing recovery plans. There is flexibility in the process for developing a recovery plan (via expert input, recovery team, etc.), the means or options a plan presents to achieve recovery, and how it is implemented. In order to serve its purpose, a recovery plan must describe a feasible and effective pathway to recovery, be as practical as possible, be clearly written and easily understood, and have the buy-in of those who have the authority to implement it. Staff biologists involved in recovery planning should view this as an opportunity to use their creativity and ingenuity to design an effective and practical recovery program for each species, and to keep the plan updated as it is implemented.

Recovery plans are guidance documents, not regulatory documents. The ESA clearly envisions recovery plans as the central organizing tool for guiding each species' recovery process and identifying the endpoint of this process by defining criteria designed to assess when recovery of the species has been achieved. However, no agency or entity is required by the ESA to implement particular actions in a recovery plan.

1.1 How to use this Handbook

This document provides staff with a comprehensive guide for developing recovery plans, as well as information for implementing them. It encapsulates all aspects of recovery planning, from pre-planning considerations to implementation, and discusses means to ensure that plans are written in such a way that they are most likely to be implemented.

Staff who are new to recovery planning may benefit by reading through the entire document prior to initiating the recovery planning process. Others may use this handbook as a reference to answer specific questions during the process.

A list of acronyms and a glossary of terms are included at the beginning and end, respectively. Where content refers to the "Services" it applies to both National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS); otherwise, it applies only to NMFS.

1.2 Why Develop Recovery Plans?

The purpose of a recovery plan is to provide a roadmap for a species' recovery, with the goal of improving its status and managing threats to the point at which protections under the ESA are no longer needed. A recovery plan helps to identify, organize, coordinate, and prioritize recovery actions, and is therefore an important tool to ensure sound scientific and strategic decision-making occurs throughout the recovery process. The importance of a recovery plan as a guiding

[1] The Marine Mammal Protection Act (MMPA) requires the development of conservation plans for 'depleted' marine mammal species (16 U.S.C. 1383b(b)) and states that those plans should be modeled after ESA recovery plans. For marine mammal species that are also listed as threatened or endangered under the ESA, the same plan may serve both purposes (see Chapter 2.4.3, Marine Mammals).

document is particularly compelling when considered against the timeframe over which recovery takes place, which may be several decades.

Section 4(f) of the ESA requires the Services to develop and implement recovery plans "…for the conservation and survival…" of listed species. The ESA requires inclusion of the following in each recovery plan: recovery actions, recovery criteria, and estimates of time and costs to achieve the plan's goal (see 1.3.1, The Legal Basis for Recovery Planning). In order to provide context for the recovery criteria and actions in a plan (and the overall strategy for recovery), recovery plans have also traditionally identified and assessed aspects of the species' biology, life history, and threats that are pertinent to its endangerment and recovery. This has traditionally constituted the Background section of a recovery plan. NMFS has the option to capture this background information in a separate document (see 1.4.1, Differing Approaches to Recovery Plan Content and Format) or include a Background section in the recovery plan, if desired.

Recovery plans help to inform and guide other ESA programs and activities, such as Section 6 conservation programs; Section 7(a)(1) and 7(a)(2) interagency consultations; Section 10 conservation plans (also referred to as Habitat Conservation Plans (HCPs)); Safe Harbor Agreements; designation of experimental populations; and Section 4(d) protective regulations for threatened species. Likewise, the programs and decisions taken under other sections of the ESA may inform the recovery planning process. All of these ESA programs and activities work together to recover the species (see Chapter 9, Integrating Recovery and Other ESA Programs).

Finally, recovery plans serve as communication and outreach tools. A well-written recovery plan and its associated documents should further understanding and awareness of the species' needs by articulating the reasons for a species' endangerment, as well as why the particular suite of recovery actions is believed to be the most effective and efficient approach to achieving survival and recovery of the species. This can help potential partners and stakeholders understand the rationale behind the recovery actions, and assist them in identifying how they can facilitate recovery. Recovery plans can also assist the Services and our partners in obtaining support for funding recovery actions.

1.3 Legal Standards and Policy Guidance for Recovery Planning

The statutory language of the ESA, NMFS policies, various other federal laws and international treaties, and relevant case law guide recovery planning. There are no specific regulations that address recovery, other than the definition of recovery in the Services' Interagency Cooperation regulations (see 50 CFR 402.02). Attorneys in the National Oceanic and Atmospheric Administration (NOAA) Office of General Counsel can assist with finding and understanding federal laws, policies, and case law that may apply to your recovery effort.

1.3.1 The Legal Basis for Recovery Planning

The ESA calls for the development and implementation of recovery plans to provide "for the conservation and survival" of listed species. Recovery plans are required under Section 4(f) unless the Services find that developing a recovery plan would not promote the conservation of the species (see Chapter 2.3, Determining when an Exception or Deferral of a Recovery Plan is Applicable). Such a situation is expected to be rare.

Section 4(f)(1)(B) of the statute requires three components to be included in recovery plans, to the maximum extent practicable:

- Recovery actions - “A description of such site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species”
- Recovery criteria - “Objective, measurable criteria which, when met, would result in a determination . . . that the species be removed from the list”
- Time and cost estimates - “Estimates of the time required and the cost to carry out those measures needed to achieve the plan’s goal and to achieve intermediate steps toward that goal.”

Section 4(f)(4) of the statute also requires certain procedures for developing recovery plans:

- Public notice and an opportunity for public review and comment on new or revised recovery plans prior to final approval of the plan
- Consideration of all information presented during the public comment period prior to final approval of the plan.

Subsequent chapters of this handbook provide additional information on how to meet these requirements. See **Box 1-1** for additional information on the statutory and regulatory provisions applicable to recovery planning.

Box 1-1: Key Statutory and Regulatory Provisions for Recovery Planning

- ESA Section 4(f)(1) -- The Services “shall develop and implement plans . . . for the conservation and survival of endangered species and threatened species . . . unless [they] find[ ] that such a plan will not promote the conservation of the species.”
- ESA Section 3(3) -- The term “conservation” means, in part, “to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary.”
- Service joint regulations at 50 CFR 402.02 - The term “recovery” means “improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in Section 4(a)(1) of the [ESA].”
    - The “criteria set out in Section 4(a)(1)” means determining when a species no longer meets the definition of an “endangered species” or a “threatened species” because of any of the following factors:
      (A) present or threatened destruction, modification, or curtailment of habitat or range;
      (B) overutilization for commercial, recreational, scientific, or educational purposes;
      (C) disease or predation;
      (D) inadequate existing regulatory mechanisms; and
      (E) other natural or manmade factors affecting the species’ continued existence.
- An endangered species is “in danger of extinction throughout all or a significant portion of its range” (see ESA Section 3(6)).
- A threatened species is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (see ESA Section 3(20)).

Box 1-1: Key Statutory and Regulatory Provisions for Recovery Planning *Cont.*

- ESA Section 4(f)(1)(A) – Priority is to be given, to the maximum extent practicable, to "species, without regard to taxonomic classification, that are most likely to benefit from such plans, particularly those species that are, or may be, in conflict with construction or other development projects or other forms of economic activity."
- ESA Section 4(f)(1)(B) – Each plan must include, to the maximum extent practicable,
  - (i) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;
  - (ii) objective, measurable criteria which, when met, would result in a determination . . . that the species be removed from the list; and
  - (iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.
- ESA Section 4(f)(2) – To assist in the development and implementation of recovery plans, the Services may procure the assistance of other qualified persons inside or outside of the federal government, and may appoint recovery teams, which may include non-Service participants, and which are not subject to the Federal Advisory Committee Act (FACA).
- ESA Section 4(f)(3) - The Services are required to report to Congress every two years on the status of developing and implementing recovery plans and the status of species for which a plan has been finalized. This is sometimes referred to as the Biennial Report to Congress.
- ESA Section 4(f)(4) – The Services must "provide public notice and an opportunity for public review and comment" on any new or revised recovery plan and "consider all information presented during the public comment period prior to approval of the plan."
- ESA Section 4(f)(5) – Prior to implementation of a new or revised recovery plan, each Federal agency must "consider all information presented during the public comment period."

1.3.2 Recovery Policies

A number of policies are relevant to various aspects of recovery planning and implementation. These include, but are not limited to, the following:

- **April 30, 2019, NMFS Endangered and Threatened Species; Listing and Recovery Priority Guidelines (83 FR 18243)** [2]. This policy supersedes the June 15, 1990 (55 FR 24296), policy for NMFS' system for prioritizing development and implementation of recovery plans. Priority for developing plans is based on demographic risk, recovery potential (major threats understood; U.S. jurisdiction, authority, or influence exists; certainty that management or protective actions will be effective), and existence of conflict with development or other economic activity. The policy also includes a system for prioritizing recovery actions and other actions within a plan.
- **July 1, 1994, Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities (59 FR 34270).** This policy states that the Services will, among other things, solicit independent peer reviewers to obtain scientific and commercial data during development of draft recovery plans, use independent peer review of scientific

[2] NMFS withdrew from the July 1, 1994, Interagency Cooperative Policy on Recovery Plan Participation and Implementation under the Endangered Species Act (59 FR 34272) under notice of the Listing and Recovery Priority Guidelines.

data relating to selection and implementation of recovery actions, and summarize the opinions of peer reviewers in the final recovery plan.

- **July 1, 1994, Interagency Cooperative Policy on Information Standards Under the Endangered Species Act (59 FR 34271).** This policy provides criteria and establishes procedures to assure the quality of information used by the Services to implement the ESA. It specifically calls for Service biologists to evaluate all scientific and other information that will be used to develop and implement recovery plans and to document evaluation of information used in recovery plans.
- **July 1, 1994, Interagency Cooperative Policy for the Ecosystem Approach to the Endangered Species Act (59 FR 34274).** This policy incorporates ecosystem considerations into ESA activities. It specifically calls for developing and implementing recovery plans for communities or ecosystems where multiple species occur; developing recovery plans in a manner that restores, reconstructs, or rehabilitates ecosystem structure, function, distribution, and connectivity; enlisting partners; and developing agreements among multiple agencies for wide-ranging species.
- **June 3, 1996, Joint Policy for Conserving Species Listed or Proposed for Listing Under the Endangered Species Act While Providing and Enhancing Recreational Fisheries Opportunities (61 FR 27978)**. This policy sets a framework to minimize and resolve conflicts between implementation of the ESA and recreational fishing by, among other things, encouraging participation of federal agencies, state and tribal governments, and other stakeholders in developing, implementing, and reviewing recovery actions in recovery plans.
- **September 20, 2000, Joint Policy Regarding Controlled Propagation of Species Listed Under the Endangered Species Act (65 FR 56916).** This policy addresses the role of controlled propagation in the conservation and recovery of listed species, particularly as a component of a species' recovery strategy. It specifically addresses the role of controlled propagation in recovery plan development and implementation. Along with explaining when controlled propagation is and is not appropriate, it covers procedures, cooperation with partners, funding, reporting, and allowable exceptions.
- **February 22, 2016, Revised Interagency Cooperative Policy Regarding the Role of State Agencies in Endangered Species Act Activities (81 FR 8663).** This policy supersedes the July 1, 1994, policy to reaffirm engagement and collaboration between the Services and the states. The policy calls for the Services to use the expertise and solicit information and participation of state agencies on all aspects of recovery planning and implementation; recognize and use the expertise of state agencies in designing and implementing monitoring programs; and work collaboratively with states to design and encourage use of Safe Harbor Agreements.
- **June 17, 2016, Revised Guidance for Treatment of Climate Change in NMFS Endangered Species Act Decisions.** This guidance identifies seven key climate change considerations to aide ESA resource managers in agency analyses and decision-making: climate change emission scenarios, time periods for projecting anticipated climate change effects, addressing the adequacy of international and national policies and regulations, considerations for critical habitat designations, weighing the beneficial and adverse effects of actions, designing appropriate management action recommendations, and requirements in permitting and project designs.

A number of additional NMFS regulations and policies on issues such as tribal consultation and other areas of the ESA can also apply to recovery planning and implementation, although they may not pertain explicitly to recovery. These can be found on the NMFS website at NMFS Guidance, Policies, and Regulations web page.

1.3.3 Other Federal Laws Relevant to Recovery Planning and Implementation

In addition to the ESA, several other statues and international agreements can be pertinent to developing and implementing recovery plans. These include, but are not limited to, the following:

- **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES), entered into force in 1975 and implemented through Sections 8A and 9(c) of the ESA, regulates the import and export of nearly 30,000 species of plants and almost 6,000 species of wildlife, including live or dead whole specimens and any readily recognizable parts and products. Readily recognizable parts and products include products labelled as containing the species, such as teas, traditional medicines, and cosmetics. Controls can involve domestic requirements, such as strict labelling of crocodilian products and sturgeon and paddlefish caviar. Recovery planners should determine if their species is included in one of the CITES appendices and take into consideration CITES protections where live or dead whole animals or plants, parts, or products are exported or imported for commercial, personal, scientific, or other purposes.
- **Marine Mammal Protection Act** (MMPA; 16 U.S.C. 1361 *et seq.*), enacted in 1972, regulates take, import, and other acts that affect all species that qualify as marine mammals. Recovery planners for an ESA-listed species that is also a marine mammal -- or an ESA-listed species that interacts with marine mammals -- should be aware of the MMPA moratorium and prohibitions, requirements, and authorizations that apply to incidental take, non-incidental take, and other prohibited acts. Marine mammals that are listed under the ESA gain MMPA "depleted" status and additional restrictions apply.
- **Migratory Bird Treaty Act** (MBTA; 16 U.S.C. 703 *et seq*.), enacted in 1918, implements the four treaties with Great Britain (on behalf of Canada), Russia, Japan, and Mexico to protect resident and migratory native birds. Recovery planners for any bird (other than a game bird) that is native to the United States should take into consideration MBTA prohibitions against the taking, possession, import, export, purchase, sale, barter, or transport of any live or dead whole bird, parts (including feathers), eggs, and nests, except as authorized.
- **International Convention for the Regulation of Whaling**, entered into force in 1948, governs the commercial, scientific, and subsistence take of whales. The Convention is administered internationally by the International Whaling Commission (IWC) and implemented in the United States through the Whaling Convention Act (16 U.S.C. 916 *et seq*.). Recovery planners for any species of whale should take into consideration the restrictions and authorizations established by the IWC and those under the Whaling Convention Act, as well as the MMPA.
- **Magnuson-Stevens Fishery Management and Conservation Act (and the Sustainable Fisheries Act)** (16 U.S.C. 1801 *et seq*.), enacted in 1976, requires national fishery conservation and management standards, minimization of by-catch, establishment of Regional Fishery Management Councils, and actions to identify overfished species and rebuild those stocks. Recovery planners for ESA-listed species managed under the Magnuson-Stevens Act, or ESA-listed species that prey upon species regulated under the Act, will want to be aware of fisheries management affecting those species and any applicable Essential Fish Habitat.
- **Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management**, organized through a 1996 Memorandum of Understanding (MOU), holds regular meetings to facilitate cooperation and coordination among wildlife agencies of the three North American countries. Recovery planners for any species that ranges across the U.S. border or territorial seas into Mexico or Canada

should be aware of opportunities to communicate with and coordinate recovery efforts with partner agencies.

There are additional single- or limited-species statutes and international agreements, such as the Marine Turtle Conservation Act and various fisheries agreements that may inform or provide opportunities for recovery planning. Consider whether any other laws cover your species.

Other general federal statutes also can be applicable to the recovery planning and implementation process. These include, but are not limited to, the following:

- **Freedom of Information Act** (FOIA; 5 U.S.C. 552), enacted in 1966, provides that any person has the right to request copies of federal records, including documents, emails and other communications, and data. Emails and documents generated during development or implementation of a recovery plan must be released upon request unless they qualify under one of the exemptions for withholding.
- **Federal Advisory Committee Act** (FACA; 5 U.S.C., App.; 41 C.F.R. Part 102-3), enacted in 1972, governs the establishment, management, and operation of panels, meetings, conferences, task forces, committees, and other similar groups that qualify as "federal advisory committees." Section 4(f)(2) of the ESA provides an exemption from FACA requirements for recovery teams, working groups, and similar groups developing or implementing recovery plans as long as the members have been appointed.
- **Administrative Procedure Act** (APA; 5 U.S.C. 500 *et seq*.), enacted in 1946, sets standards for judicial review, which may apply to certain aspects of recovery planning and implementation. Recovery plans, however, are not judicially reviewable as final agency actions. Also, because recovery plans are guidance documents, the rulemaking procedures of the APA do not apply (but see ESA procedural requirements for recovery planning).
- **National Environmental Policy Act** (NEPA; 42 U.S.C. 4321 *et seq*.) requires analysis of environmental impacts of proposed major federal actions significantly affecting the environment. Development of recovery plans is categorically excluded from preparation of Environmental Impact Statements (EISs) or Environmental Assessments (EAs) but implementation of recovery actions may require analysis under NEPA.
- **Paperwork Reduction Act** (PRA; 44 U.S.C. 3501 *et seq*.), enacted in 1995, minimizes the burden that federal paperwork imposes on the public. A recovery action that includes application for a federal permit or a reporting or recordkeeping requirement could qualify as a collection of information that requires PRA approval.
- **Information Quality Act (also known as Data Quality Act)** (IQA; Pub. L. 106-554), enacted in 2001, and guidelines developed by the Office of Management and Budget (OMB) require each federal agency to develop their own IQA guidelines to ensure the quality, objectivity, utility, and integrity of disseminated information and provide a process by which a person can seek a "correction" of disseminated information. Draft and final recovery plans and any information disseminated beyond federal agencies and recovery team members during recovery planning or implementation can be challenged for failure to meet IQA standards of quality, objectivity, utility, or integrity (see Chapter 4.5, Information Standards, NOAA Information Quality Guidelines).

1.3.4 Case Law

A number of court decisions have interpreted the recovery planning and implementation provisions of the ESA in conjunction with challenges to particular recovery plans. These decisions have focused on matters such as the requirement to complete recovery plans within a reasonable time (unless the Services make the necessary finding that a recovery plan will not

promote the conservation of the species), the required components of recovery plans, the connection between threats affecting the species and the development of recovery criteria and recovery actions, and the relationship between meeting the recovery criteria and delisting the species. Other judicial decisions have addressed the connection between recovery plans and legal obligations under other areas of the ESA, such as the relationship with Section 7 consultation or critical habitat designation, and other laws such as NEPA. Applicable examples of case law are included throughout the handbook. In addition, Appendix A provides a list of select case law that informs recovery planning and implementation as well as the legal effect of recovery plans on other agency programs. Contact your NOAA General Counsel attorney if you have questions about any particular judicial opinion or legal requirements.

1.4 The Recovery Planning Process

The recovery planning process generally falls into the following three primary phases: (1) pre-planning; (2) planning; and (3) implementation and monitoring; however, implementation can begin at any time (**Figure 1-1**).

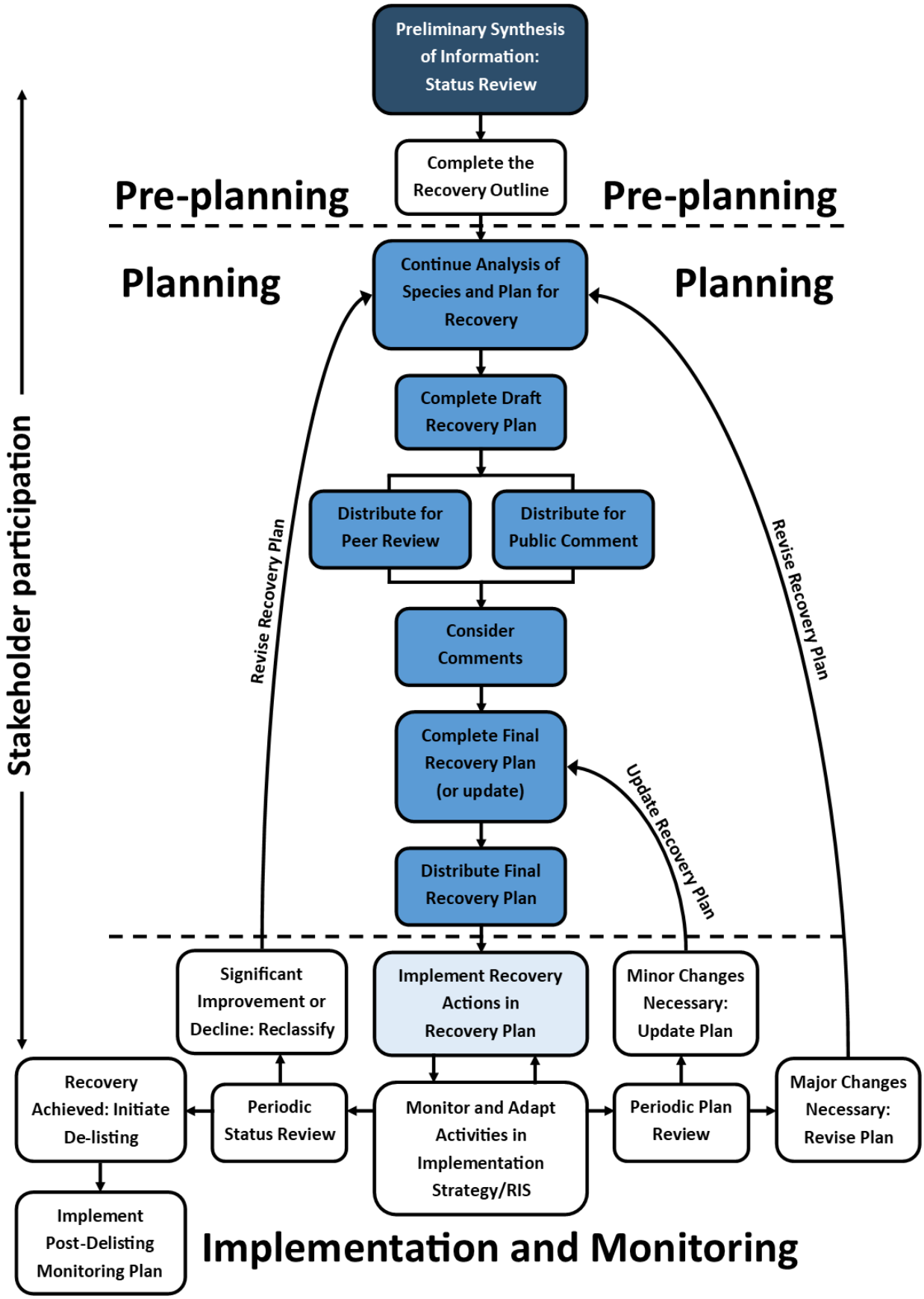

Figure 1-1: Diagram of Pre-planning, Planning, and Implementation and Monitoring Process

In the pre-planning phase, a recovery outline is developed (see Chapter 3, The Recovery Outline). The recovery outline provides interim strategies for survival and recovery of the species[3] and, optionally, lays out initial thoughts on how and by whom a recovery plan is to be developed (see Chapter 2.5, Organizing the Recovery Planning Effort).

The planning phase involves engaging with recovery partners and important stakeholders, appointing a recovery team, if appropriate, and the actual writing of the recovery plan, including the solicitation, consideration, and incorporation of comments via peer review and public comment (see Chapter 4, Managing Recovery Plan Development; Chapter 6, The Recovery Plan). It is during this time that a separate Recovery Implementation Strategy (RIS) also should be prepared if using the 3-part framework, which is based on a concept developed by the FWS (see 1.4.1, Differing Approaches to Recovery Plan Content and Format below).

The implementation and monitoring phase involves the implementation of the recovery measures or actions called for in the recovery outline and/or recovery plan, respectively, as well as monitoring of the implementation and effectiveness of the actions, and modifying the recovery plan (and RIS) as new information becomes available (see Chapter 8, Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Modifying the Plan). Five-year reviews of the species may lead to updates or revisions of the recovery plan and its associated documents (see Chapter 8.5, Recovery Plan Modifications) and/or reclassification or delisting of the species.

These phases are not necessarily step-wise nor mutually exclusive; rather, they are in a continuous state of flow and feedback. Implementation and monitoring of measures to aid survival and conserve the species often begin before a plan, or even an outline, is completed, and plans are updated or revised as needed according to the results of monitoring or new information. In some cases, a planning process may need to return to the pre-planning phase, such as when a complete revision of the recovery plan is needed, or the original listing is changed (e.g., the species is subdivided into subspecies or DPSs), and a determination of how to develop the plan must be revisited.

1.4.1 Differing Approaches to Recovery Plan Content and Format

Until 2016, the Services had the same approach to developing recovery plans. In 2016, the FWS revised its approach; therefore, recovery plans developed by FWS and NMFS may now look different. The Services both continue to use the best available scientific and commercial information to summarize what is known about a species and to inform its recovery needs, but much of this information may be found in other documents and referenced in the recovery plan (instead of being part of the recovery plan itself). To differentiate between the traditional approach and the new FWS approach, we will refer throughout this document to the “traditional” approach (the recovery planning process used by both agencies until FWS changed its process in 2016 and which is still used by some NMFS offices), and the 3-part framework (referred to as Recovery Planning and Implementation (RPI) by FWS). Although NMFS has not adopted the 3-part framework agency-wide, the approach is available to NMFS offices should they choose to use it. See below and Chapter 5, Approaches to Recovery Plans and their Documents, for further discussion of these approaches.

[3] The species to be addressed in the recovery outline and later in the recovery plan is the listed entity, which may be the taxonomic species, subspecies, or, for vertebrate wildlife, a distinct population segment (DPS). See Chapter 2, Pre-planning Considerations, for situations where each species’ recovery needs can be best addressed through a multiple-species or ecosystem recovery plan.

Pursuant to our ESA mandate, both agencies are required to develop recovery plans and, while these approaches result in recovery plans that are structured differently, both approaches result in recovery plans that use the best available information and contain the required statutory components.

1.4.1.1 Recovery Planning Under the 3-Part Framework

In an effort to make recovery planning documents more adaptable and the recovery planning process more efficient, and therefore recovery plans more effective for species, FWS developed the RPI concept, which NMFS refers to as the 3-part framework described here.

Instead of the traditional approach of including all of the information in a single document, the 3-part framework separates the information into three separate documents: (1) a Status Review or Recovery Status Review, which presents and summarizes the best available scientific and commercial information on the biology and ecology of the species and its threats (formerly the background section of a traditional recovery plan); (2) a Recovery Plan, which includes the recovery criteria, recovery actions, and time and cost estimates to achieve recovery; and (3) a RIS, which describes recovery activities for implementing and tracking progress on implementation of the recovery actions in the recovery plan (see **Figure 1-2**).

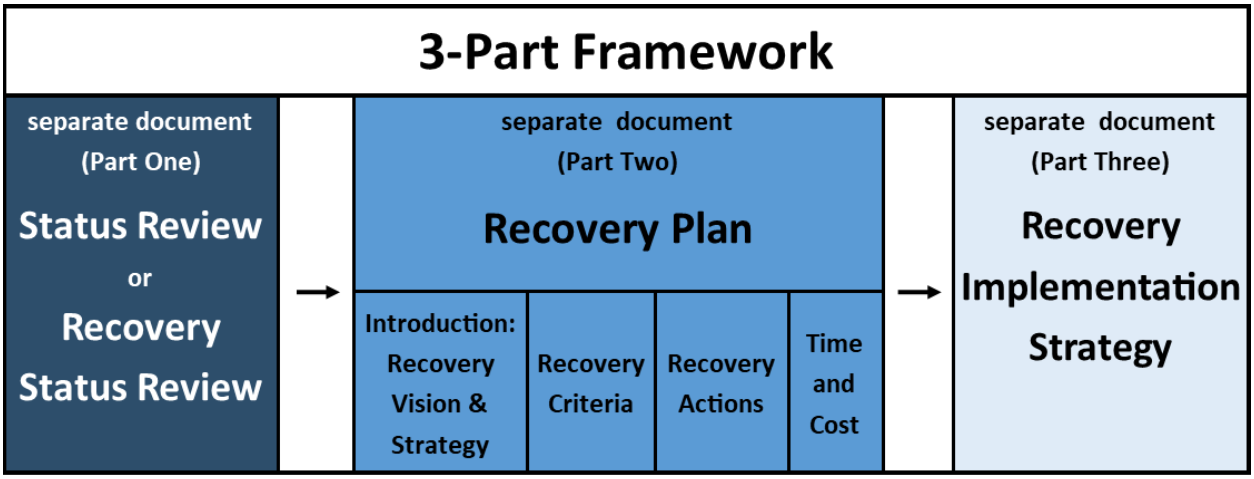

Figure 1-2: Diagram of optional 3-Part Framework process

Part One - The Status Review or Recovery Status Review is a comprehensive assessment of the species' biology, ecology, status (including historical and current conditions), and threats to be considered by recovery planners when developing the recovery plan. As noted above, this includes the information that is included in the Background section of a "traditional" recovery plan.

The Status Review that was completed for the listing -- or an updated version of this review (for purposes of this handbook—Recovery Status Review) -- may be used as the first document of the three components. NMFS' status reviews are generally based on conservation biology principles that consider abundance, spatial distribution/structure, productivity, and diversity (4 viability parameters (4VPs)) at the population level, and the effect of catastrophes and long-term demographic and evolutionary processes on the proposed listed entity (NMFS 2017 Guidance on Responding to Petitions and Conducting Status Reviews under the Endangered Species Act), as well as assessing the ESA Section 4(a)(1) factors (see Chapter 5, Approaches to Recovery Plans and their Documents for 4 VPs methodologies for assessing species viability). The status reviews provide the critical scientific and commercial information to develop the

recovery plan, including the demographic and threats-based recovery criteria. In some cases, the information in a Status Review that was completed for the listing may need to be updated or may lack the details needed to develop the statutory components for a recovery plan. In these instances, staff should update the Status Review to reflect the information that is in the Background section of the "traditional" recovery plan (see Chapter 6.2.1, Background). To differentiate them from Status Reviews used to assess the status of the species for listing under the ESA, we refer to these updated status reviews as "Recovery Status Reviews." After finalizing the recovery plan, the Recovery Status Review should be updated, as needed. For more discussion of Recovery Status Reviews, see Chapter 5.1.1.1, Status Review or Recovery Status Review.

Part Two - Recovery plans in the 3-part framework include only the ESA-statutorily required elements, i.e., recovery criteria, recovery actions, and estimates of time and costs to recovery, preceded by a concise introduction. The introduction includes the vision of what the species' recovered state looks like, a synthesis of the threats that need to be ameliorated, and a recovery strategy for how to get there. The recovery actions are strategic (i.e., high level), site-specific actions that move the species toward meeting the recovery criteria. The estimates of time and cost to recovery address these actions. The recovery plan will reference the Status Review or Recovery Status Review so readers can see the information used to develop the recovery criteria and recovery actions.

Part Three - In the RIS, recovery actions in the recovery plan are stepped down further into activities. The RIS is a separate document that describes the specific activities necessary to complete the site-specific actions in the recovery plan (including how, when and by whom; see Chapter 8.1, Developing the Recovery Implementation Strategy). Having the on-the-ground activities in the RIS allows for updating and modification of the activities as needed to reflect changes in the information available and progress towards recovery, as long as the recovery action is not changed by doing so.

Further discussion of the similarities and differences between the 3-part framework and the traditional recovery plan is included in Chapter 5, Approaches to Recovery Plans and their Documents.

1.4.1.2 Traditional Recovery Plans

Traditionally, recovery plans have included extensive background information on a species' biology, ecology, status, and threats, in addition to the three statutorily required components—recovery criteria, recovery actions, and time and cost estimates. Traditional recovery plans also have included a recovery strategy that links the background information with the criteria and actions (see **Figure 1-3**). The traditional format provides the information needed to understand the species and its needs, and to implement recovery actions, in one document, as compared to the 3-part framework that provides this same information, but in separate documents. However, plans in this format can be lengthy, take a long time to write, and may become out of date quickly as new information becomes available or circumstances change.

Recovery plans should be revised or modified when significant new information becomes available. This could involve the entire recovery plan (which usually takes some time) or one or more individual sections, such as the background section or the recovery actions. Depending on which section is updated, public review and comment may be necessary, particularly for the required components of a recovery plan (see Chapter 8.5, Recovery Plan Modifications).

Figure 1-3: Diagram of a "traditional" recovery plan

For more information on traditional recovery plans, see Chapter 6.2, Traditional Recovery Plan.

1.4.2 Recovery Planning Process Timeframes

1.4.2.1 Pre-planning: Recovery Outlines

Recovery outlines highlight the immediate measures needed to conserve the species and guide Section 7 consultations, permitting, and HCP development prior to completion of a recovery plan. Service biologists complete recovery outlines internally, although they may occasionally consult with some species experts and stakeholders if time allows. Recovery outlines are based on the best currently available information—usually the listing rule and the Status Review, or an updated Recovery Status Review, if available. See Chapter 3, The Recovery Outline, for more information.

Staff should draft recovery outlines as soon as practicable from the date of publication of the final listing rule, then post them on the agency's website.

The short time-frame for completing recovery outlines is purposeful. It is meant to ensure that a preliminary strategy for conserving the species is in place at, or very soon after, listing and that the recovery planning effort is underway as soon as possible after the species is listed. A timely recovery outline guides initial recovery efforts and informs other activities, such as HCP development, Section 7 consultations, and other conservation management tools to support survival and recovery of the species. Expeditious progress in completing recovery outlines ensures that options for the future recovery needs of the species are maintained and keeps the species' status from deteriorating further while a recovery plan is being developed.

1.4.2.2 Planning

NMFS strive for timely completion of recovery plans, recognizing that additional time may be needed due to the sufficiency of the available data or complexity of the recovery planning effort. **Tables 1-1 and 1-2** provide the timeframes for recovery planning.

The actual plan preparation phase of the recovery planning process may start with publication of the proposed and final listing rules.

Although it is not required, we may also publish a Notice of Intent (NOI) to prepare a recovery plan and request for information in the Federal Register. This may be most appropriate if recovery planning does not commence immediately after listing and new information may have become available.

1.4.3 Agency Roles, Responsibilities, and Timeframes

The following tables outline the general recovery planning responsibilities of the Regional, and Headquarters office, along with suggested timeframes.

Table 1-1: NMFS Headquarters (Office of Protected Resources (OPR)) Roles, Responsibilities, and Timeframes for Species under OPR Lead

NMFS Headquarters Office of Protected Resources	
Task/Product	**Timeframe**
Prepare and approve a draft Recovery Outline	As soon as practicable
Approve Final Recovery Outline	As soon as practicable
Optional: Publish NOI to prepare a recovery plan and request information in Federal Register.	As soon as practicable, if not done in the final listing rule
Prepare draft recovery plan, publish Notice of Availability (NOA) in Federal Register, and request public comment.	Based on recovery priority number (84 FR 18243)
Conduct peer review[4]	Prior to or simultaneously with public comment period on the draft recovery plan
Prepare final recovery plan	Based on recovery priority number (84 FR 18243)
Compile regional and OPR reports on recovery implementation and enter progress on recovery actions in the Recovery Action Mapping Tool (RAMT)[5]	Ongoing and end of fiscal year
Prepare and approve Biennial Report to Congress; compile regional and Headquarters reports on species status, and the status of draft, revised, and approved recovery plans for Assistant Administrator's submission to Congress.	Ongoing: every other fiscal year

[4] NMFS sends draft or revised recovery plans out for peer review. When using the 3-part framework, the draft or revised recovery plan, Recovery Status Review, and RIS (if completed) should be included in the peer review. However, instructions to peer reviewers should focus them on the science and/or particular issues in the Recovery Status Review.

[5] See Chapter 8.3.1.1 Recovery Action Mapping Tool (RAMT), for further details.

Table 1-2: NMFS Regional Office (RO) Roles, Responsibilities, and Timeframes for Species under RO Lead or for Lead RO Where Multiple Regions are Involved

NMFS Regional Office	
Task/Product	**Timeframe**
Prepare and approve a draft Recovery Outline and submit the draft to OPR for review	As soon as practicable
Approve Final Recovery Outline	As soon as practicable
Optional: Publish NOI to prepare a recovery plan and request information in Federal Register.	As soon as practicable, if not done in the final listing rule
Prepare draft recovery plan, Federal Register NOA for public comment, and submit to OPR for Headquarters clearance	Based on recovery priority number (84 FR 18243)
Conduct peer review[5]	Prior to or simultaneously with public comment period on the draft recovery plan
Prepare final recovery plan and submit to OPR for Headquarters clearance	Based on recovery priority number (84 FR 18243)
Enter progress on recovery actions in the RAMT[6]	Ongoing and end of fiscal year
Submit information for the Biennial Report to Congress to OPR on species status, and the status of draft, revised, or approved recovery plans for Assistant Administrator's submission to Congress.	Ongoing: every other fiscal year

1.5 Additional Considerations

In addition to the actual development of a recovery plan, several considerations are crucial to effective recovery planning and implementation.

1.5.1 Partnerships in Recovery Planning

A plan is just that: a plan. For a species to be recovered, the plan must be implemented. The Services have neither the resources nor the authority to directly implement all, or even most, recovery actions. Recovery of the species usually depends largely on others. Communication, coordination, and collaboration with a wide variety of stakeholders are essential to the

development, acceptance, and implementation of recovery plans. In addition, recovery plans should be designed so that all stakeholders, whether they were involved in developing the plan or not, understand the rationale behind the recovery program and recognize their role in its implementation.

As indicated in the policies described in 1.3.2, Recovery Policies, NMFS is committed to working with stakeholders throughout the entire recovery process, from planning through implementation, recovery, and delisting. For the purposes of recovery planning, we define the term "stakeholder" broadly as those who have an interest in the recovery of the species. This may include other programs within NMFS, other federal government and state and local agencies, tribes, affected landowners or communities, academic scientists, conservation organizations, industry, and others. The inclusion of these participants may make the planning process more complicated and time-consuming. However, involving stakeholders early and throughout the process is essential to success and may help achieve the necessary understanding of the species' biology, threats, and recovery needs; identify and resolve implementation issues and concerns at the planning stage; increase buy-in; and facilitate more effective implementation (see Chapter 2.6, Preparing for Stakeholder Involvement, and 4.3, Managing Stakeholder Involvement).

1.5.2 Synergies with Other Parts of the ESA

Recovery plans, if written well and in an inclusive manner, can play an important role in guiding NMFS, other federal agencies, and others as they work to conserve species, including complying with other parts of the ESA. Recovery plans may also provide a means to justify additional appropriations to conserve listed species. In addition, state, tribal, and local governments, and private partners benefit from the information and recovery actions in recovery plans as they implement their own authorities and conservation programs, including those supported through ESA funding. Thus, a number of ESA conservation programs benefit from and rely upon the information in recovery plans including, but not limited to, 5-year reviews, listing decisions such as reclassifications and delistings, critical habitat designations and revisions, Section 6 conservation projects, Section 7(a)(1) conservation programs, Section 7(a)(2) consultations, Section 10 permits and associated conservation plans (i.e., HCPs), issuance of Section 10 research or enhancement permits such as Safe Harbor Agreements, and designation of Section 10(j) experimental populations.

Staff biologists developing and implementing recovery plans likewise benefit substantially from the information generated by and conservation measures developed and implemented under the above-mentioned ESA programs. Biologists should be aware of decisions affecting their species under other sections of the ESA (e.g., critical habitat designations for the species, ongoing state conservation projects, existing 7(a)(1) agreements, previous Section 7 consultations, existing Section 10 permits and HCPs, and any designated experimental populations).

See Chapter 9, Integrating Recovery and Other ESA Programs for details about integrating recovery plans and other ESA programs and conservation efforts.

1.5.3 Opportunities for Streamlining, Flexibility, and Frontloading

This handbook notes throughout where opportunities exist to streamline recovery plans. The 3-part framework is designed to streamline recovery planning by separating out background information on the species and its threats (Status Reviews), the recovery plan including site-specific recovery actions, and the separate, more detailed recovery activities in the RIS. For a species with a recent Status Review, most of the "background" information for recovery planning

can be obtained from the Status Review. The Status Review and RIS are both readily updated (without public review and comment because the plan and its components remain the same) so that staff biologists can respond quickly to new information and take advantage of partnership and funding opportunities.

One further opportunity for streamlining that will provide a means of keeping our recovery plans current and useful -- particularly traditional recovery plans, but also those designed within the 3-part framework -- is the use of a page numbering system by Chapters, such as that used in this handbook (see Chapter 7.1, Formatting). Such a system allows for revisions or updates of individual sections of the recovery plan more frequently without the need to revise the page numbers of the entire document. Another opportunity lies in the use of electronic media (e.g., web-based recovery plans in hypertext markup language that can be easily updated) and the posting of electronic files. This should enhance our ability to distribute information and post plan updates (see Chapter 7.5.2, Approval and Distribution Process, and Chapter 8.5, Recovery Plan Modifications) -- but this comes with the added responsibility of keeping links and electronic files up to date.

1.5.4 Adaptive Management

This Handbook discusses adaptive management as a means of implementing recovery in the face of uncertainty. Adaptive management is a five-step process, which serves as a feedback loop to implement, evaluate, and adjust management actions until a desired goal has been achieved (see Chapter 8.2.2, Using Adaptive Management in Implementation). To facilitate implementation, the recovery plan should be written in such a way that encourages adaptive management. That is, where there is uncertainty in what measures should be implemented or how effective they will be, the plan should identify specific measures to be implemented, monitored, and adjusted as necessary. Alternately, the recovery plan should require an adaptive management plan be developed. The benefits of adaptive management are that it provides flexibility and ability to act in the face of uncertainty and promotes optimal decision-making with the information available.

2 Pre-Planning Considerations

A number of preliminary considerations and decisions set the stage for recovery planning, such as determining the type of plan being developed (3-part framework or traditional, see Chapter 1.4.1, Differing Approaches to Recovery Plan Content and Format and Chapter 5, Approaches to Recovery Plans and their Documents), the scope of the plan (single-species, multiple-species, or ecosystem), whether an alternate plan is sufficient, or circumstances for determining whether a plan won't promote conservation of the species. Pre-planning considerations also include how to organize the development of a plan, including who will develop the plan, the level of external participation appropriate in the planning process, logistical issues, interim management of the species until a recovery plan is completed, consideration of other relevant laws, and setting up the decision file to manage key documents. For jointly listed species, recovery planning requires close coordination between the Services. An MOU between the agencies early in the process can help clearly define roles and responsibilities, recovery planning approach (e.g., use of recovery teams or not), the review process, and oversight of the plan implementation. A pre-planning checklist is provided in 2.8, Pre-Planning Checklist, and the Recovery Outline (see Chapter 3, The Recovery Outline) provides a template and opportunity to document pre-planning decisions.

2.1 Determining the Biological Scope of the Recovery Plan

The ESA defines a "species" to include subspecies and DPSs as well as the taxonomic species. Three possible biological scopes for recovery efforts exist, and choosing the appropriate scope requires careful consideration:

- Single species/subspecies/DPS,
- Multiple species/subspecies/DPSs, or
- Ecosystem.

The majority of ESA recovery plans are single-species plans. However, multiple-species plans and ecosystem plans have also been developed. Although the ESA focuses recovery on the individually listed species, subspecies, or DPS, the purpose of the ESA also includes conserving the ecosystems upon which listed species depend. Recovery plans should aim to address threats by restoring or protecting ecosystem functions or processes if possible. Maintaining habitat is essential to the long-term viability of a species; conservation of habitat should be infused into all recovery plans to the degree appropriate to address habitat-related threats, whether for single species (including subspecies and DPSs), multiple species, or ecosystems.

In the past, several recovery plans for individual or regional populations of wide-ranging species (such as the leatherback sea turtle) were developed. However, where the ESA calls for recovery plans to include recovery criteria and actions that will result in the delisting of the entire listed entity (i.e., "the species"), planning documents for entities smaller than the listed entity should be developed *only* in the context of recovery of the entire listed entity. For example, coordinated multiple regional recovery plans could collectively provide recovery criteria for the entire listed entity (see 2.1.1, Single Species/Subspecies/DPS Plans).

In addition, a recovery plan for a wide-ranging species may be comprised of sections or chapters that have different recovery strategies for the various recovery units or regional population centers, but no recovery unit or population center can be planned for independently of its counterparts. Rather, each recovery unit or population center must be considered with

regard to its contribution to the whole. As such, recovery must be considered *first and foremost* in the context of the entire listed entity. Only after this can the contributions of various units or populations be considered.

In many cases, the appropriate scope for the recovery planning effort may be informed by the listing rule, based on whether it included a single taxonomic species, subspecies, DPS, group of species, or multiple species within an imperiled ecosystem. However, there are circumstances in which it may be appropriate to plan recovery at a different scope than that at which the species was listed:

- If a newly listed species occupies the same habitat and has similar recovery needs as another species or group of species that already has a recovery plan completed or under development, the newly listed species may be incorporated into that recovery plan. This can be accomplished by incorporating recovery criteria, actions, and time and cost estimates for the new species into an existing plan by revising an existing plan (see Chapter 8.5, Recovery Plan Modifications).
- In some cases, it may be preferable to prepare a plan for a single species that was listed in the same rule as other species. This may occur, for instance, when circumstance dictates a need to immediately prepare a plan for a particular species because unique taxonomy, threats, or other reasons indicate the need for more species-specific recovery strategies, or if an opportunity arises for a particular species to expedite planning.
- If a number of species that occupy the same ecosystem were listed separately, it may be most efficient and effective to prepare a multiple-species or ecosystem plan. Multiple-species plans may provide the opportunity to explicitly address contradictory recovery needs of two or more species. In addition, including numerous species within an area in one plan can be more user-friendly for local property owners and planners. Plan revisions may provide an opportunity to combine species that were previously addressed in separate plans or that do not have plans. However, it is necessary to ensure that species included in a multiple-species plan are each given adequate and appropriate attention.

2.1.1 Single Species/Subspecies/DPS Plans

Given that taxa are listed, reclassified, and delisted as species, a single-species plan is the most straightforward scope to use for an individual planning effort. If the species is distinct from other listed species with respect to its habitat requirements and threats, and/or if it is the only listed species in its general geographic area, a single-species plan is likely the most appropriate approach. Where the listed entity is a subspecies or DPS of the larger species, a recovery plan should be developed for that listed subspecies or DPS.

Although a recovery plan may treat populations separately (see discussion in 2.1, Determining the Biological Scope of the Recovery Plan, above and Chapter 6.1.1.2.1, Delineation of Recovery Units), a recovery plan cannot affect the legal designation of the listed entity. Thus, for example, changing the listed entity from a taxonomic species to a number of DPSs requires a separate rulemaking process.

2.1.2 Multiple-Species Plans

If two or more species occur in the same geographical area or jurisdiction, and share common threats or management needs, a multiple-species plan may be the most appropriate. This type of plan may also be helpful when species with overlapping ranges have seemingly contradictory recovery needs that need to be resolved early to accommodate the recovery of both species. Many authors have recommended multiple-species recovery plans as a way to plan more

efficiently and to implement management actions more effectively (Franklin 1993; Clark 1994; Tear et al. 1995; Carroll et al. 1996; Simberloff 1997). However, compared to single-species plans, multiple-species plans have been found to contain less robust scientific underpinning, objectives, and recommendations, and as a result, trends in status for individual species in multiple-species plans tended to be less positive than those for species with single-species recovery plans (Clark and Harvey 2002). Therefore, the benefits of preparing a multiple-species plan should be carefully assessed, with the following considerations in mind:

- Each listed species in the plan should be fully addressed in terms of status, threats, and biological needs and constraints either in the recovery plan background (traditional) or in the science document supporting the recovery plan (3-part framework) (this does not mean that these items need to be addressed for each species separately but that a reader should be able to easily discern each species' status and threats from the information provided).
- Objective, measurable recovery criteria must be developed for each species, although it may be possible for the same criteria to apply to more than one species if biologically appropriate and fully explained.
- Recovery actions should be consolidated for multiple species whenever possible to maximize effectiveness, but should indicate which species will be affected and how.
- Individual species can be independently listed, reclassified, or delisted, and the plan updated or revised accordingly.
- In general, multiple-species plans will be more expansive documents, and means for keeping them updated and useful should be considered during the planning process.

2.1.3 Ecosystem Plans

Although all recovery plans address the ecosystem needs of the species to a greater or lesser extent, a more focused approach to ecosystem planning may be appropriate if several listed species in a shared biotic community rely on protection and/or restoration of their ecosystem to reach recovery. (Some recovery plans identified as "ecosystem" plans in the past are actually multiple-species plans). In this type of plan, most recovery actions will be directed toward ensuring the sustainability of the ecosystem upon which all of the listed species (and other species) depend. While ecosystem function and status comprise the cornerstone of this type of plan, the role and recovery needs of individual listed species must be addressed within the ecosystem context, particularly in the recovery criteria. The biological connection between the ecosystem and the listed species should be clearly described. Recovery objectives and criteria, including those linked to the threats that were the basis for listing, must be provided on a species-by-species basis, although ecosystem-based criteria may be included as well. FWS has several examples of ecosystem plans, including the 2012 Recovery Plan for Rogue and Illinois Valley Vernal Pool and Wet Meadow Ecosystems, the 1990 Recovery Plan for the Endangered and Threatened Species of Ash Meadows, and the 2010 Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington. These ecosystem plans can be found at FWS Recovery Plans. These examples may be instructive for NMFS when considering developing ecosystem recovery plans.

2.1.4 Plans for Jointly Listed Species

In some cases, both Services share responsibility for a listed species (sea turtles, Atlantic salmon, and Gulf sturgeon). This can provide advantages by increasing the pool of resources dedicated towards the species' recovery. However, jointly listed species can also create challenges and requires significant coordination and collaboration across agencies. For recovery planning and implementation, NMFS should seek agreement with FWS from the beginning on how the recovery planning process will be managed. This includes identifying the

lead authors, defining roles and responsibilities of each of the agencies, deciding the recovery planning approach (e.g., use of recovery teams or not), describing how the review process will be handled (e.g., what level of review will be required in each agency), and how the agencies will work together to oversee and track the plan's implementation. An MOU between the Services that clearly documents these decisions may help significantly in ensuring the recovery process is carried out efficiently and effectively. See 2.5, Organizing the Recovery Planning Effort, for more information.

2.2 Use of Alternative Recovery Plans

In some cases, development of a recovery plan may be unnecessary because an alternative document exists that serves the purpose of a recovery plan. An alternative plan is usually a document written by another agency or organization, but must be the functional equivalent of an ESA Section 4(f) recovery plan. This means that alternative plans must include the components of a recovery plan required by the ESA: site-specific management actions necessary to achieve the plan's goal for conservation and survival of the species; objective, measurable criteria that, when met, would result in a determination that the species should be ready for delisting; and estimates of the time and cost required to carry out those measures needed to achieve the plan's goal and intermediate steps toward that goal. Alternative plans that do not meet these requirements may still be adopted as recovery plans once appropriate changes or additions are made to ensure that they meet the statutory requirements. In some cases, these changes appropriately are incorporated in the plan itself; in others, they may be in an addendum. Alternative plans must be made available for public review and comment since they are serving as the recovery plan called for under ESA Section 4(f). The thick-billed parrot is an example of a species for which an alternative document was adopted as a recovery plan. In this case, FWS adopted the Mexican government's recovery plan for the species, the "Programa de Acción para la Conservación de las Especies: Cotorras Serranas (*Rhynchopsitta* spp.)" and added an addendum to meet the statutory requirements of the ESA. Together, Mexico's recovery plan and the FWS addendum form the alternative recovery plan for the thick-billed parrot.

2.3 Determining When an Exception or Deferral of a Recovery Plan is Applicable

Most listed species are likely to benefit from a recovery plan; however, Congress recognized that there are situations where a plan would not promote the conservation of a species (typically called an exception from recovery planning). In some cases, drafting a species recovery plan should be deferred. The following subchapters outline specific considerations that should be taken into account when considering invoking the statutory exception or deferring a recovery plan.

2.3.1 Exception to Developing a Recovery Plan

ESA Section 4(f)(1) requires the Services to develop and implement recovery plans for species listed as endangered or threatened, "unless [the Service] finds such a plan will not promote the conservation of the species." There are few acceptable justifications for not developing a recovery plan under this standard. The Assistant Administrator (or both Services for a jointly listed species) must approve a determination that a plan will not promote the conservation of the listed species.

A determination that a recovery plan would not promote the conservation of the species must be documented in the decision file. Appendix B contains the February 12, 2018, NMFS Internal Guidance for Determining when a Recovery Plan Will or Will Not Promote the Conservation of a Species, which provides a narrative decision key to guide a decision about when a recovery

plan would not promote the conservation of a species based on the conditions described in 2.3.1.1, Domestic and Transnational Species and 2.3.1.2, Foreign Species, below. A graphical representation and a narrative decision key are also provided to visually aid the decision maker in following the logic train presented in the narrative questions. If the decision is made that a recovery plan would not promote the conservation of a particular species, NMFS staff should use the templates contained in the internal guidance (Appendix B) to document the reasons for their decision.

Qualifying for the exception does not mean that NMFS would not be involved in efforts on behalf of the species. The Decision Memorandum: Justification for Not Preparing a Recovery Plan is the template for outlining a strategy to aid in the effort to improve the status of the species (Appendix B). The template includes consideration on whether and how international partnerships or agreements could be used to assist a species for which no recovery plan will be completed.

2.3.1.1 Domestic and Transnational Species

As a general matter, recovery plans are assumed to promote the conservation of domestic species (for purposes of this guidance, species with current or historical geographic ranges occurring entirely within waters of the United States or its Exclusive Economic Zone (EEZ)), transnational species (for purposes of this guidance, species with current/and or historical geographical ranges both within the United States, the U.S. EEZ, and/or the high seas, and within the waters or the EEZ of one or more foreign country). If no part of the species' life history is domestic, it should be evaluated under the same criteria as a foreign species, and is addressed in 2.3.1.2, Foreign Species. Recovery plans are assumed to promote the conservation of a species, unless one or more of the following conditions are met[6]:

1. Delisting is anticipated in the near future because a species status review indicates (a) the species is presumed to be extinct, (b) the species is determined to have been listed in error, possibly due to new taxonomic or status information, or (c) a species Status Review indicates the species no longer meets the definition of a threatened species or endangered species such that listing is no longer warranted.
2. The species currently occurs or historically occurred on the high seas, the U.S. EEZ, U.S. territorial waters, or U.S. lands but the individuals and the population(s) they represent never contributed in a biologically meaningful way to the species' ability to persist. The contribution towards a species' ability to persist is measured by these individuals' and the populations' contribution to overall abundance and productivity, spatial distribution, and diversity of the species. Those individuals and populations that do not, and did not, contribute to the species' ability to persist in a meaningful way and do not contribute to the species' ability to recover from periodic disturbances and/or catastrophic events or adapt to novel changes in its environment in a significant way. Because individuals or populations within U.S. jurisdiction contribute little to a species' ability to persist, efforts needed to recover the species would need to occur outside the U.S. where we have little jurisdiction to implement actions. Similar to foreign species (see 2.3.1.2, Foreign Species) a recovery plan typically would not promote the conservation of a species where the individuals or populations under U.S. jurisdiction contribute little to the species' ability to persist.
3. The species occurs on the high seas but not in U.S. waters or territories, and U.S. activities do not contribute to threats to the species or will not contribute to threats. (b)

[6] Even for these species, there are possible situations where development of a recovery plan could promote the conservation of the species based on unique circumstances

the threat occurs to a species on the high seas, but U.S. activities are not the cause of the threat (e.g., impacts from foreign fisheries); (c) the threats to a species occur exclusively within territorial seas, or the EEZ of foreign nations; and (d) the U.S. activities that may have once contributed to the threat no longer exist. In these circumstances, a recovery plan is unlikely to promote the conservation of the species because the threats that need to be addressed either are unresolvable or are under the authority or control of foreign countries (see 2.3.1.2, Foreign Species for more explanation).

4. When transnational species meet conditions 2 or 3, NMFS will consider whether effective international instruments exist and the international entity(ies) with jurisdiction is interested in engaging in joint recovery efforts (condition 1; 2.3.1.2 Foreign Species).
5. There may also be other circumstances that are not easily foreseen, but in which a recovery plan would not promote the conservation of the species.

2.3.1.2 Foreign Species

Generally, the United States has little authority or jurisdiction to implement actions needed to recover foreign species. Where mechanisms are lacking to effectively implement recovery plans, we conclude such plans typically would not promote the conservation of a foreign species. While the ESA can assist some foreign species threatened by international trade through restrictions on activities such as importation into the United States, sale, offer for sale, or other commercial activities in interstate or foreign commerce, the essential measures needed to assist the survival and recovery of a foreign species and its habitat are usually outside the scope of U.S. jurisdiction. For example, the taking of an endangered species (or threatened species through an ESA Section 4(d) protective regulation) is prohibited only within the United States, within the U.S. territorial seas, and on the high seas. In addition, none of the ESA prohibitions (including take, import and export, sale and offer for sale, etc.) applies unless the person is subject to U.S. jurisdiction. Moreover, the Services do not designate critical habitat within foreign countries or in other areas outside the jurisdiction of the United States. The management, protection, and recovery of listed foreign species primarily remain the responsibility of the countries in which these species occur.

Therefore, recovery plans generally should not be developed for foreign species unless it is determined that the species may be considered to benefit from a recovery plan because:

1. Effective international instruments exist (e.g., multilateral agreements, conventions, treaties) or partnerships that the United States does or can participate in that would promote the conservation of the species and the international entity(ies) with jurisdiction where the species occurs is interested in engaging in joint recovery efforts, or

2. The United States is a primary source of the demand for the species and mechanisms exist (e.g., CITES), Canada-Mexico-United States Trilateral Committee) to reduce, eliminate, or otherwise appropriately regulate such demand and a recovery plan would complement existing mechanisms and promote the conservation of the species by addressing the U.S. demand.

2.3.2 Deferring Recovery Planning

It may be necessary to defer the development of a recovery plan in some circumstances. A plan cannot be deferred indefinitely, and a recovery outline, however general, should be prepared. Circumstances in which a plan may be deferred include the following:

- New taxonomic information has become known since listing and the resolution of the taxonomic question is expected to have a substantial bearing on the recovery planning process or species' listing status.
- The best available scientific information indicates that the species may be extinct, and therefore development of a recovery plan is not prudent unless and until the species' existence/extinction is confirmed. If the species is later discovered to exist, recovery planning should commence promptly. In the meantime, a recovery outline should be developed to guide surveys and should include a contingency plan in the case of re-discovery of the species. In this case, the species may be only temporarily exempt from the recovery-planning requirement.

2.4 Special Considerations

Special pre-planning considerations are needed for species that occur in the United States and one or more other countries and/or on tribal lands. For these species, coordination with other nations and tribes is critical to effective recovery planning and implementation. Due to its potential complexity and sensitivity, this coordination should begin early in the recovery planning process. Special pre-planning considerations are also needed for marine mammals or species covered by other statutes or treaties (such as the MBTA).

2.4.1 Transnational Species

As described above, transnational species are those listed species with current/and or historical geographical ranges both within the waters of the United States, the U.S. EEZ, and/or the high seas, and within the waters or the EEZ of one or more foreign country. This can be due to migration or because the resident population straddles the U.S. border and one or more other countries. Cooperation among multiple countries where a species occurs (range countries) may be critical for recovery of transnational species. For transnational species, some questions that may be considered in pre-planning include:

- Will species recovery rely on areas outside the United States?
    - Keeping in mind that recovery criteria should be based on the biological needs of the species (see Chapter 6.1.2, Recovery Goals, Objectives, and Criteria and 6.2.3, Recovery Goals, Objectives, and Criteria), for the development of reclassification or delisting criteria, an early decision must be made as to whether individuals of the species that occur outside the United States or management actions taken outside the United States are necessary in order to achieve the recovery goal. If management actions outside the United States are necessary, early and continuing international cooperation is key.
- What portion of the species' range occurs in another country?
    - For species with considerable portions of their range outside of the United States, more extensive coordination and communication with range countries will likely be required.
- Does the species occur in Mexico, Canada or both?
    - If so, please refer to information on the Canada/Mexico/United States Trilateral Committee and the Mexico Program below.
- With whom will coordination occur in species' range countries outside of the United States (federal or state wildlife agencies, species experts, etc.)?
    - Generally, it is recommended that coordination occur, at a minimum, with the primary federal wildlife agency with responsibility for endangered species.

    - Following the appropriate diplomatic channels is fundamental to effectively engage with those institutional partners responsible for endangered species conservation.
- How will coordination occur (e.g., meetings, conference/video calls, email)?
    - Mailing correspondence to other countries is generally not efficient or does not work; emailing official correspondence is the preferred method.
- What will be the role of representatives from other range countries in recovery planning?
    - If a recovery team is assembled, it is important to consider appointing one or more recovery team members from the other nation(s). They may serve in many capacities, such as technical experts, decision-making figures for the range country, and/or as stakeholders.
    - If a representative from the other nation(s) is not appointed to the team, regular communication and cooperation with appropriate agencies in the other nation is important; this may include opportunities to assist in developing or reviewing the recovery plan. It is also possible that individuals or representatives of agencies or interest groups from these nations be invited to attend recovery team meetings as observers.
    - It may be appropriate for representatives from other range countries to have different roles, depending on a variety of factors.
- If a recovery team will be assembled, will a co-leader be appointed from another range country?
    - This approach is highly recommended in order to ensure the buy-in and responsiveness of foreign partners.
    - Additionally, if language is an obstacle to communicating with other countries, a bilingual team co-leader can be critical to this communication.
- Will another nation be a signatory to the recovery plan?
    - If so, this must be taken into consideration in the timeline for completing the plan.
- To whom should the draft recovery plan be sent for review in other range countries?
- Will peer reviewers from other range countries be asked to review the plan or the Recovery Status Review?
- Will the recovery plan be translated into the language of other range countries?
- Does a recovery plan already exist for the species in a different country?
    - If so, how will information from that plan be incorporated into the NMFS recovery plan? Can the plan be adopted as a NMFS recovery plan (see 2.2, Use of Alternative Recovery Plans)?
    - Staff may want to review and consider or reference recovery plans prepared under other nations' statutes, such as Canada's Species at Risk Act.

There are a number of NMFS resources and bilateral and multilateral agreements that can assist with, facilitate, or frame coordination on transnational species recovery planning. Questions about treatment of transboundary species can be directed to the Office of Protected Resources (OPR).

2.4.1.1 Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management

Canada, Mexico, and the United States are all parties to the MOU Establishing the Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management (Trilateral Agreement). Article III of the Trilateral Agreement states that the Trilateral Committee will... "develop, implement, review and coordinate specific cooperative

conservation projects and programs; and integrate its projects and programs into the conservation priorities of the country in which those projects and programs take place." The FWS International Affairs Office – DIC coordinates the annual trilateral meetings, although other FWS divisions and NMFS OPR are also involved.

For recovery planning efforts for species occurring in Mexico or Canada or both, it is important to coordinate with these countries through and receive endorsement from the Trilateral Committee. It is recommended that recovery plan coordinators contact NMFS OPR to obtain guidance on how to work with the Trilateral Committee. Agenda items requesting the endorsement of the Committee for actions in or involving Mexico or Canada (e.g., preparing recovery plans with or implementing recovery actions in Mexico or Canada) are prepared and submitted to the Co-Chair of the appropriate trilateral working table (i.e., CITES, Ecosystem Conservation, Executive, Law Enforcement, Migratory Birds, and Species of Common Conservation Concern) and presented at the annual trilateral meetings.

2.4.2 Species Occurring on Tribal Lands or of Tribal Interest

For species occurring on tribal lands or of tribal interest, a number of principles and policies must be followed in pre-planning, as well as during recovery planning and implementation. Although Native American tribes generally share the goal of conserving endangered and threatened species on their lands, tribal lands are not federal public lands, and NMFS has special responsibility to address listed species in accordance with the following principles:

- Respect tribal rights
- Acknowledge the treaty obligations of the United States towards tribes
- Use the government-to-government relationship in dealing with tribes
- Protect natural resources that the federal government holds in trust for tribes
- Solicit and utilize the expertise of affected Indian tribes by having tribal representation on recovery teams, as appropriate
- Work cooperatively with affected tribes to identify and implement recovery actions

Departmental and Executive policies related to tribes include the following:

- Executive Order on Consultation and Coordination with Indian Tribal Governments (2000)
- NOAA 13175 Policy: Procedures for Government-to-Government Consultation with Federally Recognized Indian Tribes and Alaska Native Corporations
- Joint Secretarial Order 3206 on American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act (Department of the Interior and Department of Commerce 1997)
- Executive Order on Indian Sacred Sites (1996)
- American Indian and Alaska Native Policy of the U.S. Department of Commerce (1995)
- Presidential Memorandum on Government-to-Government Relations with Native American Tribal Governments (1994; 59 FR 22951)

NMFS has national and regional tribal coordinators. These coordinators can assist in obtaining a complete and up-to-date list of contacts for all affected or interested tribes, as well as providing guidance for contacting and communicating, consulting, and working with tribes, especially in eliciting information from tribes and incorporating tribal perspectives into the recovery planning effort. Coordinators can also provide assistance with tribal consultation and facilitating meetings with affected tribes.

Consultation with NMFS should be offered to interested tribes during the development of a recovery plan.

One example of cooperation between tribes and NMFS is the partnership between the Skagit System Cooperative (SSC) and the Northwest Fisheries Science Center (NWFSC) Watershed Program to recover threatened Chinook salmon in the Skagit River Basin (see **Box 2-1**).

Box 2-1: Working with Local Tribes to Recover Salmon in the Pacific Northwest
SSC and NMFS formed a partnership to recover threatened Chinook salmon populations in the Skagit River Basin, Washington. SSC is the fishery management agency for the Swinomish Tribal Community, Upper Skagit Indian Tribe, and Sauk-Suiattle Indian Tribe. The SSC approached the Watershed Program of NMFS NWFSC about working together because they shared common goals. An MOU was developed as a formal vehicle to streamline cooperation.

The MOU identified the mutual goal of cooperatively developing a life-cycle model that relates the production of juvenile Chinook salmon to habitat characteristics in the Skagit River Basin. Both parties share equitably in the collaborative tasks outlined in the MOU: (a) developing the life-cycle model (including necessary research), (b) collecting and analyzing field data necessary to parameterize and update the model, and (c) designing additional model elements that incorporate further biological processes and life-history patterns, as needed. It is the shared project goals and envisioned products that drive this type of relationship.

This partnership works well for several reasons. First, each party has unique expertise necessary to obtain the common goal. The SSC envisioned developing a Chinook salmon life cycle model in 1995 and has been conducting habitat and juvenile Chinook salmon life history studies in freshwater and estuarine areas of the Skagit since that time. The NWFSC is specialized in modeling and communicating results to a wide audience. In addition, NWFSC provides a means of collecting data in important unsampled strata i.e., Skagit Bay offshore habitats. By cooperating, the job gets done faster and more thoroughly than it otherwise would. Without NWFSC, a major sampling strata would not be sampled. Without SSC, most of the rest of the data would not be collected. Together, they build a better model. This effort is also successful because it is being conducted as part of the larger Puget Sound recovery planning effort for Pacific salmon.

As tribute to the success of this partnership, within a short time after the MOU was drawn up, the SSC and NWFSC had started multiple field projects, and were well on the way to completion of the life history model. The partnership continues to expand on joint projects to address threatened populations of juvenile Chinook salmon in the Skagit River Basin and beyond.

2.4.3 Marine Mammals

All marine mammals that meet the MMPA (16 U.S.C. 1361 *et seq*.) statutory definition of “marine mammal” are protected under the MMPA. The MMPA specifies that conservation plans should be completed for any species or population stock designated as “depleted,” which includes marine mammals that are listed as endangered or threatened species under the ESA. Similar to ESA section 4(f), an MMPA conservation plan does not need to be prepared if it would “not promote the conservation of the species or [population] stock” (MMPA section 115(b)(1)).

For those marine mammals that are depleted due to their listing under the ESA, a recovery plan can also serve as the species' conservation plan under the MMPA. There is a key difference, however. The purpose of an ESA recovery plan is to improve the status of ESA-listed species to the point at which listing is no longer appropriate under the criteria set out in Section 4(a)(1). See Glossary (definition of Recovery). The purpose of an MMPA conservation plan is to conserve and restore the species or population stock to its Optimum Sustainable Population (OSP) level. The OSP level is the number of animals that will result in the maximum productivity of the population or species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element. Therefore, a recovery plan that also will serve as the species' MMPA conservation plan should consider the separate MMPA purpose of conserving and restoring the species to its OSP level.

The MMPA calls for conservation plans to be modeled after ESA recovery plans, and there are many parallels between an effective MMPA conservation plan and an ESA recovery plan. For example, research and management actions can be included similar to Recovery Actions. The schedule for implementing MMPA conservation actions can be covered in the Implementation Schedule of the document. Where the recovery criteria would address delisting under the ESA, MMPA conservation criteria would address attaining OSP.

There are a number of places in the MMPA that require the Services to take into consideration the recovery plan for an ESA-listed marine mammal when making MMPA decisions or taking management actions. Staff biologists developing recovery plans for ESA-listed marine mammals should be aware of these provisions and take them into consideration when developing the plan. Take reduction plans for ESA-listed marine mammals are developed pursuant to section 118 of the MMPA to address incidental mortality and serious injury of "strategic stock"[7] marine mammals affected by commercial fishing operations. Take reduction plans "shall be consistent with any recovery plan." More information on MMPA take reduction plans can be found at 50 CFR part 229. Similarly, the Services cannot authorize incidental take of ESA-listed marine mammals by commercial fisheries unless, among other things, an ESA recovery plan has been developed or is being developed (MMPA section 101(a)(5)(E)).

ESA recovery plans also play a role in the issuance of MMPA enhancement permits. An MMPA enhancement permit for an ESA-listed marine mammal can only be issued if, among other things, the activity to be authorized under the permit is consistent with an ESA recovery plan or MMPA conservation plan. If there is no recovery plan or conservation plan in place, the activity must be determined to be consistent with the Service's evaluation of actions required to enhance the species or population stock in light of factors that would be addressed in an ESA recovery plan or MMPA conservation plan. Thus, recovery plans for ESA-listed marine mammals should address issues such as rescue, rehabilitation, captive breeding, etc., for which requests for enhancement permits can be anticipated (see example **Box 2-2** Hawaiian Monk Seals). Captive maintenance of an ESA-listed marine mammal under an MMPA enhancement permit is only allowed if, among other things, the animal or its progeny is released as soon as feasible consistent with the objectives of any ESA recovery plan or MMPA conservation plan.

[7] The term "strategic stock" includes a marine mammal stock "(B) which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the [ESA] within the foreseeable future; or (C) which is listed as a threatened species or endangered species under the [ESA]." MMPA section 3(19).

Box 2-2: Hawaiian Monk Seals
NMFS' 2007 revised recovery plan for the Hawaiian monk seal (*Neomonachus schauinslandi*) illustrates the relationship between the recovery goals within a plan and the requirements for issuance of MMPA enhancement permits. In order to preserve the future reproductive potential for recovery, one of the highest priorities identified in the Hawaiian monk seal recovery plan was the development of a captive care program to nutritionally supplement juvenile female seals. The goal of the program described in the recovery plan was to increase the survival of female seals during the critical juvenile life stages that were experiencing low survival. The recovery program in the plan also addressed intervention where appropriate to ensure higher survival of juvenile and adult females; continuing actions to protect females from individual and multiple male aggression; and to prevent excessive shark predation. In 2014, to facilitate the captive care program described in the recovery plan, NMFS developed a NEPA programmatic environmental impact statement (PEIS) associated with obtaining the necessary ESA and MMPA enhancement permits to conduct the particular activities. The PEIS addressed the specific permits needed for rescue, rehabilitation, and translocation of pups when abandoned or in high risk areas (e.g., known shark predation) or from subpopulations known for low juvenile survival, as called for under the captive care program in the plan.

2.4.4 Cultural Sensitivity

Unique and varying cultural perspectives should be taken into consideration before and during the recovery planning process. For species that occur or have historically occurred in other countries (including marine mammals), on tribal, Native Alaskan or Native Hawaiian lands or water, or any other lands or waters owned or managed by or associated with a unique cultural entity, it is important to understand their interest in recovery of a particular species. See 2.4, Special Considerations, for guidance on transnational species or species occurring on tribal lands or of tribal interest. Communication and outreach with these nations, tribes, or other entities is necessary and in some cases, there are NMFS' resources and liaisons to facilitate such communication (e.g., NMFS OPR, NMFS Office of Policy, NMFS International Affairs and Seafood Inspection, etc.). It is important to provide these partners with clear guidance on how they can participate in the recovery planning process. For example, will they be given the opportunity to participate on the recovery team or contribute to the recovery plan in a different manner?

2.5 Organizing the Recovery Planning Effort

Recovery planning requires a process addressing both internal and external involvement. Organizational issues should be explicitly addressed in order to identify clear expectations, responsibilities, and lines of communication. A timeline for completion of key steps should be developed, which includes (and may help set) the frequency of public meetings and plan reviews, and time limits for each. The majority of these considerations can be addressed in the recovery outline, if desired (see Chapter 3, The Recovery Outline), but should be considered and planned for.

Some examples of internal NMFS logistics include such issues as the following:

- Who will be NMFS' lead region/staff biologist for the species? Any other staff, contractors?
- What type and level of coordination needs to occur among recovery, consultation, and permitting program staff, etc.?

- What other program or agency personnel (e.g., Habitat Restoration, Sustainable Fisheries, Habitat Conservation, Office of Law Enforcement, National Ocean Service, Marine Sanctuaries, etc.) should have involvement in recovery planning and implementation?
- Who will write, edit, or review the plan?
- How will emerging technology be used to develop the plan?
- Who will facilitate meetings (should an outside facilitator be brought in)?
- Who will maintain administrative files, including data and comments provided by experts and stakeholders?
- How can communication and coordination best be facilitated among the Regional, and Headquarters Office, and other agencies, including foreign agencies, when appropriate?
- Who will be the NMFS contact person for stakeholder inquiries?
- What is the agency process for reviewing and approving the plan and how much time can be devoted to review?

Involving experts and stakeholders outside NMFS in the planning process has become increasingly important (see **Box 2-3**: The Recovery Planning Process for Pacific Salmon). Whether it be through informal contacts, information-sharing sessions, online discussion forums, task forces, a recovery team, or other means, the relationships, roles, and responsibilities among planning parties should be explicit. Some of the external NMFS organizational considerations include the following:

- Does the species or ecosystem occur on tribal lands/waters or in other countries?
- Who will be integrally involved in plan preparation, and who will provide peer reviews?
- What stakeholders will be involved at which stages in the effort and how?
- What are the most appropriate methods for contacting/involving stakeholders?
- Do you need to plan time for public meetings?
- What is the most appropriate length of time for public comment periods?
- Should a facilitator be used in running recovery team, species expert, or stakeholder meetings?

The outcome of all these considerations should be a proposed organizational structure and timeline that can be used to assign or negotiate roles and responsibilities with all those involved in the planning effort, and to plan for their completion. For more information on recovery teams, see 2.5.2.4, Recovery Teams and Chapter 4.2.2, Managing Recovery Teams.

Box 2-3: The Recovery Planning Process for Pacific Salmon

NMFS developed a unique strategy for recovery planning for Pacific salmon and steelhead in the four states of Washington, Oregon, California, and Idaho. The approach epitomizes the creativity and ingenuity to craft the most effective and practical recovery program for each species under their jurisdiction. Eight recovery planning areas, or domains, were identified throughout the West Coast that encompass all 26 listed Evolutionarily Significant Units (ESUs) of Pacific salmon and steelhead. A Recovery Science Review Panel was appointed, comprised of scientists with national and international reputations.

NMFS appointed Technical Recovery Teams (TRTs) comprised of scientists to delineate populations, develop de-listing criteria, and to analyze factors that limit species survival. NMFS works with state, tribal and local interests to design a recovery plan development process specific to each domain that refines the TRT de-listing criteria based on recovery objectives, develops specific actions to achieve recovery goals, and estimates the time and cost for recovery. This process builds upon the many existing state and local conservation and recovery efforts already underway. The structure and timing of efforts depend to an extent on what processes are underway in a given area.

In some cases it may be appropriate for NMFS to establish a Recovery Team by adding individuals to the TRT who possess a wider range of expertise (such as policy, economic analysis, land use planning, etc.) or represent ongoing planning efforts. In other cases it may be appropriate to appoint a separate policy-oriented Recovery Team and have the TRT serve as science advisors to that team. In still other cases, it may be that stakeholder efforts have matured to a point where it is unnecessary to appoint a recovery team for development of the recovery plan. In such cases, the TRT could serve as science advisors to the stakeholder effort and that effort can submit a recovery plan as an "Alternative Recovery Plan" (see description of this above in 2.2, Use of Alternative Recovery Plans) for adoption by NMFS.

The key to this planning is to build upon existing efforts and develop new efforts where needed, and do so in a manner that sufficiently involves NMFS to ensure that recovery plans are consistent with the ESA and this guidance.

2.5.1 Recovery Plan Structure—3-Part Framework or Traditional

The structure of the recovery plan will have significant bearing on organizational decisions, particularly as related to scheduling and roles and responsibilities of those involved in plan preparation (see Chapters 1, Introduction to Recovery Planning, 4, Managing Recovery Plan Development, 5, Approaches to Recovery Plans and their Documents, 6, The Recovery Plan, and 7, Assembling the Plan and Procedural Requirements). The two different plan styles will likely require different allotments of time for various plan components. For example, a traditional plan will entail the development of a Background section in the plan, whereas a 3-part framework recovery plan may be able to springboard from a recently developed Status Review directly into development of recovery criteria. Determination of who and when to engage partners or stakeholders may also affect the structure of the plan. For example, for a species with a recently completed Status Review that utilized an expert species panel, the identification of individuals for expert elicitation for the recovery plan may have a head start. Regardless of which recovery plan structure will be followed, it will be useful to keep the structure of the recovery plan in mind as organizational issues are considered.

2.5.2 Plan Preparation

Recovery plans can be written by NMFS or by any of several different entities, depending on the species and the situation. As described below, contractors, recovery teams, stakeholders, and other groups may be involved in recovery plan development. However, the ESA recovery plan is an agency document, and we are ultimately responsible for its content. As decisions are made about who will write or contribute to the development of a recovery plan, it is critical to understand how FACA applies to the individuals or groups who will be involved, particularly for recovery teams, contractors, and other groups or processes, such as expert elicitation. FACA considerations are fully described in Chapter 4, Managing Recovery Plan Development.

2.5.2.1 Recovery Plan Coordinator

Effective leadership and accountability will facilitate plan production and quality. This may be best achieved by identifying a recovery plan coordinator. The coordinator should be designated prior to beginning any recovery plan, and this individual's role should be clearly conveyed to everyone involved in the planning process. The recovery plan coordinator's standard role is to be the key person involved in all aspects of the planning process to the degree necessary to keep recovery plan development on course.

In some cases, the recovery plan coordinator will be the biologist who listed the species; this individual will then go on to prepare the recovery outline and write the recovery plan. In other cases, the coordinator will not be directly involved in preparing planning documents but will work closely with plan authors and contributors. For complex, high-profile species, a full-time species coordinator may be designated, as has been done for the Hawaiian monk seal. For species with recovery teams, the recovery plan coordinator typically will be the recovery team liaison (and, in some cases, the team leader). Some situations may require a small group of coordinators rather than a single person; in these cases, individual roles and responsibilities should be clearly spelled out before embarking on the planning project. It is important to note that the recovery plan coordinator for a specific plan may or may not be the person designated in the Regional or Headquarters office as the recovery coordinator (at the regional level, this role may involve administrative and review functions rather than coordination of specific projects, but each office is different). In any event, the key consideration is that someone be assigned to take responsibility for seeing the recovery plan through both the production and review phases to a timely completion.

Note that it is important, in terms of accountability, for the recovery plan coordinator to be a NMFS employee, even if the plan is being contracted out or is in any other way being produced out of house. In cases where primary responsibility for producing and implementing a recovery plan has been delegated to a state agency or other organization, it may be appropriate to have the NMFS' recovery plan coordinator work hand-in-hand with a co-coordinator from that agency or organization. It is critical to have a key NMFS person responsible for ensuring that the process does not stall, that communication among all involved individuals and organizations is open and constructive, and that planning products meet NMFS' standards. These requirements clearly demand organizational skills, an ability to work well with others, a willingness to take responsibility for outcomes, and a conviction that the recovery plan will serve the best interests of the species.

2.5.2.2 NMFS Biologists

In some cases, it may be efficient to have an individual or a small group of individuals within NMFS, often experts on the species, write a recovery plan. Staff biologists are frequently used when a species has a small range or exists largely on publicly owned or managed land and waters and the number of potential stakeholders is small, making coordination less complex. A

NMFS biologist may also write a recovery plan when the biologist is one of few experts on the species. In some cases, a staff biologist may write the entirety or majority of a plan, but does so with input from internal colleagues, such as consultation biologists, or the input of a recovery team.

In the case of publicly owned lands, such as state parks, conservation areas, national marine sanctuaries or national wildlife refuges, the mission of the management area may coincide with the recovery of the species. This may also be the case with some privately owned lands such as trusts and preserves. In these cases, complexity and conflict are likely to be low, and it is possible for staff biologists to write effective recovery plans, particularly for species with a small range.

It is tempting to assign staff biologists to write recovery plans for the sake of efficiency; however, this method risks losing the buy-in of those needed to carry out recovery actions. It is important to ensure that the long-term benefits of recovery implementation are not sacrificed for a quick completion of a recovery plan. In any case, it is essential that authors of recovery plans coordinate with all stakeholders.

2.5.2.3 Contractors

In some circumstances, it may be most efficient to hire a contractor to write a recovery plan, or sections of a recovery plan, particularly if agency staff are not available. These individuals are chosen for their expertise. When writing the plan, they do not represent the agency or group with which they are otherwise affiliated. A draft plan does not necessarily reflect the views or positions of NMFS or any other involved agency. The plan a contractor submits may be accepted in full or in part by the Regional or Assistant Administrator, but the agency is under no obligation to do so. Contractors are usually hired through a contractual agreement.

In some cases, a contractor may be hired to write a recovery plan, but does so in cooperation and with the input of a recovery team and NMFS recovery plan coordinator; in other cases, a contractor can have a lesser level of involvement, such as assisting in gathering information from species experts. As in the case of agency biologists writing plans, it is imperative that individuals who are contracted to write a recovery plan coordinate with stakeholders, including private landowners, land managers, users of the areas in which the species occurs, and other interested individuals and organizations. In cases where it is determined not appropriate for a contractor to coordinate with the stakeholders, NMFS must carry out these activities appropriately, and the contract should clarify the roles of the contractor and NMFS with respect to these activities.

2.5.2.4 Recovery Teams

Recovery teams may be convened/appointed to assist and advise NMFS on a variety of aspects of the development and implementation of a recovery plan (see Chapter 4.2.2, Managing Recovery Teams). Recovery teams are often used to write or develop the key components of recovery plans, especially when numerous individuals and organizations have expertise or interest in the species for which the plan is being written. Teams may also be asked to provide advice and assistance to NMFS on planning-related scientific issues and recovery implementation. In this capacity, some recovery teams have been requested to provide technical assistance on other aspects of NMFS responsibilities as they relate to the species' recovery, e.g., prioritization of research and management proposals.

Recovery teams can bring together the diversity of expertise most appropriate to understanding a particular species' endangerment and for devising an effective recovery program. Recovery

teams may also provide stakeholders and jurisdictions (including state, tribal, and local governments) the opportunity to participate in the planning and implementation of actions necessary to recover and sustain the listed species; ensure that a diversity of options for the recovery strategy are considered; and help to develop plans that are practical and feasible and that minimize socioeconomic impacts (although they must lead to recovery of the species within a reasonable timeframe). If teams provide policy analysis or recommendations, recipients must be cautioned that this information represents the team's views, not necessarily the views of NMFS or any other agency.

The decision whether or not to appoint a recovery team depends on the specific circumstances of the species. Generally, teams are appropriate where there is greater public interest (e.g., more and diverse stakeholders, controversial issues) and/or a wider species' range. Decisions whether to have a recovery team and, if so, potential roles of team members in plan development and implementation may be addressed in the recovery outline (see Chapter 3, The Recovery Outline, and **Box 2-4**).

Box 2-4: Decision Point: Recovery Team or Not??
Consider factors such as:

- the species' range (wide-ranging or endemic),
- level of controversy, and
- the scope of the plan (single species, multiple-species, ecosystem focus)

Recovery teams have numerous advantages in that they do the following:

- obtain diverse opinions and ensure dialogue regarding important recovery issues;
- increase the depth of expertise (biological and otherwise) contributing to plan development;
- provide a mechanism for multiple agencies and stakeholders to interact;
- address and resolve controversial issues early in the process;
- impart greater credibility to decisions made by NMFS regarding the species' recovery program;
- develop advocates for the recovery program;
- facilitate the implementation of recovery actions; and
- are FACA exempt.

Disadvantages of recovery teams may include the following:

- a tendency for unwieldy and nonproductive meetings, especially if the team is large or includes persons who view their special interests as more important than the recovery of the species (see 2.5.2.4.3, Team Size and Structure);
- the investment of considerable energy and resources;
- difficulties bridging knowledge gaps among scientists, agency representatives, and other stakeholders;
- more complications in recovery plan development due to diverse viewpoints and sheer number of opinions;
- difficulty managing the dissemination of information (for example, members may inadvertently share incomplete or inaccurate information with the public or media);
- potential for misunderstandings if all team recommendations are not accepted by NMFS; and
- potential for perceived unfair representation or conflict of interest if non-governmental organizations (NGOs) and/or industries represented on a team are seen as influencing decisions that may benefit them.

If a recovery team will be used to assist in the development of the recovery plan, team members must be formally appointed. Guidance concerning the appointment and management of recovery teams, and FACA considerations, is provided in Chapter 4.2, Managing Approaches to Plan Development.

Before appointing a recovery team, the purpose of the team should be considered (i.e., is the team being comprised primarily for developing a plan, implementing a plan, or both, or for carrying out a specific task, such as developing a strategy to address a specific threat). Once this is considered, team membership, size, and structure are key considerations in ensuring a functional and effective recovery team. A Terms of Reference (TOR) can be developed to guide the composition of the team and define the roles and responsibilities of team members (see Chapter 4.2.2.4, Terms of Reference).

2.5.2.4.1 Identification and Selection of Team Members

Recovery teams usually consist of a team leader, a team liaison, and a manageable number of team members (see 2.5.2.4.3, Team Size and Structure below). Although diversity of membership is encouraged, recovery team membership should be based on relevant expertise, not affiliation, and all members of the recovery team must be committed to the recovery of the species. Team members should be selected for their knowledge of (1) the species, closely related species, ecosystem, or relevant disciplines, e.g., local planning, ecology, genetics; (2) the threats contributing to the status of the species, e.g., resource extraction operations, forestry, hydrology; or (3) various elements of recovery plan design or implementation, e.g., land-use planning or knowledge of alternatives to maximize effectiveness of implementation. Teams are to be composed of recognized experts in their fields and are encouraged to explore all avenues to achieve recovery. Membership should include people with experience in managing species and in restoring and managing habitats, and individuals familiar with the Section 7 consultations, HCPs, or other regulatory processes that can involve the implementation of recovery actions and thus affect the species' current and future status. Additional considerations when selecting team members include (1) the ability to work together in team situations and (2) the ability to make time available to fulfill the needs of the recovery planning time frames. Service personnel may serve on recovery teams outside of being a team leader or team liaison.

2.5.2.4.2 Team Leaders and Team Liaisons

Although the team leader and the team liaison may be the same person, the team liaison is always a NMFS employee while, in many cases, the team leader is not a NMFS employee. The individuals in these positions work closely together to handle logistics of meetings, communication among members and between members and the agency, and ensure that the team stays on schedule. Both must have good organizational and leadership skills and have the ability to maintain a productive atmosphere for the recovery team. The team leader in particular is generally chosen because they are well respected and are considered fair and unbiased. The latter is especially important for species' plans that will involve contentious issues. In the case of recovery teams for binational (or transnational) species, co-team leaders, with one leader from each country, may be most appropriate.

Responsibilities of the team leader and team liaison will vary due to the uniqueness of each recovery planning effort, but both roles often require a considerable time commitment. Responsibilities of the team leader and team liaison can be further detailed in the TOR for each recovery team. General responsibilities of both are listed below.

Team Leader:

- Works with the team liaison to plan recovery team meetings
- Chairs and facilitates recovery team meetings (although a professional facilitator may be brought in for specific meetings in which a subject is going to attract a large number of people or is particularly contentious, or all meetings, if necessary)
- Takes a lead on overseeing recovery plan development
- Works with the team to identify and recommend priorities for recovery implementation

Team Liaison:

- Provides guidance to the team regarding their role and function
- Ensures that the OPR Director/Regional Administrator's requests and recommendations are addressed
- Serves as the conduit through which recommendations, team minutes, and other communications to and from the OPR Director/Regional Administrator are transmitted

- Keeps the Regional Office and Headquarters informed of team opinions and positions on critical issues, and recovery planning progress
- Represents, elicits participation of, and informs experts in other NMFS or NOAA programs (e.g., Habitat Conservation, Sustainable Fisheries, National Marine Sanctuaries), as appropriate

2.5.2.4.3 Team Size and Structure

Team size should balance the need to include diverse expertise and experience with the need to optimize manageability. Clark et al. (2002) suggests that diverse teams, particularly those with at least one non-federal member, may result in plans that are more likely to be implemented and effective. However, both Clark et al. (2002) and Gerber and Schultz (2002) also note that larger teams do not correlate with better plans or improved status trends for listed species. Management literature regarding team size indicates that teams may consist of 2 to 25 members (Hiller 1998), although the size generally suggested for optimal functioning is 5 to 8 (Baguley 2002, Harrington-Mackin 1994). Baguley (2002) states that the ideal size for a well-functioning team is 5 to 7 members and that no more than 10 members should be appointed to the team if full participation and involvement is being sought, albeit larger teams allow a wider range and diversity of skills and abilities. Harrington-Mackin (1994) defines small teams as having 6 to 12 members and large teams as having 15 to 25 members. She cautions that larger teams are generally more appropriate when they are tasked with a simpler assignment or when the team is to be subdivided into specialized functions; in any case, members of large teams must recognize that they will not have equal participation in all issues (Harrington-Mackin 1994). These team size sideboards are found throughout business management literature.

If a larger team is appropriate for the planning effort, one way to ensure functionality is to divide the team into subgroups based on affiliation or other appropriate characteristics (e.g., a tribal subgroup, agency subgroup, science subgroup, and stakeholder subgroup). At certain times during the process it may be beneficial for the entire team to meet, such as for the kick-off meeting or to discuss a draft, whereas at other points in the process it may suffice for an individual subgroup to meet on its own to conduct a specific activity such as to develop a quantitative model. Having a large team with subgroups can increase the logistical complexity of managing the team and should only be considered in rare circumstances where the benefits outweigh the complexities.

2.5.2.5 Expert Elicitation

Expert elicitation is a useful mechanism for obtaining information from species and management experts. Expert elicitation is a systematic process of formalizing and quantifying expert judgments (informed beliefs or opinions) about uncertain quantities. Expert elicitation may be used within appointed recovery teams, but also may be used as an alternative to a recovery team to help inform recovery planning decisions (see Chapter 4.2.2, Managing Recovery Teams). The staff biologists writing the recovery plan can glean helpful information in developing recovery criteria and site-specific management actions by inviting experts to provide individual judgements through a structured expert elicitation process. Where expert elicitation is sought outside an appointed recovery team, these experts have not been appointed to a recovery team and are not exempt from the FACA. The staff biologist must ensure that a group consensus is not sought.

Smith et al. (2018) provide advice on formal elicitation of experts. To ensure an effective process, specific information needs should be identified in order to target the correct expert. A review of literature that is relevant to the information gap can help identify the correct expert. Other means are examining professional organizations, professional credentials, position, the

areas of expertise, and relevant experience of potential candidates. Selection of experts should be transparent, unbiased, and represent a broad diversity of expertise and professional judgments related to the topic (Smith et al. 2018). Also, the format to acquire the needed information should be determined. Information can be gathered through a variety of formats including, but not limited to workshops, interviews, or questionnaires. To ensure all experts are working with the same familiarity of the information, sufficient discussion and opportunities for any expert to ask questions should occur before eliciting their responses. Experts are asked about facts and information based on their *individual* knowledge of the subject matter. By definition, expert opinion is subjective, so results usually will not be precisely repeatable. Because of this, expert opinion approaches have limitations because of lack of data knowledge and are susceptible to personal and institutional biases. Staff biologists should be aware these potential biases when interpreting the information.

2.5.2.6 Use of Other Meetings and Groups

Whether NMFS biologists, contractors, or recovery teams are writing the recovery plan, informal and formal meetings and groups can be useful to share information, accomplish planning tasks, explore multiple points of view, and generate interest in the planning endeavor (see **Box 2-5**). Several options to involve individuals or groups are provided below:

- Work with experts on a one-to-one basis or in groups through an expert elicitation process. Often, this is the most productive way for the Recovery Plan Coordinator and/or for the plan author to proceed.
- Begin the recovery planning process with a “kick-off” meeting or workshop in which experts and other key contributors, interested individuals and organizations, can get acquainted, share information and ideas, express opinions, and help establish a baseline understanding of the species with respect to recovery needs and opportunities.
- Use informal meetings to invigorate the process at various points during plan development. These meetings (including conference calls, video conferencing, or any other mode of group discussion) can be task- or topic-oriented; they can help keep the planning process moving forward; and they can be more or less inclusive of individuals with various expertise, interested individuals and organizations or the public. Examples include quantitative modeling workshops, meetings to discuss research findings, single-issue discussions, meetings with state agencies to discuss cooperative efforts, and meetings to review draft documents.
- Set up informal planning groups, task forces, topical committees, or communication networks to address specific planning issues or to obtain various types of input.

All planning approaches that involve multiple parties require a significant degree of initiative and coordination. This should be anticipated when developing schedules and budgets and setting out milestones. Informal meetings and groups hold the potential for being much more fluid, inclusive, and focused than recovery teams, but they are not necessarily less time consuming. Good communication is all-important, and follow-up and appropriate documentation is vital, i.e., meeting notes should be shared and kept with the decision file, and participants should be apprised of their continuing roles in the planning process. If the plan is being prepared by a contractor or independent party, this individual should be involved in or kept informed of all substantive discussions as well.

Recovery teams and informal planning meetings or groups are not mutually exclusive. Recovery team members may join larger recovery meetings when desired; recovery teams can work alongside task forces; team members can be consulted as individual experts, etc. For any given

planning project, the variety of expertise and richness of experience should be tapped in the most effective way possible and with a clear purpose in mind.

Informal groups are not recovery teams and they are not exempt from the FACA. The staff biologist must ensure that a group consensus is not sought. Within this legal constraint, however, the informal approach can be an effective way of garnering individual viewpoints and new information.

Regardless of the approach used to involve groups or individuals, it is often useful to have a written document to clarify roles and responsibilities, and to make clear how the group maintains compliance with FACA.

See **Box 2-5** for an example of informal meetings/workshops to gather input from stakeholders and others.

Box 2-5: Recovery Planning for Southern Resident Killer Whales: A Custom Recovery Planning Process for a Unique Species

Killer whales, or orcas, are icons in the Pacific Northwest with special cultural significance to the community. The public is interested and involved in the recovery of the local Southern Resident killer whales. Several NGO groups are committed to conservation of killer whales and many citizens care deeply about the fate of the orcas. In addition, the threats identified in the ESA listing have connections to many important industries and recreational activities, such as fishing, shipping, whale watching, oil and gas, agriculture, development, and construction. To allow for broad participation in recovery planning, NMFS developed an open and transparent process. This process did not include a recovery team, which would have been unwieldy if all interested stakeholder groups were represented. Instead, NMFS hosted a series of public workshops on the main threats to the whales and released several drafts of the recovery plan for public comment.

> **Workshop participants:** Federal, state and local government agencies, tribes, scientists, industry associations, conservation and education groups, and concerned citizens. Canadian scientists and managers also participated in the workshops to help coordinate with recovery planning efforts in Canada.
>
> **Workshop format:** Morning sessions with presentations by scientists on the state of our knowledge regarding threats and impacts to the whales. Afternoon brainstorming sessions to gather individual input and suggestions for recovery actions.
>
> **Workshop outcome:** NMFS posted presentations and notes from the workshops on their regional web page and used the information to draft a recovery plan.

NMFS led development of the plan, working closely with the Washington Department of Fish and Wildlife. After incorporating public comments on multiple drafts, NMFS finalized a recovery plan, which includes a wide range of management and research actions. The implementation schedule identifies the responsible parties for each action. Many of the responsible parties participated in the workshops and provided comments on the draft plans. The open and inclusive process for identifying recovery actions and completing the plan was important to lay a foundation for the broad long-term collaboration that will be necessary to implement the recovery program and update the plan in the future.

2.5.3 Developing a Production Schedule

A schedule for accomplishing various planning actions and a method for monitoring progress should be developed early in the pre-planning phase. This schedule should include important meetings (including public meetings), turnaround times for internal and peer reviews, and other milestones (See Chapter 1.4.3, Agency Roles, Responsibilities and Timeframes). Scheduling tools such as Gantt charts can be helpful in ensuring the recovery planning process stays on track (**Figure 2-1**).

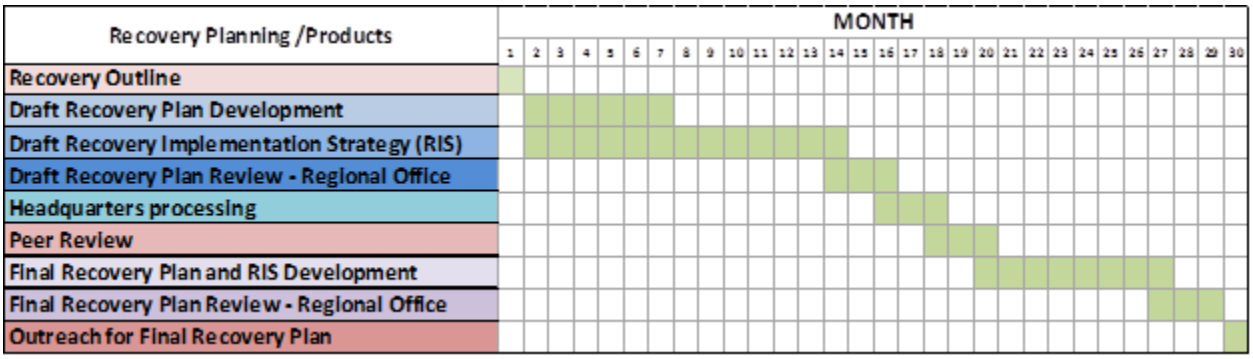

Figure 2-1: Example of a Gantt chart to track major components of the recovery planning.

2.6 Preparing for Stakeholder Involvement

Stakeholders, broadly defined, are those who are involved in or affected by the recovery of the species or by particular actions taken to recover the species. The public at-large, in comparison, constitute a broader net of persons that we engage with to raise awareness (see Chapter 4.4, Public Communication and Outreach). Stakeholders can include, but are not limited to, other programs within NMFS, other government agencies (federal, tribal, state, and local), affected landowners or recreational and commercial fishers, academic scientists, conservation organizations, industries, or members of the general public. Establishing relationships with stakeholders as early in the process as appropriate and feasible is essential to building a foundation for their involvement that should result in the development of recovery strategies that are practicable and likely to be implemented. Stakeholder involvement can be fluid over time, with participation ranging from extensive input into the development and ongoing implementation of the plan to interest in a specific recovery action. For engagement with tribes, as sovereign nations, and other countries, please see 2.4, Special Considerations.

The recovery outline (see Chapter 3, The Recovery Outline) may include initial ideas about how and where stakeholders are anticipated to be involved in the planning process. This may include preliminary identification of, and a strategy for involving, appropriate stakeholders. In most cases, because of time constraints, formal stakeholder involvement will likely not begin until after the outline is complete. Additional information on involving stakeholders in the development of a recovery plan is discussed in Chapter 4.3, Managing Stakeholder Involvement.

Determining who the relevant stakeholders are depends upon the situation and type of recovery actions that may be needed for the species. Having the right stakeholders is essential to developing an effective recovery plan and realizing its implementation. Questions to ask when identifying relevant stakeholders include the following:

- Who commented on the proposed listing or were otherwise involved in the listing process?
- Who is most dependent on the resources involved?
- Who is most interested in recovering the species?
- Who best represents those likely to affect or be affected by the recovery process?
- Who has been affected by other ESA regulatory mechanisms (e.g., Sections 7 and 10, etc.) related to the species?
- Who can help you meet the potential recovery goal, objectives, and criteria?
- Who is likely to be responsible for actions required for recovery?
- Who possesses claims, including legal jurisdiction and customary use, over the resources involved?
- Who is most knowledgeable about, and capable of dealing with, the resource issues?
- Who specifically is having an impact on the conservation of the species?
- Who has been primarily managing the species and its habitat?
- Have there been similar conservation initiatives in the area? If successful, who was in charge and how did stakeholders participate?
- What stakeholder participation might be missed without a special effort?
- Who is likely to mobilize for or against what may be needed?
- Who can make what is intended more effective through their participation or less effective by their nonparticipation or outright opposition?
- Who can contribute financial and technical resources?
- Who will use the plan to justify funding requests, e.g., states or other NMFS or NOAA programs?

Once a list of potential stakeholders is developed, the next step is to identify specific individuals or groups that are willing to participate in the recovery process. This is best done by learning how prospective stakeholders are organized and how they operate, determining their relationships to one another, and understanding the social, cultural, and institutional factors that affect the ability of stakeholders to participate. It may also be useful to disseminate information about the proposed recovery activity, enabling interested stakeholders to identify themselves to you.

NMFS promotes stakeholder participation early in the recovery process by (1) making recovery outlines available to the public via internet sites, and (2) soliciting information about the recovery needs of the species or ways to minimize the social and economic impacts of implementing recovery actions. For further detail, see Chapter 4.3, Managing Stakeholder Involvement.

2.7 Setting up the Decision File

The decision file documents the basis upon which the agency has made its decisions and the procedures that the agency followed. The decision file for a recovery plan consists of all documents and materials considered by the decision-makers in making decisions concerning the development and implementation of the recovery plan, including those that reflect positions contrary to the final outcome. Examples of documents that should be included in the decision file include the following:

- Relevant portions of policies, guidelines, directives, manuals, books, etc.
- Technical information, sampling results, survey information or other studies, reports, or scientific articles relating to the species covered in the plan
- Notes, minutes, and decisions by a recovery team, if appointed

- External correspondence relating to the plan, including communications from other agencies and the public, and responses to those communications whether by email or other means
- Notes or minutes of meetings with stakeholders, invitations and outreach material
- Transcripts of public hearings and other meeting notes
- Telephone conversation records, unless they are personal notes (see below)
- Petitions or other legal documents received from groups
- Draft versions of the plan that were circulated outside the agency
- *Federal Register* or other notices or formal documents relating to the plan
- Decision documents
- Public and peer comments and indication of how comments were addressed

Personal notes written and controlled by individual staff members solely for their own use are not included in the decision file. The decision file should be established early in the process of recovery planning and maintained throughout the process.

A good decision file documenting the processes and decisions involved in developing and implementing a recovery plan is extremely important because, among other things, it provides a record for why different options were selected, which will be invaluable in the future during implementation, when revisions may be needed, or in the event of staff turnover. The decision file also would be the starting point for developing an administrative record in the event of a legal challenge. If a court determines that it is able to hear a lawsuit regarding an ESA recovery decision, then the administrative record (typically a subset of documents contained in the decision file) will serve as the basis for judicial review. Two laws are particularly relevant to the establishment and maintenance of the decision file and administrative record—the Administrative Procedure Act (APA) and the Freedom of Information Act (FOIA). NMFS has issued Guidelines for Agency Administrative Records, which are available here, NOAA Guidelines for Compiling an Agency Administrative Record.

For more information on developing and maintaining the decision file, see Chapter 4.6, Maintaining the Decision File.

2.7.1 Administrative Procedure Act (APA)

The APA sets standards for judicial review of certain agency actions and public involvement in a rule-making process. In some circumstances, the ESA may provide a court the power to review a recovery decision. In these situations, the court will look to the agency's administrative record to see the basis for the agency's decision. The APA allows a private party to challenge the legal sufficiency of certain "final agency actions"[8] or bring a lawsuit for an "agency action unlawfully withheld or unreasonably delayed." If a court has jurisdiction to review an ESA recovery decision under the APA standards, then the court should uphold the plan or decision unless it is found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." In conducting its examination, the court will consider whether the agency acted within the scope of its legal authority, whether the agency adequately explained its decision, whether the agency based its decision on facts in the record, and whether the agency considered the relevant factors. Putting forward a successful defense of an ESA recovery decision thus largely depends upon the adequacy of the agency's administrative record.

[8] The term "final agency action" is a legal term of art and does not simply mean the final version of an agency document.

The APA also requires the publication in the Federal Register of rules and a period for public comment. Although a recovery plan is not a rulemaking and does not come under the public notice and comment requirements of the APA, the ESA itself requires public notice and the opportunity for comment on new or revised recovery plans. The adequacy of the public comment process therefore may be reviewed under APA standards. The decision file (and administrative record if the plan is challenged) should document NMFS' public comment process, including that the agency considered the comments received. Thus, a NOA of the draft plan is published in the Federal Register, and interested parties and the public must be given an opportunity to provide information and comments.

2.7.2 Freedom of Information Act (FOIA)

FOIA states that any person has the right to request access to federal agency records. Federal agencies are required to disclose records upon receiving a written request for them, except for those records that are protected from disclosure by the nine exemptions and three exclusions of the FOIA. This right of access is enforceable in court. Records include all books, papers, maps, charts, plans, architectural drawings and microfilm; all machine-readable material such as electronic mail, magnetic tape, disks, drums, and punched cards; all audiovisual material such as still pictures, sound and video recordings; and all other documentary materials (including handwritten notes), regardless of physical form or characteristics, made by or received by the Services pursuant to federal laws or in connections with the transaction of public business and preserved or appropriate for preservation by the Service as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities, or because of the informational value of the record (44 U.S.C. 2211).

The nine exemptions of FOIA follow:

1. Matters of national defense or foreign policy
2. Internal personnel rules and practices
3. Information specifically prohibited from disclosure by other statutes
4. Trade secrets, commercial or financial information (confidential business information)
5. Privileged interagency or intra-agency documents
6. Personal information affecting an individual's privacy
7. Records compiled for law enforcement purposes
8. Records of financial institutions
9. Geological and geophysical information, including maps, concerning wells

However, if a portion of a record falls within one of the exempted categories it does not mean that it is automatically excluded from release (*note:* an entire record would rarely fall within an exemption). If an exemption is to be invoked to deny access to information, a justification for withholding the information must be provided — a mere assertion that an exemption applies is insufficient.

Information that has already been released in some way to the public can no longer qualify for an exemption. Generally, once a document has been released to a non-agency party, it loses its exempted status and cannot be withheld as a privileged document in litigation. Although this issue is not necessarily limited to FOIA, FOIA is a common form of release. This serves as a reminder to be cognizant of what is shared with stakeholders and others outside the recovery team. However, the Services should be able to release agency documents to recovery team members without waiving their ability to withhold the documents under FOIA, as long as team members do not distribute the documents. Consider whether confidentiality should be one of the ground rules for the recovery team. Such documents should be labeled as confidential and team

members should understand that such documents should not be shared outside the recovery team process.

2.8 Pre-Planning Checklist

The following checklist will ensure staff consider all aspects of recovery pre-planning.

1. Have you determined the biological scope of your recovery plan (i.e., single species, multispecies, and ecosystem)?
2. Is there any need to exempt or defer your plan (*note*: this will very rarely be the case)?
3. Is there an alternative plan that could be adopted in lieu of a recovery plan?
4. Will your recovery plan require special considerations? Is the species for which you are planning a transnational species? Does it occur on tribal lands or is it of tribal interest? Is it a marine mammal?
5. Have you determined how you will structure your recovery plan (i.e., 3-part framework versus the “traditional” approach)?
6. Have you determined who will write the recovery plan (e.g., NMFS biologist, contractor, recovery team)?
7. Have you identified and designated a recovery plan coordinator?
8. Have you determined whether to convene a recovery team? If so, have you considered size and composition of the team and identified and appointed team members? Have you identified and invited a recovery team leader(s) and liaison(s)?
9. Have you considered working with other individuals or groups, either in lieu of a recovery team or to supplement a recovery team, to elicit expert information to develop the recovery plan?
10. Have you developed a production schedule for your recovery plan?
11. Have you prepared for stakeholder involvement?
12. Have you set up the decision file?
13. Have you familiarized yourself with legal considerations, such as APA, FOIA, and FACA?

3 The Recovery Outline

Conservation actions for imperiled species can be initiated before or after a species has been listed as a threatened or endangered species. For some species, conservation needs are outlined prior to listing in such documents as candidate assessment forms, state conservation agreements, candidate conservation agreements, or other management plans and strategies. Following, or ideally parallel to, listing, development begins on recovery plans, which contain long-term recommendations for meeting reclassification (for endangered species) and delisting criteria. In the interim between listing and recovery plan approval, the recovery outline provides a preliminary strategy for conservation that conforms to the mandates of the ESA. The recovery outline guides initial recovery actions, such as identifying information gaps, and ensures that future recovery options are not precluded due to a lack of interim planning. The recovery outline also lays the groundwork for recovery planning by documenting pre-planning decisions.

Recovery outlines or their functional equivalent must be prepared for all listed species that will have an approved recovery plan, unless approval of the recovery plan is imminent or delisting is being proposed. This applies equally to multiple-species and ecosystem strategies. All listed species will have a relevant, documented strategy, whether it be a recovery outline or a recovery plan, or a strategy for efforts to aid recovery (see Appendix B) that guides the conservation effort.

3.1 Definition and Purpose

The recovery outline is a succinct, strategic document used to direct the recovery effort and maintain recovery options for a species, group of species, or ecosystem, pending an approved recovery plan. Recovery outlines constitute an important part of the decision file for listed species.

For species for which we intend to develop recovery plans, the primary function of the recovery outline is to present a preliminary conservation strategy that will guide recovery actions in a systematic, cohesive way until a recovery plan is available.

The recovery outline identifies a range-wide conservation strategy that includes actions urgently needed at the time a species is listed, as well as actions that constitute the early steps of prolonged efforts. By providing a consistent view of the species' status and recovery needs, the recovery outline can help biologists and action agencies understand the primary impacts of concern and encourage early conservation efforts as well as incorporation of such efforts into projects that may need review under ESA Sections 7 and 10. It can also help project proponents and action agencies better understand how to avoid narrowing or precluding future recovery options, e.g., allowing a project or program to result in the loss of a portion of habitat that might later be determined to be extremely important to the recovery of the species. With respect to critical habitat, identification of recovery needs can provide a context for management decisions within designated areas and inform delineation of appropriate habitat for future designation. Using the recovery outline as an organizational tool for both guiding and recording pre-planning decisions (see Chapter 2, Pre-Planning Considerations) will help expedite the recovery planning process, particularly in terms of thinking ahead about who will be involved in recovery plan preparation and how stakeholders can most effectively be involved in the planning and implementation process, if applicable.

When developing a recovery outline, keep in mind its practical uses as a hands-on guide to action and, as time permits, a pre-planning document. The recovery outline should be as

concise as possible, although length and level of detail will vary among species. It should be prepared with the users in mind, i.e., those biologists, managers, and decision makers who will be implementing recovery actions. The recovery outline is not meant in any way to detract from the recovery planning process; it should not become a de facto recovery plan, nor should it deter efforts to expedite the recovery planning process.

3.2 Recovery Outline Template

The following template provides assistance in developing a recovery outline. Prompts in *italics* (which should be deleted prior to finalization of the recovery outline) in each section are intended to trigger thinking on the types of issues that might impede or benefit a species recovery, and the types of activities that might address those issues. The specific content of a recovery outline should be tailored to the specific life history needs and threats relevant to the species' current status and recovery. At a minimum, all recovery outlines should include:

Species name
Range
Recovery Priority Number
Listing Status
Lead Regional and Headquarters Office, and any cooperating offices
Background
Interim Recovery Program, including Interim Recovery Strategy and Action Plan

Recovery Outline
[Photograph optional]

Disclaimer Statement: *Insert standard disclaimer statement with appropriate information.* This outline is meant to serve as an interim guidance document to direct recovery efforts, including recovery planning, for the recently listed [insert species name(s)] until a full recovery plan is developed and approved. An interim strategy for recovery of the species is presented here, as are recommended high priority actions to stabilize and recover the species. The recovery outline is intended primarily for internal use by the Services as a pre-planning document. Formal public participation will be invited upon the release of the draft recovery plan for this/these species. However, any new information or comments that members of the public may wish to offer as a result of this recovery outline will be taken into consideration during the recovery planning process. Interested individuals, organizations, and parties may contact _____.

Species Name: Common, Latin [*may reverse for plants*]
Species Range: *states and countries*
Recovery Priority Number: *NMFS 1-11C; explanation provided below*
Listing Status: *E or T; date*
NMFS Lead Regional Office or Headquarters:
Lead Contact:

1) Background

This section should be a brief, succinct summary of conservation-relevant information for the species, drawn almost exclusively from the recently completed Status Review and listing rule. It should heavily reference these science documents, and/or listing rule rather than repeat them. Each heading below should be limited to one paragraph, if possible, although the use of bullets instead of a narrative format is acceptable. You can provide a link to the appropriate section of the Status Review for additional information for any of these sections. The Background provides

the basis for mapping out the interim recovery program, which focuses on a recovery strategy and brief action plan for achieving the strategy. The strategy and action plan are the meat of the recovery outline, as they will guide decisions that will affect the recovery of the species until a recovery plan is completed.

- **Type and Quality of Available Information to Date:** *Describe the data available on the species. Be sure to include the type and quality of this data, important information gaps (and, if any, how information gaps might affect identification of effective recovery actions). Also, describe uncertainties about information concerning the species, and identify constraints that might affect the interim recovery program.*

Brief Life History: *Important aspects of the species' biology and ecology that are relevant to its endangerment and conservation (e.g., taxonomic classification, physiological needs, migratory behavior, diet, reproductive strategy, vulnerable life stages, obligate relationships). Draw from the Life History & Ecology section of the Status Review. Should be limited to a paragraph in most cases.*

Limiting Life History Characteristics: *Focus on life history characters that might limit or dictate species responses or constrain choice of recovery actions, such as: specific habitat requirements, low fecundity, delayed maturity, etc. Draw from the Life History & Ecology and/or Demographic Risk Parameters in the Status Review. Should be limited to a paragraph in most cases. See* ***Box 3-1****: Prompt Sheet for Assessment of Limiting Life History Characteristics.*

Primary Threats: *Focus on the most significant threats identified in the Status Review in need of immediate attention to slow or prevent further decline of the species prior to recovery plan completion - Should be limited to a paragraph in most cases. See* ***Box 3-2****: Prompt Sheet for Assessment of Primary Threats.*

Current Biological Status of the Species: *Draw from the Executive Summary of the Status Review (NMFS) -Should be limited to a couple of paragraphs in most cases. See* ***Box 3-1****: Prompt Sheet for Assessment of Limiting Life History Characteristics.*

- **Overview**: *Historical and current distribution, population sizes, rates of decline, etc*.
- **Demographic Viability Parameters (4 VPs)**: *What is the current status of the 4 VPs for this species?*
    - Abundance/Trends
    - Spatial Distribution/Structure
    - Diversity
    - Productivity

Conservation Efforts to Date: *Identify actions taken pursuant to state wildlife action plans etc., with a focus on what steps have been taken to address the species' conservation needs. What has worked, what has not, and why, if known? See* ***Box 3-3****: Prompt Sheet for Assessment of Conservation Actions to Date.*

Recovery Priority Number: *Provide # and rationale -The recovery priority number for the species (or for each species in a multispecies group) is based on the criteria in the Recovery Priority Guidelines (NMFS 2019, 84 FR 18243) and indicates the priority of the species for recovery plan development and implementation. Section 4(h) of the ESA requires the Services to prioritize developing and implementing recovery plans. NMFS will first assess the recovery priority number in the recovery outline. Recovery priority numbers may be reassessed and*

revised as circumstances warrant, but are typically reassessed during recovery plan development, review of data for compiling the Biennial Report to Congress (ESA Section 4(f)(3)), and during the 5-year review process (ESA Section 4(c)(2); see Chapter 8.3.2, 5-Year Review). A rationale for the recovery priority must accompany the priority number. This rationale should explain how each criterion applies to the particular species. For instance, the rationale should include how you determined the species demographic risk and recovery potential for all three components--major threats well understood, U.S. jurisdiction exists, and certainty of recovery actions being effective.

2) Interim Recovery Program

Interim Recovery Strategy: *The Interim Recovery Strategy provides the logic connecting the species biology and threats to the suite of recommendations in the Action Plan. It may briefly describe what recovery of this species might look like in terms of the 4 VPs. This should provide a foundation for identifying and implementing initial recovery actions, as well as inform decisions made under Sections 7 and 10 of the ESA.*

Action Plan: *The action plan should identify: 1) survival needs that must be addressed immediately (for example, reverse population decline); 2) key recovery actions that should be initiated immediately; 3) the primary threats that the actions will address; and 4) where appropriate, potential partners for implementation. The types of actions might include, but are not required or limited to:*

- *reduce primary threats identified in the Status Review to prevent further decline in species' condition*
- *protect or restore key habitats identified in the Status Review*
- *protect or enhance populations vulnerable to extirpation, etc.*
- *prevent loss of recovery options prior to completion of the recovery plan;*
- *identify project types and locations that might need special attention during Section 7 consultation*
- *identify special needs for critical habitat, if designated*
- *identify research and monitoring needed to fill critical information gaps*
- *initiate long-term actions that should be implemented continuously (monitoring, management) and*
- *identify opportunities for voluntary involvement of stakeholders*

*A table (see **Table 3-1**) may be a useful way to organize and track the interim recovery program. Also, see **Box 3-4**: Action Plan Prompt Sheet to help identify key actions.*

THE FOLLOWING IS AN EXAMPLE ONLY – tailor and expand this table to the needs of your species and its issues; the level of detail for any action is adjustable as deemed appropriate based on best available information

Table 3-1: Interim Recovery Action Plan – Prioritized in order of need for the species' recovery.

Example Preliminary Recovery Actions		
Recovery Actions	***Threats Addressed***	***Contributions to Recovery***
1. Control nest parasites or predation	*Unsustainable mortality*	*Prevent further declines in species' demographic trends*

Example Preliminary Recovery Actions		
Recovery Actions	***Threats Addressed***	***Contributions to Recovery***
2. Implement water quality monitoring and improvement program.	*Reduced fitness due to poor health*	*Prevent further declines in species' demographic trends*
3. Enhance foraging habitat at key migratory stopovers.	*Lack of available food base*	*Increase productivity to restore depleted populations*
4. Identify and conserve key habitat areas in need of conservation. This may include breeding and migratory habitats.	*Habitat loss, distribution, quality*	*Conserve recovery options for the future*

3) Preliminary Steps for Recovery Planning *[OPTIONAL]*

The pre-planning component of the recovery outline should document, as succinctly as possible, the pre-planning considerations discussed in Chapter 2, Pre-Planning Considerations, of this handbook. Some decisions related to the process of developing the plan can be made early and be documented in the recovery outline, including:

What type of recovery plan will be developed?: *Single-species, multiple-species, ecosystem, etc*.

Who will develop the recovery plan?: *Lead biologist, contractor, recovery team, etc.*

How will stakeholders be involved?: *Please describe a brief plan for partner and stakeholder, especially states, roles/involvement in the recovery planning and/or implementation process. This can be in tabular format.*

What are the milestones for the recovery planning process?: *See Chapter 1, Introduction to Recovery Planning, for timeframes. Identification of interim milestones may ensure expeditious process to meet those timeframes.*

Signed: _____ Date_____
Title

Box 3-1: Prompt Sheet for Assessment of Limiting Life History Characteristics

- Is the species' current biological status more or less conducive to recovery?
- How many extant populations appear viable?
- Are small or isolated populations highly persistent?
- What is the current vs. former distribution of the species throughout its range?
- Is the species locally abundant but absent from a large portion of its former range?
- Can populations be restored in historical locations?
- Is the species declining rapidly? Has it stabilized?
- What intrinsic biological factors are limiting to the species' recovery?
- Is habitat availability or quality a limiting factor?
- Is available habitat at carrying capacity? Can potential habitat be identified?
- Is much known about the species' response to management interventions?
- Overall, what is the prospect for the species to be able to sustain populations being ultimately self-sustaining in the wild?
- Is the basic biology of the species fairly well understood? If not, what do we need to know to manage for the species?
- What is the appropriate scale for evaluating and managing species (e.g. species, population, management unit?)

Box 3-2: Prompt Sheet for Assessment of Primary Threats

- Did the Status Review and/or listing rule describe all known threats? Has additional information regarding threats surfaced?
- What threats require the most immediate response?
- What threats are most intransigent?
- Did the Status Review and/or listing rule include threats that may not be significant or contribute significantly to the species status as threatened or endangered?
- Do individual factors have potential for causing further declines or preventing recovery?
- Are any of these threats likely to be addressed in Section 7 or Section 10?
- Are the combined effects of multiple threats the primary concern?
- Are some threats, such as climate change or invasive non-native species, beyond the scope of a single-species recovery effort?
- Which threats are rangewide and which are local?
- What is the species' known response to the threats facing it?
- If threats to habitat are a key listing factor, what are the opportunities for protection?
- Are effects leading to either unauthorized or authorized incidental take anticipated?
- Overall, to what extent can the threats facing the species be reduced or eliminated?

Box 3-3: Prompt Sheet for Assessment of Conservation Efforts to Date

- What is known to be necessary to ensure the listed species is sufficiently resilient to persist rangewide, and to adequately address the factors that caused the species to be listed?
- What actions need to be implemented to achieve that condition of the species?
- What is necessary to adequately address the threats that were the basis for listing the species under the ESA?
- Will any pre-listing conservation agreements or plans remain in place?
- Has any recovery-related research been conducted?
- To what degree have key populations and their habitat been protected?
- Is management of the species and/or its habitat underway? What management measures have been effectively employed for the species?
- Have any conservation measures pursuant to Section 7 or 10 been identified? What effects could activities, or impacts, e.g., amount or extent, of incidental take permitted under Sections 7 and 10 have on the species' recovery potential?
- What role have/will other regulatory mechanisms play, if any, in maintaining recovery options for the species?
- Does the species have an active conservation constituency?

Box 3-4: Action Plan Prompt Sheet

- What actions will advance recovery toward the vision of recovery?
- Which actions should begin immediately?
- What actions will NMFS be responsible for initiating?
- What studies are most relevant to the species' recovery?
- What is an appropriate inventory and monitoring system for the species?
- How can it be ensured that Section 7 and Section 10 determinations will not preclude, and to the extent possible, will enhance recovery options for the species?
- For multiple-species or ecosystem plans, how will each species fit into the larger strategy, and what actions are needed for individual species?
- What actions will address the ESA mandate to conserve the ecosystems upon which species depend?
- What actions are needed to gain and maintain stakeholder support for the species?

3.3 Procedural Requirements and Timelines

3.3.1 Preparation of the Recovery Outline

Recovery outlines must be prepared for all listed species that will have an approved recovery plan, unless approval of the recovery plan is imminent or delisting is being proposed. For a multiple-species listing, one recovery outline may cover multiple species, indicating those elements that are common to all species and those that are specific to each individual species. At a minimum, each species in a multiple-species recovery outline should have an individual recovery priority number.

Functional equivalents of recovery outlines, e.g., Status Review or comprehensive biological opinions, may suffice for some species. In order to determine the sufficiency of other documents as preliminary recovery strategies and pre-planning documents, the content of the documents should be compared with the list of required contents in 3.2, Recovery Outline Template. Any missing items should be appended to the document so that is comprises a functional recovery

outline. The functional equivalents are subject to the same review and approval procedures as all other recovery outlines.

3.3.2 Review and Approval of the Recovery Outline

Draft recovery outlines must be submitted to Headquarters prior to approval by the Regional Administrator. If Headquarters does not comment, it may be assumed that the recovery outline can be approved by the Regional Administrator (see Chapter 1.4.2.2, Planning, for timeframes).

Given their role as internally developed pre-planning documents, recovery outlines will not be subject to public review. The reason is that the recovery outline is primarily intended to ensure the consistency, efficiency, and effectiveness of actions that NMFS and their partners may take to conserve a listed species and its habitat while a more comprehensive recovery planning effort, which always involves public participation, is pending. Recommendations in the recovery outline are non-binding; as with recovery plans, the recovery outline is intended to guide, rather than require, the actions of others outside the agency.

3.3.3 Distribution and Disclosure

A copy of the approved recovery outline should be forwarded to the NMFS Headquarters within 10 days following regional approval.

Also upon approval, NMFS will generally post recovery outlines on the national species webpage.

3.3.4 Coordination

The following section describes the importance of reaching out to NMFS staff and stakeholders in developing the recovery plan outline and ensuring that recovery is not precluded in the absence of a final approved recovery plan.

3.3.4.1 Contributors

The lead biologist for the species, who may or may not be the listing biologist, should identify who will help prepare the recovery outline. For some species, the lead biologist may be able to prepare the outline independently; for other species, it may be necessary to include other staff biologists, program coordinators, and/or agency attorneys. It will be essential to coordinate with biologists who are involved with ESA Section 7 and HCPs biologists that may affect the conservation of the species and its habitat. The recovery outline can be an excellent resource to staff carrying out other ESA regulatory reviews. For instance, many Section 7 consultations and Section 10 HCPs involve other federal or non-federal partners willing to carry out extensive conservation efforts, and engagement in these regulatory processes provides NMFS with ample opportunities to negotiate for recovery task implementation. For more complex recovery efforts, the lead biologist may also want to contact key individuals from other offices, regions, or agencies; in certain cases, species experts or other key stakeholders may be asked to contribute to the outline. In addition to coordinating input from other personnel, sources of information should be consolidated and meetings or conference calls (if any) should be scheduled.

The lead biologist should determine what information needs to be included in the outline. It may be most expeditious to complete an initial draft in-house; then, if necessary, additional input can be solicited from other individuals and organizations as determined through the coordination efforts mentioned above. Preparation of the recovery outline may benefit from an informal review by NMFS biologists and managers who may be implementing it, although this is not required.

3.3.4.2 Stakeholders

Establishing relationships with stakeholders early in the recovery process can build a foundation for the long-term stakeholder involvement that will be necessary to achieve species recovery. To promote early stakeholder participation in the recovery process, NMFS should make approved recovery outlines available to the public on their websites. These should be accompanied by (1) opportunities for stakeholder involvement in planning and implementation and (2) a request for information about the recovery needs of the species or ways to minimize the social and economic impacts of implementing recovery actions. For newly listed or recently reclassified species, if interest in participating in recovery efforts was not solicited in the final listing rule (see Chapter 2.6, Preparing for Stakeholder Involvement), posting the recovery outline on NMFS website is sufficient (see 3.3.3, Distribution and Disclosure; *note*: unlike recovery outlines, notices of availability of draft recovery plans for public comment and review are required to be published in the Federal Register (see Chapter 7.5, Procedural Requirements). The recovery planning process will provide the opportunity for further dialogue about the recovery issues identified in the recovery outline. Various ideas for advancing this dialogue and involving stakeholders in recovery planning and implementation are presented in Chapters 2.6, Preparing for Stakeholder Involvement and 4.3, Managing Stakeholder Involvement.

3.3.5 Using/Updating the Recovery Outline

The approved recovery outline will remain in effect as the primary guiding document for recovery until the draft recovery plan is published or a final recovery plan is approved. During this time, the outline will act as the baseline document for assessing the merits of project proposals or evaluating recovery progress. In this sense, it should help guide the following aspects of recovery implementation.

- Funding and implementing of federal recovery actions
- Working with federal agencies in the context of Section 7 consultations
- Developing HCPs
- Clarifying recovery needs for key habitat identification and management
- Communicating with recovery partners, stakeholders, and the public, as appropriate

In some cases, changes may need to be made to the recovery outline in order to maintain its utility as a preliminary recovery strategy up until the time the final recovery plan is approved. The close alignment suggested by the overlap between the recovery outline and recovery planning does not mean draft plans should be required to conform to the outline; rather, the recovery outline should be updated if substantive new information or a significant change in direction emerges during the planning process.

Substantive changes to the recovery outline should be approved at the level of the original outline approval and either incorporated into or appended to the outline or retained as file records. Changes that may affect incidental take authorizations (e.g., trigger reinitiation of consultation), for example, should be documented and coordinated with the biologists involved in Section 7 consultations and Section 10 permits. As appropriate, the recovery outline should be updated online.

The lead region will be responsible for ensuring that either an up-to-date recovery outline or recovery plan is maintained for all listed species until delisting. In cases where plan preparation is unavoidably and significantly delayed, the recovery outline should be reviewed annually and updated as needed.

See Chapter 8.3, Tracking Actions and Progress Toward Recovery, for information on using the RAMT to track recovery plan implementation. Using these databases are also an option for tracking implementation progress of recovery outlines.

4 Managing Recovery Plan Development

This chapter provides guidance for managing key aspects of recovery plan development after the pre-planning decisions covered in Chapter 2, Pre-Planning Considerations, have been made regarding plan scope (e.g., single or multiple-species), overall approach (e.g., NMFS biologists, contractors, and/or recovery teams), and plan type (i.e. traditional vs. 3-part framework). The skills and thought process for managing recovery plan development provided in this chapter apply to both traditional and 3-part framework recovery plan types. Where necessary, specific guidance is provided, particularly for managing recovery teams and contractors.

The guidance provided in this chapter covers: (1) Directing the Planning Process; (2) Managing Approaches to Plan Development; (3) Managing Stakeholder Involvement; (4) Public Communication and Outreach; (5) Information Standards; and (6) Maintaining a Decision File.

4.1 Directing the Planning Process

4.1.1 Effective Coordination and Management Oversight

The fundamental role of the Recovery Plan Coordinator is to be the key person involved in all aspects of the planning process to the degree necessary to keep recovery plan development on course (see Chapter 2.5.2.1, Recovery Plan Coordinator). From one planning project to another, however, particular responsibilities of the recovery plan coordinator may vary depending upon specific planning needs. Aspects of planning that can benefit from careful coordination include, but are not limited to, the following:

- Logistics such as developing a production schedule (see Chapter 2.5.3, Developing a Production Schedule); setting up meetings, briefings, and conference calls; maintaining mailing lists; and distributing materials
- Determination of whether technological tools or alternative approaches to plan development may be useful (see 4.3.1.1, Communicating with Stakeholders)
- Management of contracts
- Tracking of plan development
- Communication among the various in-house and other contributors to the plan
- Housing and dissemination of information for the plan and interim planning products
- Retention of key documents and maintenance of the decision file
- Facilitation of decision-making and/or conveyance of preliminary decisions and recommendations
- Plan reviews and other types of input
- Public communications
- Facilitation of management oversight

The most important aspects of coordinating any recovery planning project are to ensure that everyone involved is aware of the “ground rules” to facilitate constructive communication and to keep plan development progressing (see 4.2.2.4, Terms of Reference). Concurrently, the recovery plan coordinator and other NMFS staff should keep managers informed, encourage them to exert their oversight responsibilities, and ensure that management support is forthcoming as planning proceeds. This can be accomplished by formalizing lines of communication for the recovery planning process. It will also require a considerable amount of dedicated time and an ability to give priority to the recovery planning enterprise.

4.1.2 Staying on Track

Keeping the planning process on track means staying on schedule and building a compelling case for recovery recommendations. This is a challenge because any process as long and complex as recovery planning has the potential to lose momentum, to become sidetracked, and even to stall out. This could happen for a variety of reasons, including lack of time, competing priorities, inability to resolve key issues, lack of leadership, political maneuvering, or unforeseen obstacles. A smooth and productive planning process requires the active commitment of all participants in the process.

Primary responsibility for keeping the process on track will, in most cases, fall on the shoulders of the recovery plan coordinator, the recovery team leader and the team liaison (for species with recovery teams), and agency/program managers. To keep the planning process on track, the track must be clearly laid out, i.e., the production schedule should be well thought out and agreed upon by everyone involved in the process, and adjusted as needed. From the outset, the responsibilities of the various individuals and organizations need to be identified and commitment sought by those entities to stick with the ground rules and to meet the approved schedule. The agreed to schedule should not be discarded without being replaced if the process begins to lag. A new schedule may need to be developed to respond to new information or to any other eventuality, but it does not mean that commitments are no longer real. Everyone needs to understand the ground rules for the planning process, as well as the desired outcomes in order to avoid getting inadvertently diverted from the task at hand (see 4.2.2.4, Terms of Reference). Staying on the course that has been laid out requires strong and resilient leadership.

4.2 Managing Approaches to Plan Development

The following chapters provide guidance on managing recovery plan development depending on the overall approach chosen (e.g., NMFS biologists, contractors, and/or recovery teams) (see Chapters 1.4, Recovery Planning Process and 5, Approaches to Recovery Plans and their Documents). In particular, this section of the chapter focuses on managing contractors and recovery teams as those are relatively complicated approaches to manage, whereas management of how individual Service biologists prepare recovery plans is more straightforward and handled within the agencies by relatively few people.

4.2.1 Managing Contractors

Entering into a contract for recovery planning services helps to ensure that the intended product(s) will be received in a timely manner and to specify the expected product. Contracting for specific products can assist recovery teams, working groups, or an individual by limiting the time needed to assemble all aspects of the recovery plan. It is also possible to obtain a contractor‘s services for the drafting of the plan itself. During the discussion/negotiation of the contract, the cost of the job should be negotiated based on the services, product(s), and the amount of time needed to complete the job. The contract should identify the due dates and the services/products being provided.

The recovery team liaison or recovery plan coordinator should (1) articulate whether the contractor is sought for his/her expertise and/or close association with the species, (2) ensure that the format and content of all products specified in the contract are consistent with this guidance, and (3) note who will pay the costs other than the contractor’s time, i.e., travel, purchasing of software, etc. A note can be added to the contract stating that the products provided will be considered recommendations to NMFS. The recovery team liaison or recovery plan coordinator should ensure that the individual has the time required to complete the tasks, as expected.

Examples of contractual services include:

- Writing the draft recovery plan and/or the final recovery plan
- Taking notes/recording discussions at recovery team meetings
- Assembling plan sections, graphs, maps, or other information that is written by multiple persons, recovery team members or working groups
- Analyzing data
- Editing the assembled document
- Attending recovery team meetings to become familiar with the issues and team
- Providing revisions of early "draft" documents based on suggestions or changes
- Reviewing comments received on the draft plan and preparing responses
- Meeting/consulting with the team liaison, team leader, recovery plan coordinator, and/or recovery team members or consultants to the recovery team to address issues presented as a result of the draft plan review/comment period
- Meeting facilitation
- Serving as a peer reviewer of specific draft plan sections or issues (*note*: applicable only when not involved in the development of the recovery plan)

The contract can be in the form of a purchase order or an inter-agency agreement. The affiliation of the contractor (tribal, state, federal, private company or university), and the amount of the invoice will dictate the type of contract or agreement and payment of services. Consult your Administrative Officer for guidance.

4.2.2 Managing Recovery Teams

The following guidelines apply to the management of recovery teams:

- Recovery teams are convened at the discretion, and work under the authorization, of the OPR Director for cross-regional species or Regional Administrator for all other species.
- The appointment letter and/or the TOR should thoroughly explain the role and expectations of each recovery team member (see 4.2.2.2, Appointing a Recovery Team).
- Lines of communication between the team and NMFS are direct. Unless special circumstances warrant, team leaders communicate directly with the OPR Director or Regional Administrator through the team liaison.
- The team leader and the team liaison play key roles in organizing the team, facilitating open and constructive discussion, and keeping the schedule for development of the recovery plan on track (see Chapter 2.5.2.4, Recovery Teams).

4.2.2.1 Recovery Teams and FACA

According to Section 4(f)(2) of the ESA, the Services, "in developing and implementing recovery plans, may procure the services of appropriate public and private agencies and institutions, and other qualified persons." Section 4(f)(2) also exempts appointed recovery teams from the requirements of FACA (5 U.S.C. App.). The FACA exemption applies to teams convened to develop or revise recovery plans or to implement existing recovery plans, or both. In addition, the exemption applies to working groups, subgroups, advisory teams, and similar groups assembled to assist the primary recovery planning or implementation team or to focus on a particular aspect of recovery planning or implementation. Nonetheless, only recovery teams or groups that have been appointed qualify for the FACA exemption. For general information on FACA, see Chapter 1.3.3, Other Federal Laws Relevant to Recovery Planning and Implementation.

Although appointed recovery teams are specifically exempt from FACA requirements, beyond the recovery team setting one must carefully consider the provisions of FACA when seeking advice or recommendations from more than one individual at a time in the development and implementation of recovery plans. For more information, see 4.3.3, Legal Considerations for Interacting with Stakeholders.

4.2.2.2 Appointing a Recovery Team

Individual recovery team members are officially appointed in writing.

Responsibility for appointing and managing NMFS recovery teams differ with each species. Pacific salmon recovery planning responsibilities are delegated to the West Coast Region. For all other species, NMFS regions appoint and take day-to-day responsibilities for managing teams for species that occur primarily in that region's geographic area. For species with significant cross-regional distribution, authority is delegated to the OPR Director to appoint representatives to recovery planning teams and recovery implementation teams; it is mutually agreed that one region serve as the lead office. For species that are jointly listed (e.g., Gulf sturgeon, Atlantic salmon, sea turtles), the OPR Director or Regional Administrator with delegated authority to appoint team members for NMFS shall coordinate directly with the appropriate FWS regional or headquarters office.

An appointment letter describing the terms of their appointment is sent to new members (See Appendix C for a sample appointment letter). These terms and other issues regarding team procedures may be clarified through a TOR document, which is often distributed and agreed upon by all recovery team members at the first meeting.

The appointment letter does the following:

- Identifies the purposes of the team (whether to write/revise a plan, guide recovery implementation, etc.)
- Explains that all members of the recovery team must be committed to the recovery of the species
- Explains that team members serve in an advisory capacity to the OPR Director/ Regional Administrator and are providing their recommendations and advice on behalf of NMFS.
- Indicates the anticipated duration of the team
- Explains that team members may be removed or replaced as the focus of the recovery team changes, if an individual fails to serve in a contributory and constructive way, or as otherwise appropriate
- Explains that the recovery team may be disbanded or restructured when its purpose has been completed.
- Notes, as appropriate, whether team members are responsible for their own travel and related expenses.
- Confirms membership on the team for purposes of the FACA exemption.

4.2.2.3 Recovery Team Business

Although salary, per diem, and travel costs associated with recovery team activities are normally borne by team members and/or their employers, routine business expenses, such as clerical and drafting services, supplies, printing costs, and other special services for team business, are typically funded by NMFS. The agency also has the discretion of furnishing travel and related funds for the expense of team members.

Other team business should be conducted as follows:

- A Memorandum of Agreement (MOA) that authorizes the expenditure of NMFS' funds may be prepared to facilitate the use of a contract or a purchase order for financing routine team business. If the team leader is replaced, a new agreement must be prepared and signed by the OPR Director/Regional Administrator and newly appointed team leader.
- A TOR may be prepared. This lays out the roles, responsibilities, and expectations of both parties (see Appendix D, sample TOR).
- Teams may meet as frequently as necessary.
- Team meetings should generally be open to the public if facilities allow. However, if the recovery team requires time to itself to deliberate issues, prepare options for the draft recovery plan, discuss implementation of recovery actions, or if individuals or groups request private sessions with the recovery team to avoid public disclosure of confidential business or proprietary information, working sessions can be conducted that are not open to the public.
- All members are expected to conduct themselves and team business as described in the appointment letter and/or the TOR (see Chapter 4.2.2.2, Appointing a Recovery Team, for more information on both).
- The process for decision-making should be clear and agreed upon by all members in the first meeting of the team. It is preferable for team decisions to be made by consensus. However, when addressing particularly contentious issues, teams may choose alternate methods, such as voting.
- Minutes should be prepared for each meeting and submitted to the appropriate OPR Director/Regional Administrator. Reports on accomplishments, such as inventory work, are often presented at team meetings and should be included in the minutes. When differences of opinion occur, the minutes should include the minority opinion, as well as the majority opinion.
- For species occurring in more than one region, the lead region is responsible for keeping the other involved region(s) fully informed of team activities. When more than one region has a team lead for a given species, the region with lead recovery responsibility must carefully coordinate among the teams (see Chapter 2.1.1, Single Species/Subspecies/DPS plans).
- Regions are responsible for keeping Headquarters informed of controversial or significant issues.
- The team liaison may or may not be an official team member. The liaison may simply participate in team discussion by providing advice on NMFS policy and guidelines or may serve as an expert for the team.
- NMFS fiscal obligation is contingent upon the yearly availability of funds as appropriated by Congress and is allocated according to each agency's other priorities for the year.
- Unless the team leader is a NMFS employee, agency letterhead and government postage are not to be used for team business (to do so could imply that the team is expressing Service policies or positions). Official NMFS letters to a team are to be directed to the team leader.
- After the recovery plan has been completed and approved, the recovery team may continue to serve in an advisory capacity to NMFS or may take an active role in coordinating and implementing recovery activities, at the discretion of the OPR Director/Regional Administrator.

To ensure agency compliance with all applicable laws, and to safeguard the best interests of species recovery, recovery team members should be mindful of a number of situations to avoid. Specifically, recovery team members should NOT do the following:

- Represent themselves as speaking for NMFS.
- Distribute draft plans, emails, or other internal documents to anyone who is not a member of the team, unless sharing the document has been approved by NMFS (the agency is responsible for distributing draft plans and seeking views of stakeholders; partners; other federal, state, and tribal agencies; and the public).
- Act through the news media, conservation organizations, business organizations, state or federal legislatures, or other individuals and organizations to attempt to influence agency decisions.
- Act as a consultant to anyone other than the OPR Director/Regional Administrator or accept other responsibilities related to the same species beyond their recovery assistance role without prior consultation with the OPR Director/Regional Administrator or their designee.
- Involve themselves in litigation or regulatory actions related to the same species without prior consultation with the OPR Director/Regional Administrator or their designee.
- Contact individuals and organizations that may be adversely affecting the species. This is the responsibility of NMFS or other federal, state, or tribal agencies, as appropriate. The team member should bring such actions to the attention of the OPR Director/Regional Administrator or their designee.

4.2.2.4 Terms of Reference

A TOR, which describes the team operating rules, is not mandatory but is highly recommended. Generally, the team leader and team liaison or recovery coordinator draw up a TOR document in advance of the first recovery team meeting. The team then discusses it and proposes changes, if any. Once finalized, the TOR should be agreed to by all team members and the OPR Director/Regional Administrator (see Appendix D for a sample TOR document). The specific contents of the TOR can be tailored to the needs of the particular planning process and can be finalized in consultation with the team.

The TOR document does the following:

- Explains the purposes of the team and expected products from the team
- Details the responsibilities of the Services with respect to the team
- Details the roles of team members, the team leader(s), and the team liaison/recovery coordinator
- Describes the operating rules of the team, e.g., whether recommendations will be made by consensus (preferable), majority votes, 3/4 majority votes; what percentage of members form a quorum; if members can have proxies or must be present, etc.
- Addresses the formation and duties of sub-committees, workgroups, and other groups
- Explains the terms of service of team members
- Emphasizes the confidentiality of communications, drafts of the recovery plan, and other internal documents

4.3 Managing Stakeholder Involvement

4.3.1 How to Create Effective Stakeholder Participation

Since stakeholder involvement is context specific, what constitutes effective stakeholder participation sometimes can be difficult to determine.

NMFS staff may seek to involve stakeholders in proportion to the role they will play, or in proportion to the degree that recovery activities might affect those stakeholders. If it is clear that a stakeholder will have only a small role in the recovery of the species, then consider a limited

involvement for that stakeholder. However, a stakeholder does not have to directly affect, or be directly affected by, recovery of the species to have a keen interest in species recovery. As such, it is important to ask the stakeholders about their concerns or goals. What aspects of recovery planning and implementation are of interest to the stakeholder and what can the Services do to facilitate their involvement? Once you know how stakeholders want to be involved, plan accordingly to ensure that the species' recovery planning and implementation continue to progress. However, planning for stakeholder involvement is a continual process, and your strategy may need to be updated as stakeholder roles change through recovery planning and implementation.

One caution—the focus of recovery planning should not be an extended quest for ever increasing stakeholder involvement at the expense of actually planning or implementing recovery actions; the goal of NMFS is to engage stakeholders to expedite the ultimate recovery of the species. There are logistical limits to who should be considered relevant and how to involve various stakeholders. For example, stakeholder membership on recovery teams usually should be limited to those who bring relevant expertise to the recovery planning process. Stakeholders who only represent particular affiliations should be involved in other ways (e.g., through targeted workshops).

Not all stakeholders will be involved in the same way, nor will they necessarily want or be involved in the same way or to the same degree. How a specific stakeholder is involved is less important than ensuring that their involvement has meaning to the recovery process and that their involvement is meaningful to them. The less directly involved a stakeholder is in the process, the more critical it becomes to incorporate effective feedback mechanisms.

4.3.1.1 Communicating with Stakeholders

The best ways of interacting with stakeholders can vary. Ask your key stakeholders what works best for them, rather than defaulting to your preferred methods.

Technology offers the opportunity to interact with stakeholders in new and important ways, often allowing us to involve a much wider stakeholder audience than would have otherwise been practicable. However, some stakeholders may not yet have the ability to participate using technology-supported methods. When assessing and planning for stakeholder involvement, the opportunities and constraints for using new technologies must be assessed in specific context. The following subchapters address specific means of communicating with stakeholders.

There are a number of possibilities for using electronic media to facilitate communication with stakeholders. Check with the Public Affairs staff in your Regional Office or Headquarters for information on the latest technologies, details on how to set up one or more of these systems, and whether there are any departmental rules or guidance governing how they are used. Remember that federal laws governing communications and document management (FACA, FOIA, etc.) do apply here, as with any other form of communication.

There are non-technology based methods to make information available to stakeholders and to receive their input. These include newspaper notifications, informational meetings, informational mailings, one-on-one meetings, telephone interviews, and response and reply cards. Many of these methods have been used successfully by the Services for years; others may offer new opportunities.

4.3.2 Methods for Involving Stakeholders

It can be challenging to find ways to effectively involve stakeholders in the recovery process without significantly slowing recovery planning. Effectively involving stakeholders requires, at a minimum, three basic actions: (1) transmitting information to the stakeholders, (2) receiving feedback from the stakeholders, and (3) acting upon the information received. Regardless of whether stakeholders are participating on the recovery team, assisting with implementation plans for specific recovery actions, or simply reviewing draft documents and providing feedback, these three fundamental needs must be addressed.

There are many ways NMFS can encourage stakeholders to participate in recovery planning and implementation. The following are some ideas for approaching stakeholder involvement:

- Invite stakeholders to public hearings and group meetings (this involves planning for adequate funding).
- Provide stakeholders with regular reports from, and an opportunity to provide regular input to, the recovery team or other plan writers.
- Ask stakeholders to select the stages of plan development and issues in which they wish to be involved, to help them make most efficient use of their time and focus their participation on their most important issues.
- Ask stakeholders to assess their needs and resources, and to recognize the opportunities offered by recovery planning and implementation; use this information to shape the strategy for recovery.
- Ask stakeholders to collect and analyze conservation information, e.g., monitoring threats.
- Request that stakeholders provide input on key recovery planning and implementation issues, e.g., how to implement a recovery action such as a conservation education strategy.
- Ask stakeholders to provide labor and resources to implement recovery activities, e.g., through volunteering to participate in recovery activities.
- Ask stakeholders to assume specific functions and responsibilities for recovery planning and implementation, including participating on the recovery team or specific action sub-team. Seek agreement on sharing benefits and costs.

In the case of recovery planning for Pacific salmon, stakeholders have had varying degrees of involvement in developing recovery plans. For example, in the Columbia Basin and Puget Sound, stakeholders have been very involved in the recovery process through the development of sub-basin plans and watershed plans. In these cases, involvement of diverse stakeholders at the local level is essential to conserving the species. Local planning efforts have provided many of the site-specific habitat and hatchery related actions that NMFS incorporated into ESA recovery plans. See **Box 4-1**: for an example of stakeholder involvement in the loggerhead recovery planning process.

4.3.2.1 Focus Groups

Focus groups are generally small groups of individuals who are led through an issue in a conversational, free-flowing manner, usually by a professional moderator. The value of a focus group is that group members will exchange ideas and build upon these ideas to generate more of the information for which you are searching. However, focus groups are not brainstorming sessions; focus groups are convened to understand how people feel and think about a program or issue that is important to the recovery of the species.

Box 4-1: Stakeholder Involvement with the Loggerhead Turtle Recovery Team
Several approaches were taken by the Loggerhead Recovery Team (made up of seven biologists from the Services, states, and academia) to facilitate stakeholder involvement in the revision of the Loggerhead Turtle Recovery Plan. These approaches included construction and maintenance of a comprehensive website, organizing an interactive meeting for invited stakeholders, and maintaining an extensive e-mail list for notifying stakeholders of Team activities.

The Loggerhead Recovery Team developed a comprehensive website to keep stakeholders and other interested individuals and organizations informed about their work. The website is user-friendly, provides answers to frequently asked questions, posts minutes of each of the Team meetings, includes a schedule of milestones in the recovery planning process, and serves as a site to post draft sections of the plan for stakeholder review as major sections are completed. An e-mail address is provided on the site for questions/comments.

Stakeholder Meeting: A two day interactive meeting was organized early in the recovery planning process. Approximately 75 stakeholders representing industry (e.g., fisheries, coastal development), federal partners (e.g., Corps of Engineers, Minerals Management Service, and Department of Defense), academia, NGOs, and private individuals were invited by the Team. The structured meeting consisted of a half day of presentations by Team members on recovery planning, species biology, population trends, threats analyses, and recovery criteria. The remainder of the meeting was organized into breakout groups which were structured to encourage stakeholder input on the Team's threats assessment approach and population trend assessment results as well as to gain input from stakeholders on recovery actions and recovery criteria.

E-Mail Contact List: As another method of keeping in touch with stakeholders, the Recovery Team maintains an e-mail group mail list of several hundred stakeholders. As the Team completed drafts of segments of the Plan they were posted to the website and stakeholders were notified that Plan sections were available for review and comment. This review and comment preceded the formal Federal Register notice and request for comments on the Services draft.

Feedback from stakeholders regarding their involvement in recovery planning has been highly complementary thus far.

4.3.3 Legal Considerations for Interacting with Stakeholders

When involving stakeholders, NMFS must also consider the various laws that can affect the manner of interactions. Discussing your plans for involving stakeholders in advance with agency attorneys in the Office of General Counsel is highly recommended. The information below is meant to highlight the legal considerations for involving stakeholders and is not a substitute for specific legal advice.

FACA – As discussed in 4.2.2.1, Recovery Teams and FACA, the ESA specifically exempts recovery planning and implementation teams from the requirements of FACA. However, to the extent that stakeholders are involved in recovery planning and implementation other than as members of an appointed recovery team, NMFS must ensure compliance with FACA.

There are certain situations where FACA does not apply to communications with groups. As a general matter, FACA does not apply to groups assembled to provide individual advice or

recommendations. Thus, to ensure compliance with FACA, when seeking stakeholder involvement outside the context of an appointed recovery team, advice or recommendations from participants in a group should be on an individual basis rather than seeking or receiving advice or recommendations from the group as a whole, i.e., consensus advice. FACA also does not apply to groups assembled for the purpose of exchanging facts or information with federal officials or staff. Stakeholder groups may meet with NMFS for the purpose of exchanging facts or information about the species or recovery issues (as compared to the group providing advice or recommendations). Finally, FACA does not apply to groups composed entirely of federal, state, local, and/or tribal government officials or their designated employees acting in their official capacity to exchange views, information, or advice relating to management or implementation of ESA recovery programs. For more information on when FACA may apply when communicating with stakeholders, including helpful scenarios, see the FACA regulations at 41 CFR part 102-3; see also the FACA final rule establishing the regulations at 66 Fed. Reg. 37727 (July 19, 2001).

PRA – To the extent that input from stakeholders is solicited in the context of a survey or a similar tool for gathering information, the requirements of the PRA must also be considered. The PRA requires a federal agency to obtain approval from the OMB each time it proposes to collect or sponsor, even under a contract or other agreement, the collection of identical information, e.g., a response to specific questions, from more than nine respondents.

Collection of information NOT requiring OMB clearance under the PRA include the following:

- Collection of identical information from nine or fewer people
- Surveys of other federal agencies, bureaus, laboratories, etc.
- Passive means of obtaining feedback and comments without using structured questions, e.g., providing the opportunity for the public to provide feedback and comments through internet sites
- Feedback obtained through discussions that are not structured as a survey or focus group mechanism
- Feedback or comments received through hotlines and complaint systems

For general information on the PRA, see Chapter 1.3.3, Other Federal Laws Relevant to Recovery Planning and Implementation.

FOIA – When considering sharing information with stakeholders, it is important to remember that once federal agency records have been released to the public, NMFS may not be able to withhold the records under the FOIA exemptions. Agency records may include data, electronic communications, and drafts of documents. This is the case even if the agency record was privileged interagency or intra-agency information which otherwise would have been withholdable. Agency records shared with non-federal members of a recovery team does not constitute a release under FOIA. For general information on FOIA, see Chapter 1.3.3, Other Federal Laws Relevant to Recovery Planning and Implementation; see also Chapter 2.7.2, Freedom of Information Act.

4.4 Public Communication and Outreach

Another component of successful recovery planning is communication and outreach with the public. Communication efforts can shift public support, change attitudes and behaviors, heighten awareness, and attract new partners. To carry out successful conservation programs, we must better understand and apply effective communication. Lack of communication with the public can sink an otherwise sound recovery program. The aim of communication and outreach is to

identify public attitudes, and then plan and implement a program of action to earn public support and understanding (Jacobson, 1999).

Outreach differs from stakeholder involvement in that it casts a broader net to the public at large to keep the public informed on our work and keep them engaged and sharing in our successes. Public review and comment should be considered just one part of the overall public communication strategy. Publishing notices in the Federal Register is limited outreach because much of the public does not monitor the Federal Register for information; rather, efforts such as public information meetings, dissemination of communication documents/handouts, and interviews with media are outreach, and may occur throughout the recovery planning process. Use of engaging website, social media, and other products such as videos or ArcGIS story maps (https://storymaps.arcgis.com/en/) can also be effective outreach tools.

The foundation of a successful public communications program consists of systematic planning, implementation, and evaluation. The planning step starts with a review of the needs of the species and an identification of the desired public response to these needs. It may be necessary to target different audiences and to develop communication objectives for each audience. Communication objectives may be aimed at increasing an audience's knowledge, or changing attitude or behaviors. Once the objectives are articulated, tasks to implement them and measures to evaluate the result should follow (Jacobson 1999). Collaborating with a regional or national Outreach Specialist may be the most effective way to make certain that the recovery outreach component of recovery planning is successful. A successful example is NMFS' Species in the Spotlight, which was launched in 2015 to bring greater attention and marshal resources to save at-risk species nationwide.

Public outreach can be local, while some is far reaching. Websites and listservs are particularly useful for wide-ranging species. NMFS' websites should be used, at a minimum, to keep the public up-to-date on the status of recovery planning. Listservs can be established to announce the availability of draft and final recovery plans, and to make announcements of interest to specific stakeholder and public interest audiences, e.g., discovery of a new population or information on monitoring results. Automatic notification of plan availability can be a useful public service undertaken with a minimal investment of field office personnel and fiscal resources. The listserv could continue to be used through recovery implementation to stay in touch with interested public. Communication during implementation is also important and websites and social media posts are just a few ways to highlight successes when recovery actions and activities are initiated or completed.

4.5 Information Standards

The Services must "conduct management-level review of documents developed and drafted by Service biologists to verify and assure the quality of the science used to establish official positions, decisions, and actions taken by the Services during their implementation of the Act" (1994 Interagency Cooperative Policy on Information Standards Under the Endangered Species Act; 59 FR 34271).

In addition, NMFS has Information Quality Guidelines as required under the IQA of 2002 (Public Law 106-554) that ensure that information disseminated by the agency, which includes, but is not limited to, draft and final recovery plans, meets standards of quality, objectivity, utility, and integrity. See NOAA Information Quality Guidelines. For more information on the IQA, see Chapter 1.3.3, Other Federal Laws Relevant to Recovery Planning and Implementation.

Together, these policies hold managers and decision makers accountable for ensuring that the data and analyses used in recovery planning are sound and that the documents conform to ESA and IQA standards.

4.6 Maintaining the Decision File

The lead biologist, planning coordinator, and/or other person(s) assigned to maintain the decision file for a particular recovery planning process should ensure that all relevant documents are gathered and housed in a designated location. Maintaining a good decision file from the beginning will do the following:

- Facilitate plan updates and revisions
- Ensure continuity in the event of staff turnover
- Allow for more rapid dissemination of materials relevant to a particular recovery need or proposal
- Expedite tracking and information management efforts
- Allow for efficient responses to FOIA requests
- Provide the basis for an administrative record (typically a subset of documents contained in the decision file) in the event a party is able to challenge an agency action related to the recovery process.

For guidance on what to include in the files, see Chapter 2.7, Setting up the Decision File. Files for planning and implementation should be distinctly organized and be subdivided according to the major parts of the plan and/or paperwork associated with the planning process, such as notices, correspondence, reviews, and responses. It may prove helpful to confer with your agency attorney and colleagues who have had to produce an administrative record during the course of a lawsuit about tips and pitfalls in maintaining easily accessible, well-organized files.

It will be incumbent on the person(s) maintaining the files to ensure that all relevant documents are gathered and organized. Therefore, good communication between this person and others involved in recovery plan development and implementation is essential. Everyone involved in the process should be aware of who is maintaining the decision file so that information needed to maintain a complete file can be forwarded to that person.

If a less centralized system is adopted for maintaining the decision file for recovery planning and/or implementation, it is all the more imperative to clearly designate what documents will be housed in which files in order to eliminate, at best, redundancy, and at worst, gaps in the file that could result from the expectation that others are maintaining particular materials. Agency attorneys in the NOAA Office of General Counsel are available to provide further advice when needed.

5 Approaches to Recovery Plans and their Documents

This chapter describes the 3-part framework and the traditional approaches to recovery plans, focusing primarily on the 3-part framework approach because it is the newer of the two. Developing the actual content of the recovery plan is covered in Chapter 6, The Recovery Plan, and the assemblage of and procedural practices for the recovery plan are covered in Chapter 7, Assembling the Plan and Procedural Requirements.

5.1 The 3-Part Framework

As noted in Chapter 1, Introduction to Recovery Planning, FWS revised their process for developing and formatting recovery planning documents in 2016 (see FWS SSA Framework (v3.4). NMFS is adopting FWS' revised approach as an optional approach to recovery planning and implementation. For the purposes of this Handbook, NMFS refers to it as the 3-part framework, acknowledging that both approaches (3-part framework and traditional) represent recovery planning and implementation. The 3-part framework is optional for all new or revised NMFS recovery plans. It comprises three separate documents: NMFS Status Review or NMFS Recovery Status Review (see 5.1.1.1, Status Review or Recovery Status Review), the Recovery Plan, and a RIS. All are described in more detail here, along with their relationships to each other. **Figure 5-1** provides a comparison of the parts of 3-part framework and traditional recovery plans.

The fundamental differences between traditional recovery plans used by both agencies in the past and the new approach is that what has been a single recovery plan with multiple parts is now three distinct, separate documents containing the recovery information :

1. A scientific analysis of the species biological and threat status — the Status Review for NMFS (November 2017; described briefly in Chapter 1.4.1.2, Traditional Recovery Plans, and in more detail on NMFS ESA Guidance, Policies, and Regulations web page;
2. A streamlined recovery plan comprised primarily of the statutory elements required by the ESA (see Chapter 6, The Recovery Plan); and
3. An implementation document (see Chapter 8.1, Developing the Recovery Implementation Strategy).The actions in the recovery plan have been re-focused at a longer-term, more strategic level (while retaining the required site-specificity), with the more detailed, tactical implementation information housed in a separate RIS.

The primary rationale behind this separation of the plan from the associated documents is to facilitate a level of flexibility that allows the scientific analysis and the implementation details to remain current and relevant. Under the ESA, the recovery plan (defined as the actions, criteria, and estimates of the time and cost to recovery) must undergo public review and comment, lending them a certain amount of rigidity and inflexibility. In addition, the 3-part framework separates and clarifies the distinction between the scientific analysis and the agency's decision and implementation documents. Further, for newly-listed species, it takes advantage of the scientific analysis done to inform the legal status determination, to immediately and directly inform the recovery plan. This can reduce the time frame necessary to develop the recovery plan considerably.

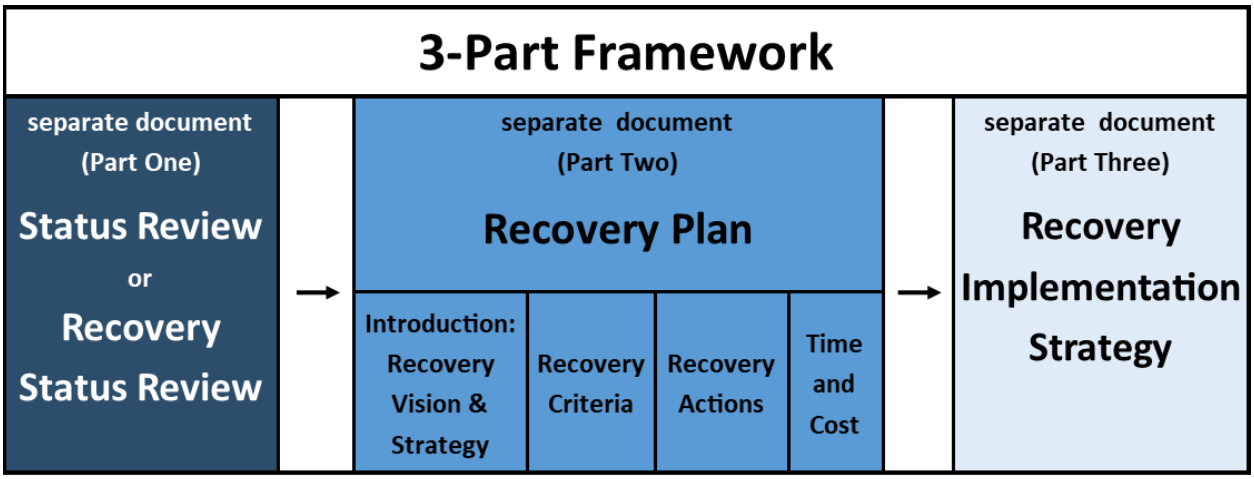

Figure 5-1: The relationship of the three documents in the recovery planning processes.

Due to the fact that there are currently two approaches to recovery planning: 3-part framework (optional) and the traditional approach, this chapter will address both approaches.

5.1.1 Science Informing the Plan

NMFS uses a Status Review completed for the listing or an updated Recovery Status Review (described in 5.1.1.1, Status Review or Recovery Status Review). This science document describes and synthesizes the foundational science and significantly reduces the time and resources necessary to develop the information and analyses that were traditionally incorporated into the background section of a recovery plan.

The intent behind the science document is that it may be useful in all the ESA decisions and products where an assessment of risk is needed and where an action, beneficial or not, might increase or decrease that risk. It is designed to answer the biological/scientific aspects common to all decisions/products (not to answer policy/regulatory questions from all our programs).

The Status Review should provide a “consistent, integrated, conservation-focused, and scientifically robust approach to assessing a species’ biological status such that the information and analysis are useful to all decisions and activities under the Endangered Species Act” (Smith et al. 2018). Key to its ongoing usefulness for multiple decision purposes is to ensure regular updates are made to the science contained in the documents. Staff should, at a minimum, review the Status Review, and update it as appropriate, during the 5-year review process. If the updates are significant and suggest our understanding of the status of the species may need reconsideration, the analysis itself needs to be repeated, and a new peer review (see Chapter 7.5.1.2, Peer Review) should be undertaken.

The 3-part framework streamlines recovery plan development because the Status Review describes and synthesizes the foundational science and significantly reduces the time and resources necessary to develop the information and analyses that were traditionally incorporated into the background section of a recovery plan. Since the Status Review is usually developed for a listing determination prior to development of the recovery plan, most of the analyses in the Status Review can be simply referenced in the recovery plan rather than performing these analyses anew. The Status Review explores the species’ ecological requisites, assesses the species’ current condition and the threats that might be affecting it, and uses a risk

assessment to project likely future conditions that affect the species—all of which are essential to recovery planning.

For the 3-part framework, the staff leading or likely to lead the planning effort should be a key part of the Status Review effort done for listings, so that recovery plan development can be as efficient and effective as possible. For example, the cause and effects analysis of a Status Review can be framed in a way to support a listing determination but also feed more directly into identification of recovery actions and threats-based recovery criteria (as well as informing Section 7 consultations). Alternatively, if the Status Review is already completed by the time a decision is made to initiate the recovery plan, any additional analyses that might be completed to help with recovery planning can go in a subsequent version of the Status Review. Any revisions or updates to the Status Review completed to support the listing that is used for recovery planning or other ESA purposes will be called a "Recovery Status Review." The Recovery Status Review will not contain an extinction risk analysis to keep it separate from the science document supporting the listing decision (see 5.1.1.1, Status Review or Recovery Status Review).

Regardless if using a Status Review or Recovery Status Review, the assessment of the species' viability or demographic risk and threats in the science document should contribute significantly to development of recovery criteria and recovery actions. However, status reviews are meant to assess viability or extinction risk and do not necessarily analyze the sources or relative impacts of risk. In some cases, the scope of the analysis of a Status Review done for a listing determination may be too coarse to provide enough detail regarding the stressors and sources of threats to the species to allow ready identification of threats-based recovery criteria (see Chapters 6.1.2.3.4, Threats-based Criteria and 6.1.3, Recovery Actions). In these cases, a supplemental threats assessment (see Chapter 6.2.1.7, Reasons for Listing/Threats Assessment) may be necessary. As described above, we would revise the Status Review completed for the listing determination as a Recovery Status Review. The Recovery Status Review would contain the supplemental threats assessment for the 3-part framework. For the traditional approach, the threats assessment would be contained in the background section of the recovery plan (see Chapter 6.2.1, Background).

5.1.1.1 Status Review or Recovery Status Review

When considering whether a species should be listed under the ESA, NMFS conducts a status review based on their Guidance on Responding to Petitions and Conducting Status Reviews under the Endangered Species Act, which can be found on NMFS ESA Guidance, Polices, and Regulations web page. This guidance establishes a standardized approach to responding to petitions to list, delist, or reclassify species, conducting status reviews (in response to a petition or self-initiated), and making listing determinations under Section 4 of the ESA. This guidance is intended to foster more transparent, well documented, objective, and scientifically and legally defensible determinations.

The demographic risk analysis in the Status Review considers the key principles of conservation biology that influence the persistence of the species (see McElhany et al. 2000; and **Box 5-1** below). McElhany et al. (2000) describe an approach (the Viable Salmonid Population (VSP) approach) to evaluating the viability of salmonid populations and include useful guidance on how to consider the demographic descriptors of abundance, spatial distribution, productivity, and diversity at the population level, and the effect of catastrophes and long-term demographic and evolutionary processes. These concepts can be applied to any taxa.

The demographic risk analysis described above is an assessment of the manifestation of past threats that have contributed to the species' current status. The next step in a status review is to evaluate the ESA Section 4(a)(1) factors. In the Status Review, we consider how the past and current threats (Section 4(a)(1) factors) have affected and how they are expected to continue to affect the species, individually and cumulatively. The vulnerability to each threat and exposure of the species to each threat should be considered, and the species' biological response based on demographic factors should form the basis of the assessment. If the Status Review developed for a listing is current and includes all of the necessary information to support recovery planning, it can be used in a NMFS' 3-part framework approach. If updated scientific information is available or more detailed information is needed to support recovery planning, then the Status Review could be updated as needed. For example, a more detailed threats assessment might be needed to describe recovery needs of the species and provide information to build the case for why the particular recovery program outlined in the recovery plan is the most appropriate path to recovery. An updated version of a Status Review to support recovery planning would be called a "Recovery Status Review" to distinguish it from the original review done for listing and it might include some different elements. For example, a Recovery Status Review would not include the risk assessment completed to inform a decision about threatened or endangered status.

Box 5-1: The Four VPs

NMFS 4 VP factors provide a useful framework for assessing a species' extinction risk and therefore can inform the recovery criteria and other elements within the recovery plan. We evaluate these factors as follows (McElhany et al. 2000):

- ***Abundance*:** Population size is a fundamental concept of conservation biology. Small populations face a host of risks intrinsic to their low abundance; conversely, large populations exhibit a greater degree of resilience. Small populations are more vulnerable to biological and ecological processes such as deterministic density effects, environmental variation, genetic processes, demographic stochasticity, ecological feedback and catastrophes.
- ***Productivity*:** Population growth rate (i.e., productivity) and the factors that affect population growth rate provide information on how the population is 'performing.' Changes in environmental conditions, including ecological interactions, can influence a population's intrinsic productivity or the environment's capacity to support a population, or both. Such changes may result from random environmental variation over a wide range of temporal scales (environmental stochasticity). A population growth rate that is unstable or declining over a long period of time indicates poor resiliency to future environmental change.
- ***Spatial Distribution/Structure*:** Ensuring that populations are well represented across diverse habitats helps to maintain and enhance genetic variability and population resilience. Ensuring wide geographic distribution across diverse climate and geographic regions helps to minimize risk from catastrophes (e.g., hurricanes).
- ***Diversity*:** A resilient population exhibits both genotypic and phenotypic diversity and have distributions that are spatially and temporally diverse. Diversity allows a species to use a wider array of environments that it would without it. For example, diverse reproductive strategies, age structure, morphology, behavior, and genetics may protect a population from small-scale, catastrophic threats.

5.1.1.2 Versioning the Status Review Relative to the Recovery Plan

If recovery planning is delayed after the listing, new information on the species' status and threats may have become available. Or in some cases, the Status Review may not be sufficient for all aspects of recovery planning. For example, they may assess highly migratory species over vast ranges; thus, the scope of analysis in the Status Review for the listing may be too coarse to develop threats-based recovery criteria and site-specific recovery actions. Additionally, the Status Review may not specifically identify the causal chain from source to stressor to species response to species effects, or the analysis may stop short of ranking or prioritizing the threats. In these cases, conducting a new species status and threats assessment either in the recovery plan background (traditional) or Status Review (3-part framework) may be warranted. If additional information or analyses are needed to develop the recovery plan, this can be incorporated in a new or revised Status Review (i.e., "Recovery Status Review" see 5.1.1.1, Status Review or Recovery Status Review). The recovery plan in a 3-part framework should reference the appropriate version of the Recovery Status Review. Although official practices for version control have not been developed, various practices may be used--for example, where changes are made to certain sections, the document could be titled "Version 1.2 [Add section changed here]" or the document could be titled with a different version number and show changes in different font color. NMFS will develop standard practices for versioning the Recovery Status Review if the 3-part framework is officially adopted as the agency's approach.

5.1.2 The Recovery Plan

The recovery plan provides the long-term, visionary and strategic framework of what needs to be done and where (within the boundaries of site-specific management actions) to achieve recovery of the species. Under the new approach, the recovery plan itself is a streamlined document focused on the recovery criteria, the actions, and estimates of the time and cost to achieve recovery. In addition, it includes a recovery vision and a strategy that provides the logic and assumptions for selection of the particular suite of recovery criteria and actions selected. The strategy should stem directly from the information and the analyses in the Status Review and reference that document for source information. The details of development of the various parts of the recovery plan are explained in Chapter 6, The Recovery Plan.

The recovery plan undergoes public review and comment, and while accompanied by a Status Review and RIS, these other documents are not part of the recovery plan and therefore are not subject to the ESA's requirement for public review (see Chapter 7.5.1.3, Public Review). This allows the science documents and the RIS to remain flexible and adaptable as new information becomes available, thereby keeping the overall recovery program for the species current and relevant. Should new analyses in the science documents or information in the RIS indicate the need to refocus the actions or criteria in the recovery plan, the recovery plan itself will need to be revised to reflect these changes (see Chapter 8, Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Updating the Recovery Plan).

The initial phase of recovery planning involves compiling all available information that contributes to the best possible scientific understanding of the species' biology, threats, recovery issues, and needs. The Status Review and listing package are likely to contain most of the information needed; however, the completeness of that information and its applicability for recovery planning should be assessed and efforts made to obtain any additional information that may have become available. Other data may come from current status reviews; research results that become available within the planning time frame; wider literature searches; pre-listing planning and conservation efforts; and communications with species experts, land managers,

and others with expertise regarding the status, biology, management needs and other information relevant to the species' recovery.

Information gathering involves sorting pertinent data into meaningful categories, identifying data gaps, ensuring that original sources and reliable data are used, and making judgments as to the applicability and interpretation of the data within the recovery context. The pertinent information gleaned from this process is presented in the Background section of the recovery plan (see Chapter 6.2.1, Background) or an updated version of the Status Review (i.e., Recovery Status Review).

5.1.3 Recovery Implementation Strategy

The final component of the 3-part framework for recovery planning is a RIS. The RIS is a flexible operational document(s) separate from a recovery plan that steps down recovery actions into activities for the implementation of each action in the plan. NMFS staff who use the 3-part framework may adopt the RIS for activities associated with recovery actions in the plan. However, NMFS has flexibility in how they set up their activities instrument. For example, activities may be entered online in RAMT. Developing the content of the RIS is covered in Chapter 8, Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Updating the Recovery Plan.

The RIS provides specific, prioritized activities to implement the recovery actions in the plan in the near-term and affords us the ability to modify these activities in real time to reflect changes in the information available and progress towards recovery. The RIS is intended to be an adaptable, nimble operational plan for stepping down recovery plan actions into manageable, step-by-step activities. The form and content of the RIS are adaptable to the individual recovery planning effort. As more 3-part framework recovery plans are developed and as we get more examples of various structures and formats for a RIS, we may provide additional guidance.

The RIS provides a real-time platform for making near-term adjustments as new information becomes available, more effective collaboration with partners, refinements in how recovery actions will be implemented, and progress updates on implementation of those recovery actions.

5.2 Traditional Approach

As discussed in Chapter 1.4.1, Differing Approaches to Recovery Plan Content and Format, NMFS has the option of developing one document that contains all of the content described in 5.1, The 3-Part Framework, above. A major difference with using the traditional approach, is the science that informs the statutory components (i.e., recovery criteria, site-specific management actions, time and cost to recovery) resides in the background section of the recovery plan (see Chapter 6.2.1, Background) rather than in the Status Review or Recovery Status Review. A second difference is the traditional plan may include more specific, prioritized activities to implement the recovery actions in the recovery action step-down outline and narrative (see Chapter 6.2.4.2, Recovery Action Outline; 6.2.4.3, Recovery Action Narrative). However, it is important to note that many recovery plans under the traditional approach use a separate planning document for activities associated with recovery actions. NMFS encourages recovery actions in the plan be at a higher, more strategic level (while retaining the required site-specificity). Detailed tactical implementation information can be housed in a separate document (similar to the RIS described above) or online in the RAMT (see Chapter 8.3, Tracking Actions and Progress Toward Recovery).

6 The Recovery Plan

Overall, the vision, strategy, goals, objectives, criteria, and recovery actions form the recovery program for the species. This Chapter is formatted such that each subchapter corresponds to content within a recovery plan for the 3-part framework and traditional approaches (**Figure 6-1**). Where plan content is the same for each approach, the subchapter is labeled to apply to both approaches. All other subchapters are split up depending on which approach is taken. We hope that the format of this chapter facilitates using it as a reference when writing or editing a recovery plan. Additional sections to a recovery plan may exist, such as a Preface, List of Abbreviations, or Mission Statement of the Agency, and some of the subchapters presented here may be merged in a recovery plan, if appropriate. Although there is some flexibility in the format of a recovery plan, we suggest that the writer follow these guidelines to achieve uniformity across recovery plans. This uniformity will facilitate understanding and implementation of plans for those who work with more than one species or plan. Chapter 7, Assembling the Plan and Procedural Requirements, addresses the additional content necessary to format your recovery plan for publication, such as the recovery plan Disclaimer, Acknowledgements, and Executive Summary. At the end of Chapter 7, are check lists of required (**Table 7-1**) and optional/recommended (**Table 7-2**) elements for a recovery plan, regardless of the approach (3-part framework or traditional) used.

A recovery plan leads readers along a logical path from what is known about the species' biology and life history, threats, and current conditions to a recovery strategy and program that will result in a determination that the species no longer meets the definitions of either a threatened or endangered species based on an analysis of the ESA Section 4(a)(1) factors and should be delisted. It should be clear to the reader why the particular recovery program presented is expected to be the most effective and feasible way of achieving recovery for the species. This includes simple checks such as ensuring that there are objective and measurable recovery criteria and actions to address each threat identified as contributing to the threatened or endangered status of the species. Readers should readily be able to identify which threats each criterion and action are intended to address. In other words, each section of the plan should build on the supplemental documents (3-part framework) or the preceding section(s) (traditional) in order to create a clear picture of the plan for recovery. Remember that the recovery plan is an outreach document as well as a plan. If it is not clear why the particular recovery program was developed, the program is less likely to be implemented.

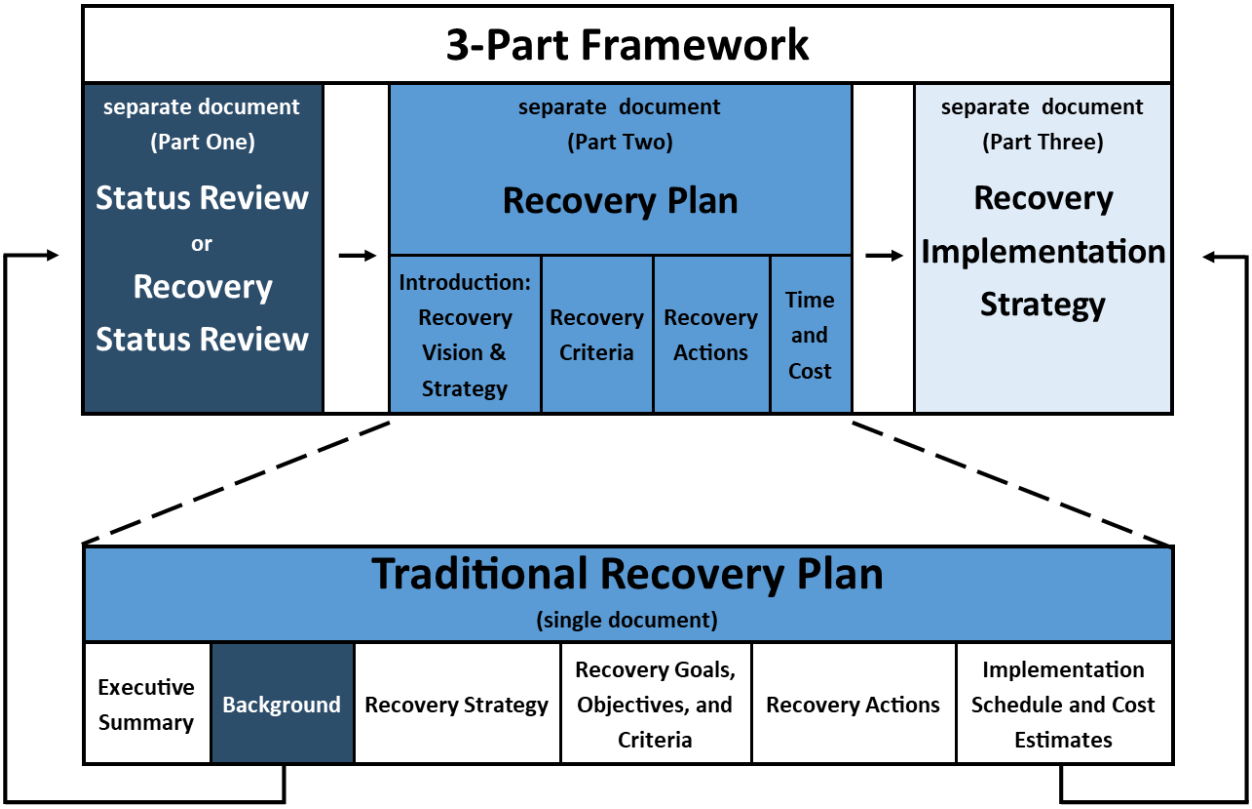

Figure 6-1: Recovery Plan Content for the 3-Part Framework and Traditional Approaches.

6.1 3-Part Framework Recovery Plans

6.1.1 Introduction

Under the 3-part framework approach, each recovery plan will include a concise introduction comprising the recovery strategy (the path of, and rationale for, achieving the recovery criteria; i.e., species is recovered). The introduction may also include, but is not required, a recovery vision (what "recovered" looks like in qualitative terms. The Introduction references the Status Review and other supporting documents.

6.1.1.1 Recovery Vision

The recovery vision provides a qualitative picture of how we envision recovery for the species. By envisioning the endpoint of recovery, the steps we take for species' recovery are more likely to be effective and efficient. More specifically, it provides the primary platform for the objective, measurable criteria required under ESA Section 4(f). The recovery vision must be clear and concise; it should be no longer than a paragraph.

The recovery vision is developed by summarizing the species ecological requirements (or species needs) that are expressed in terms of the 4 VPs in the Status Review. Information from the demographic and ESA 4(a)(1) factors analysis in the Status Review Extinction Risk Assessment can help develop a recovery vision statement. The recovery vision should also include the amelioration of threats necessary to achieve recovery.

6.1.1.2 Recovery Strategy

The recovery strategy is not a statutory requirement but it is an integral component of the recovery plan. It provides the link in logic, and underlying rationale (including assumptions), between the analyses in the Status Review (3-part framework) or background (traditional) and achieving the recovery vision (or if a recovery vision is not developed, the goals of the recovery plan). This is the second preliminary decision in the recovery planning process. The recovery strategy presents and justifies our scheme for how to achieve recovery, and describes the overall path for moving from the current condition of the species to the future state of the species that is expressed in the recovery vision. As such, the strategy provides the basis for recommending and prioritizing recovery actions and helps guide development of recovery criteria that measure progress toward delisting.

A fundamental assumption of recovery planning is that there is more than one path toward achieving the goal of recovery, for most listed species. A decision analysis approach to identifying alternatives and selecting an optimal strategy, and documenting the process and rationale that supports the optimal strategy, may therefore be useful. Developing the recovery strategy, criteria, and actions is an iterative process, looping back and forth among all of the plan components to create a coherent recovery program, which is then summarized in the recovery plan introduction (3-part framework) or Recovery Strategy (traditional; see 6.2.2, Recovery Strategy). The rationale for why a particular recovery strategy is selected should be included, as well as a brief description of the decision analysis process utilized.

6.1.1.2.1 Delineation of Recovery Units

Delineation of recovery units (if desired) is usually included in the recovery strategy. A recovery unit is a population unit of the listed entity that is geographically or otherwise identifiable and is essential to the recovery of the entire listed entity, i.e., recovery units are individually necessary to conserve genetic robustness, demographic robustness, or some other feature necessary for providing representation and therefore long-term sustainability of the entire listed entity. Examples of recovery units might include dispersed population units that represent the genetic diversity of a species necessary to provide adaptive flexibility and avoid inbreeding or multiple population sources in a dynamic ecosystem subject to unpredictable stochastic events such as hurricanes or wildfires. For many species, the identification of recovery units is not necessary. However, establishment of recovery units can be a useful recovery tool, especially for species occurring across wide ranges with multiple populations or varying ecological pressures in different parts of their range. Since *every* recovery unit is necessary to provide adequate representation for the long-term health and stability of the overall listed entity, recovery criteria for the listed entity should address each identified recovery unit, and every recovery unit must be recovered, before the species can be delisted.

As noted in the ESA Section 7 Consultation Handbook, recovery units are population units that have been "...documented as necessary to both the survival and recovery of the species in a final recovery plan(s) ..." (FWS and NMFS 1998: 4-36). The Consultation Handbook goes on to indicate that establishment of recovery units in a recovery plan may streamline jeopardy determinations for a listed species. The reason is that the value of conserving a particular recovery unit to the conservation of the entire listed entity has already been laid out in the recovery plan. Therefore, logically, if the action is likely to jeopardize a recovery unit, the action is likely to jeopardize the species as a whole. It is important to note that one cannot determine that a proposed action is likely to jeopardize a recovery unit, but only for a species, as a result of loss or impairment of the recovery unit and the representation that it provides the species. In a recovery plan, it is imperative to thoroughly explain how the recovery units for a given species are defined and their importance to the species as a whole.

Recovery units, if used, should collectively cover the entire range of the species. However, this does not mean that each individual or population within the recovery unit must be conserved, only that the boundaries around recovery units should be sufficiently broad to include all current populations. For example, a recovery criterion for a given recovery unit may be to conserve (reach certain demographic parameters and control threats in) “4 of the 5" or “6 of the 8" populations or subpopulations within that unit (see the discussion about recovery units versus management units below). On the other hand, a recovery unit may need to have populations added to reach its recovery criteria, i.e., there may be one population currently existing within a recovery unit but the goal for that recovery unit may be to have two or more viable populations (with threats controlled) to meet its recovery criteria. In any event, every recovery unit must be conserved because it is, by definition, essential to the conservation of the species.

If recovery units are identified, the plan must include the rationale for doing so. Recovery units should be delineated on a biological basis; however, sometimes minor adjustments may be made to the boundaries to reflect different management regimes or for other management purposes. Some reasons to consider delineating recovery units include the following:

- Re-establishing historical or maintaining current genetic flow
- Encompassing current and historical population and habitat distributions
- Ensuring conservation of the breadth of a species’ adaptive diversity (e.g., genetic, ecological, or behavioral diversity)
- Facilitating meta-population dynamics

Special considerations for recovery units:

- Recovery units are not listed entities and therefore cannot be reclassified or delisted independently
- Each recovery unit should be sufficiently large to buffer against successional processes, while assuring a geographically well-distributed population
- If recovery units are designated, recovery units should include all populations within the species’ range

Recovery Units vs. Critical Habitat

Recovery units are not synonymous with units of critical habitat. Recovery units are populations that have been identified as essential to the recovery of the listed entity. Critical habitat includes specific areas within the geographical range of the species that are both essential to the conservation of the species and that contain the physical and biological features that are essential to the conservation of the species and which may require special management considerations or protections. Critical habitat, including boundary delineation of any individual areas within the overall designation, is established by means of a rulemaking. Under the ESA, critical habitat must be designated at the time of the listing determination or, if not determinable at listing, shortly thereafter, unless a determination is made that designating critical habitat is not prudent. A recovery plan cannot designate critical habitat, although it may recommend various types of management for critical habitat. See Chapter 9.2, Critical Habitat Designations – Section 4(a)(3), for more information on critical habitat.

Recovery Units vs. Management Units

It is fairly common to identify management units in recovery plans, which might require different management. For example, threats, management authority, and/or population viability may differ across geographic areas requiring tailored management programs. However, each management unit is not necessarily essential to the conservation of the species, as is the case for each recovery unit. For instance, recovery criteria may require that some subset of

management units meet the criteria for downlisting or delisting (e.g., “4 of 5” or “6 of 8” management units). When in doubt regarding, whether every unit is essential to the conservation of the species, it is wise to use management units, rather than recovery units.

Once identified, recovery units are frequently managed effectively as management units; however, it is also possible for a single recovery unit to encompass multiple management units. One potential scenario for delineating recovery units could occur as follows. The species may be divided into three recovery units, all of which must be conserved to ensure the long-term viability of the species. Each of the three recovery units consists of several populations. Each population might be identified as a management unit. To achieve recovery within each recovery unit, only a subset of the populations might have to reach certain abundance estimates and threats-based criteria in order to be considered for delisting.

Recovery Units vs. Distinct Population Segments
While a recovery unit may exhibit some traits that might appear to qualify it as a DPS (Interagency Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the ESA 61 FR 4722, February 7, 1996), a recovery unit is not a DPS and cannot be treated as a DPS in a recovery plan. A DPS is a listable, and de-listable, entity; recovery units are not. Further, while a recovery plan can identify a recovery unit, it cannot designate a DPS because designation of a DPS requires a rulemaking pursuant to Section 4 of the ESA.

6.1.2 Recovery Goals, Objectives, and Criteria

6.1.2.1 Recovery Goals
The ESA states that “site-specific management actions as may be necessary to achieve the plan’s goal for the conservation and survival of the species” and specifies that estimates of time and cost to carry out those measures are based on achieving the plan’s goal and intermediate steps toward that goal . . . *(ESA §4(f)(1)(b)(i) and (iii)).* For the purposes of recovery planning, the goal is to address and ameliorate threats responsible for the species decline, and ultimately recovery and, therefore, delisting of the species. If a species is listed as endangered, an intermediate goal of reclassifying the species to threatened, with accompanying objectives and criteria, may also be appropriate.

For some species, delisting cannot be foreseen at the time the recovery plan is drafted. For example, the natural habitat of some species has been so reduced that captive propagation and active management may be necessary for the foreseeable future. In these rare cases, the short-term goal may be to achieve long-term stability through ongoing management and downlisting to threatened status. However, the lack of a clear path to delisting, and therefore delisting goals and criteria, must be justified as not practicable (see 6.1.2.3.6, Criteria for Conservation-Reliant Species), and actions in the plan must point to steps that might enable determination of delisting criteria.

Some recovery planning efforts may attempt to set goals higher than those needed to achieve delisting of the species, e.g., the goal of OSP for species listed under the MMPA. In these cases, it is important to identify the difference between the ESA delisting goals and any other goals that occur in a recovery plan (e.g., NMFS Recovery Priority Action numbers; 84 FR 18243).

6.1.2.2 Recovery Objectives
Although objectives are not a required statutory requirement, they may be helpful in a recovery plan to describe the conditions necessary for achieving the goal. Simply stated, recovery

objectives are the parameters of the goal, and criteria are the values for those parameters. For the purposes of this section the term “objective” is used as a noun: something that one’s efforts or actions are intended to attain or accomplish, as in a purpose or target (*note*: this noun should not be confused with the statutorily required “objective and measurable criteria” described in 6.1.2.3.1, Objective and Measurable).

Identifying the parameters of the overall goal facilitates both identification of mechanisms for achieving progress toward the goal (thereby assisting in identification of necessary recovery actions) and recognition of the goal when it has been reached. Recovery objectives should be identified in terms of demographic parameters, reduction or elimination of threats to the species (the five listing factors), and any other particular vulnerability or biological needs inherent to the species. For example, a recovery objective might be to ensure adequate, quality nesting habitat is held in protected status. Other objectives might include the elimination or control of incidental take of a species, reduction of competition from invasive species, or increased recruitment to the breeding population.

6.1.2.3 Recovery Criteria

Recovery criteria are a key and statutorily required element of a recovery plan.

Statutory requirement under the ESA: “*recovery plans . . . shall incorporate...objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list...”* (ESA §4(f)(1)(b)(ii)).

Recovery criteria are the values by which it is determined that an objective has been reached. Conceptually, recovery criteria tier down from recovery goals and objectives, and thus criteria need to be established for each recovery objective. Together, the recovery criteria spell out the anticipated conditions for the species to achieve recovery and for delisting to occur through the rulemaking process. Criteria can be thought of as performance measures or targets that quantify the vision of what the species and its ecosystem will look like when the threats to the species have been addressed to the point that it no longer meets the definition of endangered or threatened. The decision maker should be involved as early in the recovery criteria development process as possible.

All recovery criteria must be objective and measurable (see 6.1.2.3.1, Objective and Measurable) and include a thorough justification (See 6.1.2.3.2, Justification). Threats-based criteria are required (see 6.1.2.3.4, Threats-based Criteria) and demographic criteria are strongly recommended (see 6.1.2.3.3, Demographic or Population-Focused Criteria). Recovery criteria include delisting criteria and, in the case of endangered species, should also include criteria for reclassification to threatened (see 6.1.2.3.5, Reclassification Criteria for Endangered Species). Some species may be considered conservation reliant, in which case, recovery criteria must address ongoing management after delisting (see 6.1.2.3.6, Criteria for Conservation-Reliant Species). In rare cases, the interim recovery goal may be to downlist the species because it appears the conditions for delisting cannot be met at this time, in which case only downlisting criteria would be developed (see 6.1.2.3.8, When Development of Delisting Criteria is not Practicable).

Developing recovery criteria can range from simple concepts to sophisticated models, depending on the situation and information at hand. For any method, criteria are developed from what is known regarding the species’ natural and anthropogenic threats; the demographic parameters that indicate long-term viability for the species (e.g., population structure, abundance and distribution, vital rates, and the amount and distribution of habitats, 4VPs, etc.);

and the feasibility and effectiveness of recovery actions that can be implemented to achieve the recovery criteria.

The Status Review contains species information in a 4 VP context and the metrics to consider when developing criteria are provided in **Tables 6-1** and **6-2**. Determining the threshold values for criteria is a decision point for the recovery plan; a structured decision making process may be very helpful in evaluating the potential threshold values for criteria, and helping decision makers arrive at the criteria that collectively will determine how NMFS defines long-term viability for the species (see Gregory et al. 2012, *or* Conroy and Peterson 2013 for more information on structured decision making).

The recovery criteria can be formatted in a number of ways, each of which has advantages and disadvantages. We encourage you to think about readability and ease of understanding when selecting an option. Check NMFS website for examples of various approaches to formatting recovery criteria: NMFS Recovery Plans.

6.1.2.3.1 "Objective and Measurable"

Recovery criteria must be "objective *and* measurable" to the maximum extent practicable (ESA Section 4(f)(1)(b)(ii)—emphasis added), and should be as temporally and spatially specific as possible. The inclusion of both qualifiers implies criteria must not only be quantitative (or, in rare cases, measurable by some other metric), but also objective so that all observers can recognize and agree when a criterion has been met.

Objective

The word "objective" is an adjective used in this section of the handbook meaning, unbiased, based on facts, or not influenced by personal feelings, interpretations or prejudice. This is not to be confused with the recovery objectives discussed in 6.1.2.2, Recovery Objectives.

''Objectivity'' (the adjective) has been defined in 67 FR 8452 (OMB Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, February 22, 2002) and further detailed in NOAA Information Quality Guidelines. Objectivity, according to NOAA, is composed of two distinct elements: presentation and substance. "*The presentation element includes whether disseminated information is presented in an accurate, clear, complete, and unbiased manner and in a proper context. The substance element involves a focus on ensuring accurate, reliable, and unbiased information. In a scientific, financial, or statistical context, the original and supporting data shall be generated, and the analytic results shall be developed, using sound statistical and research methods* (NOAA Information Quality Guidelines)." NOAA Information Quality Guidelines also outline that "NOAA will use (a) the best available science and supporting studies (including peer-reviewed science and supporting studies when available), conducted in accordance with sound and objective scientific practices, and (b) data collected by accepted methods or best available methods."

NMFS must use and disseminate information that is accurate, reliable, and unbiased. Thus, objective recovery criteria must be based on best available science and be free of either technical or social bias.

Measurable

Senate Report No. 100-240, which accompanied the Senate version of the bill that became the 1988 amendment to the ESA, suggests the primary purpose of having objective, measurable criteria in recovery plans is to provide a means by which the public can measure progress in the

efforts at recovery, since previous plans had no criteria to judge success. Thus, “measurable criteria” is taken to mean a quantitative or easily interpreted qualitative gauge to measure progress and that enough specificity is provided that when any two professionals read the criteria, the meaning they take away from it is identical. Criteria must thus be unambiguous and use quantitative or easily interpreted qualitative gauges of progress or success (e.g., a minimum of X populations with a minimum population size of X must exist within each recovery unit), or each state must have an adequate management plan *(*e.g., addressing X factors with Y certainty for Z period of time, and approved by the Service) in place to conserve the species after delisting. The threshold values of each criterion should be developed in a way that allows for monitoring and evaluation on whether they have, or have not, been met. This requires that the criteria be based on metrics for which the appropriate monitoring mechanisms are available and can be applied at the time of planning (i.e., they should not be a measure for which the monitoring techniques are anticipated to be developed at some point in the future).

6.1.2.3.2 Justification

A justification that supports the metric and threshold values established by that criterion should be included for each criterion, including both demographic or population-focused and threats-based criteria. The justification should address how each criterion speaks to demographic or threat conditions that will collectively demonstrate the species is recovered and no longer needs the protections of the ESA. Do the recovery criteria reflect the recovery strategy for the species?

Explain how the criteria ensure that the underlying causes of decline will be addressed and mitigated (cross-reference as appropriate to the recovery strategy) providing a valid path to recovery. Explain why achievement of the criteria would result in the species no longer meeting the definition of threatened or endangered. Justifications can be expressed in terms of the 4VPs. The justification section may also need to define terms used in the recovery criteria**.**

6.1.2.3.3 Demographic or Population-Focused Criteria

Demographic criteria should be developed to address each of the 4VPs (**Figure 6-1**). There can be more than one criteria for each VP. Recovery criteria comprise a 4VP metric (derived from the Status Review) and a threshold value for each metric (determined during recovery planning). The 4VPs are the foundation for the metrics of the demographic recovery criteria (**Table 6-1**). Development of recovery criteria, therefore, starts with the species’ ecological requirements in the Status Review.

Table 6-1: 4 VP (Status Review) metrics that inform Recovery Criteria

Diversity	Spatial Distribution	Abundance, Productivity, & Spatial Distribution
• # of representative units (populations, meta-populations, etc.) • Representation of each physiogeographic and/or genetic type • # of populations per representative units • Persistence of each representative unit	• Multiple populations widely spread relative to catastrophic events • # of populations in specific low risk geographical areas • # of populations per representative unit, or redundancy of representative units • Probability of persistence (given frequency and intensity of catastrophic events)	• Parameters that describe healthy populations: o Demographics o Habitat quantity and quality o Genetic heterogeneity o Threat reduction levels and/or extent • Connectivity • Meta-population dynamics (where appropriate)

In **Table 6-2** below, we include a list of possible metrics that could be derived from the 4 VPs from the Status Review along with suggestions for ways to think about threshold values.

Table 6-2: Examples of recovery criteria metrics that are informed by the Status Review.

Criteria in Recovery Plan = metric (Status Review) + threshold value (recovery planning process)			
4VP Principle	**Potential Metrics**	**Threshold Values**	**Threat Criteria**
Diversity	Unit of representation, based on ecological setting, or geographic area (ecoregion, watershed, etc.) Note: Can be called conservation, management or recovery units in the recovery plan under specific circumstances	• Number of units, and • Specify spatial distribution needed. • Amount of connectivity between units, if applicable (acreage)	Are there threats affecting representation for which amelioration is needed? If Yes—Identify the specific threat and the reduction in its level and extent needed to reach demographic– or habitat-based criteria.
Spatial Distribution	Number of resilient populations per representative unit	Number of resilient populations within each representative unit	Are there threats affecting redundancy for which amelioration is needed? If Yes—Identify the specific threat and the reduction in its level and extent needed to reach demographic– or habitat-based criteria.
	Distribution and connectivity of populations within the unit	Specify the distribution and connectivity of populations	
Abundance, Productivity, & Spatial Distribution	Population size	Number of individuals per population (over Y time period)	Are there threats affecting resiliency for which amelioration is needed? If Yes—Identify the specific threat and the reduction in its level and extent needed to reach demographic– or habitat-based criteria.
	Population growth rate	Value of Lambda	
	Age or size class distribution	Specify	
	Sex ratio	Specify	
	Survivorship	Specify	
	Genetic heterogeneity	Specify	
	Habitat quantity and quality	Acres and specified distribution of habitat; aspects of habitat quality needed	
	Connectivity among populations	Specify connectivity	
	Selected metrics that contribute to resiliency	Probability of persistence over Y time	

Considerations for Units of Representation or Diversity
Each representative unit (which can be synonymous with a recovery unit, a management unit, or another unit deemed necessary to conserving representation or diversity at the species level) can have unique recovery criteria for redundancy and resiliency, depending upon the demographics, habitat conditions, and threats in each representative unit. In some cases it may be decided that a specific representative unit must be recovered in order to achieve recovery for the species. In this case we recommend calling the unit a "recovery unit" (see 6.1.1.2.1, Delineation of Recovery Units). This emphasizes the contribution the specific unit provides to recovery in order to conserve the species as a whole.

Determining Threshold Values for Demographic or Population-Based Recovery Criteria
Once metrics are selected from the Status Review for each VP, how do we identify threshold values? Information in the Status Review may be helpful in identifying potential threshold values via the data and analyses conducted (the how much, where and how many, etc.), but this is really the work of recovery planners working with decision makers, state partners and experts, as they work together to decide on the specific threshold values for each habitat and species demographic metric that will comprise a recovery criterion. These threshold values will be different and unique for each species as they need to address the biological traits and needs of the species as well as its unique combination of stressors and threats.

6.1.2.3.4 Threats-Based Criteria
The elimination or reduction of threats (stressors that negatively impact a species) are the primary route to species recovery. The ESA requires an evaluation of the species' status with respect to threats (the five "factors" under Section 4(a)(1)) to make a determination as to whether a species should be listed as endangered or threatened or not listed. The courts have affirmed that recovery plans must contain criteria for the mitigation of threats (see "Legal Challenges" below).

The purpose of developing threats-based criteria is to measure whether the underlying causes of decline are being addressed and the threats identified at listing (or new threats), under each factor, are being adequately reduced or ameliorated. Thus, threat reduction (as measured by threat criteria) must target *each* identified threat and focus on adequate reduction or elimination of that threat so that one or more of the species' demographic recovery criteria may be met. In other words, "threats-based" criteria are directly related to specific demographic or habitat-based criteria, and must be designed to facilitate the species being able to reach the demographic criteria (i.e., does the criterion provide for a species response necessary to achieve recovery?).

Threats-based criteria must address stressors/threats assessed in the Status Review that are relevant to the species' current and anticipated future condition. Determining whether a species is an endangered or threatened species, or not, is based not only on the absolute numbers of individuals, size of their habitats, or other demographic and habitat measures, but also the stressors and threats that may cause a species to be at risk of extinction. The stressors/threats that cause a species to be an endangered species or a threatened species must be reduced, eliminated, or mitigated in order to recover such species. Threats-based criteria are required to reflect when threats have been ameliorated to a level and extent that allows for the ecological requirements of the species to be met. A species' decline is often due to an interrelated, interactive suite of factors, rather than a linear cause-and-effect of a single factor. Therefore, in developing threats-based criteria, each threat must be analyzed for its relationship to other threats (e.g., synergistic, antagonistic) so that a strategy can be designed to effectively reduce these threats.

Some recovery plans in the past have only included demographic criteria, assuming that meeting certain demographic parameters would not only indicate stable or healthy populations but also that threats had been addressed (with the underlying assumption that demographic criteria could not be met if threats were still present). However, many methods such as captive rearing and population augmentation or reintroduction may increase population numbers without addressing threats. Once efforts to increase population numbers cease, threats that continue to act on the species may cause the species to decline again. Recovery criteria should therefore not only include demographic parameters indicating healthy populations, but also include criteria to indicate that underlying causes of endangerment have been addressed. Ideally, threats-based and demographic criteria should be linked – threats-based criteria would measure when a threat has been abated and demographic criteria would measure whether the species has had the expected demographic response. (Example: nest predation reduces sea turtle nesting success. A threats-based criterion might measure reduction in predator populations, while a demographic criterion would measure reproductive success to determine whether predator control methods have had the desired effect on the species.)

Legal Challenges Affirming the Need to Include Threats-Based Criteria
Legal challenges to recovery plans have affirmed the need to frame recovery criteria in terms of threats according to the five ESA Section 4(a)(1) factors (*Fund for Animals v. Babbitt*, 903 F. Supp. 96 (D.D.C 1995), Appendix A; *Defenders of Wildlife v. Babbitt*, 130 F. Supp. 2d. 121 (D.D.C. 2001)). For example:

"Congress has spoken in clarion terms: the objective, measurable criteria must be directed towards the goal of removing the endangered or threatened species from the list. Since the same five statutory factors must be considered in delisting as in listing, 16 U.S.C. § 1533 (a), (b), (c), the Court necessarily concludes that the FWS, in designing objective, measurable criteria, must address each of the five statutory delisting factors and measure whether threats to the [species] have been ameliorated" (see Fund for Animals v. Babbitt, 903 F. Supp. 96 (D.D.C 1995), Appendix A).

Further, a 2006 Government Accountability Office (GAO) audit of the Services endangered species recovery programs recommended that the Secretaries of Commerce and Interior direct their staff to ensure that all new and revised recovery plans have either recovery criteria evidencing consideration of all five Section 4(a)(1) factors or a statement regarding why it is not practicable to do so (GAO 2006). Where appropriate, this may include a simple statement that X factor is not known to negatively impact the species so no criteria for threat mitigation under this factor are provided. Some recovery plans have included a table that tracks each identified threat, the ESA threat factor it falls under, the actions intended to mitigate them, and criteria to assess the success of threat abatement (see 6.2.4.1, Threats Tracking Table).

Developing objective and measurable threats-based criteria can be challenging. In addition, a recovery strategy could involve trading off efforts to address one threat in favor of addressing other threats that may provide a greater return in terms of reducing extinction risk. The following concepts and examples for threat may assist in developing threats-based criteria that are as robust (i.e., objective and measurable) as possible.

Concepts to consider:

- Consider elements identified in the assessment of threats or sources and stressors as criteria for recovery.
- Are there criteria relevant and standardized by another organization or agency that could be useful such as water quality or air quality standards?

- Are specific threats more relevant to specific life history stages of the species?
- Consider timeframes that include several generations and climate cycles to address species longevity and multiyear variability.
- Can a threat be abated/reduced/mitigated to Y% over Z timeframe such that a population is stable/increasing/etc.?
- Dealing with uncertainty: A monitoring program assessing the degree of X threats is established within Z timeframe for…

In order to develop threats-based criteria, the Status Review may not contain sufficient information and further analysis may need to be done for the recovery plan (see Chapter 5.1.1.2, Versioning the SSA/Status Review Relative to the Recovery Plan). This analysis can be done in a new version of the Status Review (i.e., Recovery Status Review) or in the background section for the traditional approach.

6.1.2.3.5 Reclassification Criteria for Endangered Species

While the ESA does not explicitly require the development of criteria for reclassification of endangered species to threatened status, reclassification criteria should be developed for several reasons:

1. Reclassification criteria provide milestones by which we can assess the species' progress towards recovery and, therefore, the effectiveness of the recovery program we have designed for it. If we are not approaching reclassification criteria after a predicted time interval, we may need to revisit and perhaps even revise the recovery plan.
2. Reclassification criteria provide targets to guide development of interim recovery actions that might trigger an evaluation for a change in listing status. Reclassification highlights the species' progress towards recovery and the effectiveness of the ESA. This recognition can be important to our recovery partners, stakeholders, and the general public.
3. Reclassification criteria could identify management actions and prohibitions that might be relaxed or tailored through the process of reclassification and development of an ESA Section 4(d) protective regulation, which in turn might minimize the burden on stakeholders. This can be an important show of good faith that if recovery progresses further, there may be a time when more restrictions and management requirements may be eliminated.

How do we develop reclassification criteria? The primary difference between endangered and threatened species lies in the recognition of the "foreseeable future." An endangered species is in danger of extinction now; a threatened species is one that is likely to become endangered with extinction "within the foreseeable future." Criteria for reclassification should focus on those conditions under which threats that cause an imminent risk are ameliorated, and the species is no longer endangered but can still revert to that state within the foreseeable future.

6.1.2.3.6 Criteria for Conservation-Reliant Species

Some species are subject to pervasive, recurring threats, and the risk of extinction can be reduced through intensive or frequent human intervention, but cannot be eliminated (at least with the current tools at hand). These are considered conservation-reliant species, i.e., their long-term viability depends on continual management. In evaluating the effects of threats to a species, we must also consider the effect of any existing regulatory mechanisms or conservation efforts in ameliorating or exacerbating the impacts of those threats and, if any, the biological needs not being met. If long-term management is needed after delisting to ensure that threats are adequately managed in the future, we may need the establishment of regulations,

management agreements, or some other mechanism that assure ongoing management of the particular threat.

Criteria should be established to ensure development of agreements, regulations, or other mechanisms to address the threat. As with all criteria, these criteria must be objective and measurable. In other words, they must spell out what threat is to be addressed this way and how it will sufficiently reduce the threat of extinction for the foreseeable future. For example, a criterion might state that management is required to keep cowbird nest parasitism below X percent. The criterion might specify that monitoring will be necessary to identify if cowbird parasitism has exceeded X% and additional steps that will be taken under those circumstances, how the management will be funded, what entity(s) might need to be signatories, and that the management plan must be approved by the FWS. It might also specify that the agreement must meet an evaluation such as that called for in the Policy for Evaluation of Conservation Efforts in order to be considered sufficiently likely to be implemented as proposed. For example, the Kirtland's warbler, Bocetti *et al.* (2012, p. 875) recommended four elements that should be in place prior to delisting a conservation-reliant species, including a conservation partnership capable of continued management; a conservation plan; appropriate binding agreements (e.g., MOA) in place; and sufficient funding to continue conservation actions into the future.

If these agreements are put in place early in the tenure of the species' time managed under the ESA, they can contribute substantially to the recovery of the species, and facilitate delisting. Although listing decisions are based on the ESA Section 4(a)(1) factors (see **Box 6-1**), recovery criteria such as those that address the inadequacy of regulatory mechanisms are an important part of the evaluation for a proposed delisting, to ensure that existing regulatory mechanisms (after delisting) are adequate to manage any residual threats.

Box 6-1: Relationship Between Recovery Criteria and ESA Section 4(a)(1) "5 Factors"
Where recovery criteria may not be fully met when information indicates a species may qualify for delisting, the listing determination depends on an evaluation of the ESA Section 4(a)(1) "5 factors," and not meeting the recovery criteria. Likewise, it is possible that a species for which all recovery criteria are met may not qualify for delisting. In *Friends of Blackwater v. Salazar*, 691 F.3d 428 (D.C. Cir. 2012), the Circuit Court reversed a District Court decision (*Friends of Blackwater v. Salazar,* 772 F. Supp. 2d 232 (D.D.C. 2011)) that FWS was bound by the criteria in the recovery plan, and its decision to delist the West Virginia northern flying squirrel without having met the criteria therefore constituted a revision to that plan without public notice and comment as required by section 4(f). The Circuit Court focused on the language of Section 4(f)(1)(B)(ii), stating that it can "be read as the Secretary suggests, based in part upon the absence of the word 'shall,' to indicate the 'objective, measureable criteria' are predictive of the Service's delisting analysis rather than controlling that analysis." The court further found that the ambiguity is magnified by the qualifying clause that criteria be incorporated "to the maximum extent practicable," indicating a non-mandatory character of the provision, and that the Services' interpretation is reasonable. The court ruled in favor of FWS, holding that an analysis of the section 4(a)(1) factors forms the basis in deciding whether a species is no longer endangered or threatened and therefore should be delisted; the statute does not require that recovery criteria must be met or a plan with outdated criteria revised before a species may be delisted.

6.1.2.3.7 Criteria for Ecosystem Recovery Plans

Ecosystem plans may be appropriate if several listed species share the same biotic community and rely on the protection, restoration, or management of their ecosystem for recovery. Such

plans should include specific recovery criteria for each of the species addressed by the plan, but may also include ecosystem-based recovery criteria. Support for ecosystem-based criteria should be provided by a clear description of the biological connection between the ecosystem and the listed species needs and its threats.

Examples of ecosystem-based criteria:

- Aquatic ecosystem: The recharge area of the aquifer is protected so that all spring flows return to historic discharge rates.
- Prairie ecosystem: Sites supporting populations of the listed plant species are managed for high quality prairie habitat. High quality prairie habitat consists of a diversity of native, non-woody plant species, low frequency of aggressive non-native plant species and encroaching woody species, and essential habitat elements (e.g., nest sites and food plants) for native pollinators.
- Wet meadows ecosystem: Management plans for each protected area are developed and implemented. The management plans address vegetation control, set a monitoring schedule to assess population levels to quantitatively determine trends, include methods to maintain hydrological functions, and outline an outreach plan for neighboring landowners.

6.1.2.3.8 When Development of Delisting Criteria is not Practicable

In the rare cases where incorporation of delisting objectives and criteria are impracticable (i.e., cannot be done—not just hard to do) at this time, we need to make a finding that is scientifically and administratively defensible. This finding needs to incorporate component 1 below, whereas component 2 is optional and as it applies and resources permit:

1. An explanation about why delisting objectives and criteria are impracticable at this time.
2. A description of actions necessary and timelines needed in order to obtain the pertinent information to develop delisting objectives and criteria.

Explain why delisting objectives and criteria are not practicable at this time.

- Document that all existing, current information has been reviewed.
- Document why it is not practicable. For example:
    - Concerns about insufficiency of information about, or the quality of that information, relative to the species' natural history or threats. For example, information is so limiting that priorities and mitigation cannot be identified at this time or it is not possible to determine what measures are needed to indicate that the species is no longer threatened or endangered.
    - It is not feasible or possible to abate threats impacting the species at this time. For example, the species is at risk of a foreseeable catastrophic event and there is no feasible/possible way to ensure a species' resiliency to such an event at this time, or in the foreseeable future (e.g., beyond the duration of the recovery plan). Describe how threats are clearly present at this time, the magnitude of those threats, and how they are likely to remain present in the foreseeable future because there is no known or feasible mitigation for abating or controlling the threats. That is, the magnitude of the threat, and the presence of the threat are such that we cannot determine a future scenario where the species would no longer meet the definition of threatened or endangered. We can briefly mention the threats with a sentence or two on each factor, incorporating by reference the most recent five-factor analysis, consultations, or other readily available information where a more thorough analysis exists.

If applicable, include actions necessary and timelines needed in order to obtain the pertinent information and develop delisting objectives and criteria.

6.1.3 Recovery Actions

Recovery actions are the prioritized, site-specific management actions identified in a recovery plan to be taken to conserve, protect, manage, restore, and enhance species and their habitats, and most of all avoid or minimize threats. Recovery actions are those management interventions needed to facilitate the species' ability to achieve the recovery criteria and thus no longer meet the definitions of either a threatened or endangered species such that it can be reclassified or delisted.

Recovery actions should have a beginning point (the current status of the species with respect to a particular parameter), an endpoint (what the recovered state looks like for that parameter), and a direction (this is the action itself—how to get from the current to the recovered state). All actions must include a verb. Actions should also reflect the recovery strategy identified earlier (see 6.1.1.2, Recovery Strategy).

Recovery actions should be site-specific. Site specificity involves a geographical component, but allows for discretion as to how such an area is identified and described. Depending on circumstances, a "site" might be focused on a breeding area, foraging ground, or migration corridor and should capture the geographic extent relevant to the species needs.

6.1.3.1 Development of Recovery Actions

The threats assessment in the Status Review is used to help identify the threats and the actions necessary to alleviate those threats. The current condition of the species, together with the assessment of possible future conditions should be used to develop recovery actions that address the species in its current condition, factoring in the future conditions anticipated, and move it in the direction of recovery. In addition, the analysis from the Status Review should provide information regarding the relative impact of each threat in order to allow optimization of which threats need to be addressed and in what order to ensure effective results.

In some cases, the Status Review may not specifically identify the causal chain of logic from source to stressor to species response to species effect, or the analysis may stop short of ranking or prioritizing the stressors/threats. In these cases, the recovery planners may need to do some additional analysis to determine the priority of appropriate recovery actions, and to inform the recovery strategy. Any additional analyses necessary should be housed in a next version of the Status Review (e.g., Recovery Status Review).

6.1.3.2 Actions vs. Activities

The 3-part framework re-focuses recovery actions to be more "visionary" and strategic than in many recovery plans of the past. The actual on-the-ground, detailed activities for implementing each recovery action in the recovery plan are described in a separate document, the RIS (see Chapter 8, Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Updating the Plan). Actions should be general enough to allow some flexibility in how we implement them (the mechanism for implementing actions is via the flexible activities in the RIS, which can be modified as needed per an adaptive management protocol). Recovery actions focus on what is needed strategically to achieve recovery (as delineated by the recovery criteria), but not the details of how we will implement them; this is saved for the RIS. The ESA requires actions to have some level of site-specificity, but the agency has some discretion as to how site-specific these should be.

As you develop the recovery plan, think about how individual recovery actions can be stepped down into more detailed activities for implementing each action in a RIS. Two important sideboards are that: (1) all activities in the RIS must be related to an action in the recovery plan, and (2) the RIS cannot create new actions. New actions must be associated with a revision of the recovery plan itself, with accompanying public review and comment. Beyond these sideboards, there is flexibility in how we identify activities in the RIS. As staff gain experience developing recovery plans under the 3-part framework, we will continue to hone our approach to developing site-specific actions in the recovery plan versus near-term activities in the RIS (see **Table 8-1** for an example of recovery actions versus activities).

6.1.3.3 Prioritization of Recovery Actions

Recovery actions must be prioritized to ensure actions are implemented in an order that is most effective for achieving recovery. NMFS' recovery priority scheme is at 6.2.5, Implementation Schedule, Time, and Costs Estimates.

6.1.4 Time and Cost Estimates

Estimates of the Time and Cost to recovery are the last statutory element(s) for a recovery plan. Specifically, we need to estimate the time it will take to achieve recovery of the species, and the cost of implementing all of the actions in the recovery plan. In rare cases when the goal of the current recovery plan is only to downlist the species to threatened status, then we need only to estimate the time and cost to downlisting.

Statutory requirement under the ESA: "recovery plans . . . shall incorporate: . .estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal" (ESA s4(f)(1)(b)(iii)).

How do we interpret this requirement?

Time and Costs: These are the estimates of the time it will take to achieve recovery (and an evaluation for potential delisting) of the species, and the cost of implementing the actions in the recovery plan. The statute also directs us to provide time and cost estimates for intermediate steps (e.g., reclassification from endangered to threatened), if relevant.

- **Time** – **Full amount of time to recovery**
  - Assumes full funding, all actions implemented
  - Can include time to reclassification as intermediate step, but not to the exclusion of delisting
- **Cost** – **Total cost of implementing all actions**
  - Can be derived from an implementation schedule (optional) (see discussion below)
  - Cost estimates should include staff time for NMFS and/or FWS employees (for joint jurisdiction) working on recovery planning and implementation of the species
  - Not adjusted for inflation

So, what do "*To the maximum extent practicable*" and "*estimates*" mean?

This means our estimates do not have to be perfect (accurate forecasting of the time and cost to recovery is often very difficult). But we do need to develop a reasoned and supported estimate of what it will take to achieve the plan's goals of recovery and delisting.

The discussion here focuses on what is different under the 3-part framework when compared to the traditional recovery plan. Using the 3-part framework, actions are described at a more

strategic scale, so we need to carefully consider and document our assumptions and/or extrapolate from initial recovery RIS development. This is another advantage to starting development of the RIS concurrently with development of actions.

With respect to costs, under the 3-part framework's strategic-level actions, there is less detail on specifics to help develop detailed cost estimates, but the activities in the RIS should be able to help with some of this. Partners are often able to provide useful insight into the costs of activities and even actions. Some kind of Implementation schedule can still be a useful tool to plan out duration, sequences of action, etc.

To estimate time and cost to recovery, focus on the management actions that are needed to address the threats to the species and its habitat and recover the species. These can be broken down by management practice, the types of staff used, the methodology used, and who (NGO, private landowner, federal, state, and local). The Office of Personnel Management federal pay tables can be used or the Bureau of Labor Statistics can be used to assist with estimating hourly wages. **Table 6-3** below provides some examples of how time to recovery is estimated.

Table 6-3: Examples of Time Estimates

Species	Recovery Plan: Time to Recovery
Gabbro soil plants	• time to recovery defined in relation to 30-year natural fire cycles • 2-3 fire cycles needed to determine response, ensure sufficient recruitment o **Time to recovery = 60—100 years**
San Benito evening primrose	• Amount of time necessary to achieve restoration • Plus monitoring long enough to include drought and wet years o **Time to recovery = 50 years**
North American green sturgeon southern DPS	• Time to recovery based on 3 generations (22 years) • Minimum needed to monitor trends in abundance, establish census threshold of 3,000 adults (yearly running average of 813 spawners) o **Time to recovery = 66—88 years**

6.1.5 Implementation Schedule or Action/Time/Cost Table

As described above, recovery actions and estimates of time and costs are required elements of a recovery plan. While there is flexibility in how this information is presented, it can be helpful to depict these in a table. While not required for a recovery plan developed using the 3-part framework, an Implementation Schedule (or table) can be a useful tool to aid in developing estimates of both time and costs to recovery and for tracking implementation and reporting accomplishments. A detailed discussion of constructing an implementation schedule is included in Chapter 6.2.5, Implementation Schedule, Time, and Cost Estimates. The Implementation Schedule can be housed in the recovery plan or the RIS. If the Implementation Schedule is housed in the RIS, you must still include recovery actions (and priority), and estimates of time and costs in the recovery plan. It may be useful to include these required elements in a simplified table in the plan.

An implementation schedule draws all the actions together in a succinct, easy to use, visual table that lays out (see Chapter 6.2.5, Implementation Schedule, Time, and Cost Estimates, for more details):

- Actions and action priorities
- Who is likely to implement them (this may be a number of partners or stakeholders for some actions) —no agency or entity is required to implement a recovery action just because it is in a recovery plan
- How long implementation of each action is likely to take
- How much each action is estimated to cost

One advantage to continuing to use a traditional implementation schedule format is that it contains recovery action information in a format that can be uploaded directly into the RAMT database (see Chapter 8.3, Tracking Actions and Progress Toward Recovery). The RAMT database is used for NMFS reporting on completed recovery actions for the Government Performance and Results Act. If an implementation schedule with the minimum required information fields is not included in the recovery plan, the information and table will need to be generated separately in order to efficiently upload recovery actions into RAMT for tracking implementation and for end-of-year accomplishment reporting.

6.2 Traditional Recovery Plan

In this section, we describe content that is unique to the traditional approach, but refer the reader to 6.1, 3-Part Framework Recovery Plans, where content is similar.

6.2.1 Background

The Background section of the recovery plan is critical to the understanding the recovery needs of the species and should provide information to build the case for why the particular recovery program (i.e., recovery strategy, goals, objectives, criteria and actions) outlined in the recovery plan is the most appropriate path to recovery. Information in this section should be directly relevant to understanding the endangerment and recovery of the species. The Background section needs to discuss succinctly the information in each of the subsections outlined below and identify data gaps within these subsections. Since the Background section of the recovery plan is the primary vehicle for communication with other agencies and the public about the species' recovery needs and its recovery program, this section needs to be biologically accurate but readable by laypersons. Appropriate references should be cited but also summarized succinctly, i.e., the recovery plan should be a stand-alone document.

The Background's introductory paragraph should include a sentence about the general purpose of recovery plans (to guide implementation of recovery of the species) and the ESA mandate for developing and implementing them. It should note that recovery plans are advisory documents, and that recovery recommendations are based on resolving the threats to the species so they may be able to sustain populations in the wild. Include any general introductory information that may be pertinent to the particular species. For example, information may include that the plan covers multiple species, that it includes candidate species, that it is a revision that contains many changes based on research conducted between the completion of the original plan and this plan, or whatever might aid the reader in understanding the plan. This paragraph should ease the reader into the plan with an understanding of its purpose and an expectation of how the plan will build the case for the specific actions it recommends.

In addition to the introductory paragraph discussed above, the following subsections are suggested for inclusion in the Background section. They may be adapted or additional subsections added to suit the biology of, and issues affecting, the species.

6.2.1.1 Brief Overview/Legal Status of the Species

Give a brief overview of the species, including its scientific and common names; status (threatened, endangered, candidate or proposed (multiple-species plans may include the latter)); date listed, or proposed; Federal Register citation for the final listing rule for each species, subspecies or DPS/Evolutionarily Significant Unit (ESU). If the recovery plan includes a recovery priority number, include text that explains this can be revised over time. Other items to consider in the overview include the state(s) status, the estimated extent of decline of the species, and a very concise overview of threats or limiting factors.

6.2.1.2 Species' Description and Taxonomy

Describe the taxonomy and physical appearance of the species. This should be written approximately on the level of a field guide. State the date when the species was described and refer to the best available technical descriptions. Make clear how well the species is understood regarding taxonomy, especially if genetic studies have not been conducted. Mention look-alike species, note how to differentiate between them and the species in the plan, and explain how similarity of appearance of sympatric species might influence recovery efforts. When dealing with lesser-known species, describe family affiliations that may be useful to the non-taxonomist.

6.2.1.3 Populations, Trends, and Distribution

Give the best available information on current and historical numbers of populations and individuals and on current and historically occupied range. Give information on population trends, and projections based on recent trends, if available. Note how much confidence there is in this knowledge, including how much effort has gone into the monitoring effort and whether there is much likelihood that more populations will be found in future searches. Be sure to include negative search results. Indicate extirpated populations and permanently lost habitat. Indicate whether carrying capacity is limiting the species and whether decreases in carrying capacity are necessarily permanent. Indicate population or stock (for marine mammals listed under the MMPA) structure. Metapopulation considerations should be included, if relevant, and modeling or viability analyses that have been conducted should be cited and briefly described. The significance of population status and distribution with respect to recovery needs and opportunities should be stated.

Include maps of appropriate scale to delineate current and historical range, without disclosing any sensitive, site-specific information. Be sure that the map has a legend, an indication of north, and that it contains adequate resolution to print or view clearly.

6.2.1.4 Life History

Summarize the life history and ecology of the species. Focus on the biological or ecological aspects of the species that are relevant to ongoing threats or to future recovery. This section should summarize the species' breeding and non-breeding biology, and may include pertinent information such as recruitment rates and reproductive strategies, age at maturity, growth rates, phenology, breeding habits, spawning or other dispersal methods, diet and feeding habits, behavior, migration and movement patterns, habitat use patterns, and natural sources of mortality.

It may be useful to include language specific to the species' needs for breeding, feeding and sheltering, as these terms are important to Section 7(a)(2) analyses.

Frequently, considerable information on species biology has been discussed in the Status Review and listing rule, and a succinct summary of this information, referencing the Status Review, listing rule, and other relevant literature, may reduce the time involved in incorporating this information into the recovery plan. However, the traditional recovery plan should be a stand-alone document and must, therefore, summarize this background information. Whereas the 3-part framework provides a separate science document that would contain all of the background information (see 6.1, 3-Part Framework Recovery Plans).

This life history subsection may be combined with the following subsection.

6.2.1.5 Habitat Characteristics/Ecosystem

This section of the recovery plan focuses specifically on the habitat needs of the species and should note the different habitats used for different portions of the species' life history (breeding, feeding, calving, spawning, and nursery habitats; summer and wintering grounds; migratory routes; rookeries; haul-outs; seasonal wetlands or drylands; associated species; etc.,). Be sure to include relevant physical and biological aspects of habitat and ecosystem needs, such as geological formations, plant or community associations, migratory pathways, cover and food use, currents, water quality and quantity, flow regimes, and host species, as well as known relationships to competitors, predators and prey, and symbiotic relationships.

Describe all elements of the ecosystem that may need to be taken into account by project planners and managers. For instance, if habitat quality is an issue for the species, discuss the differences between optimal, suboptimal, and marginal habitat. If the species opportunistically uses resources not deemed to be habitat, this should be noted and qualified. If the species occupies only a fraction of habitat considered to be suitable at a given time, this should be noted. This information will be used for Section 7 consultations, Section 10 HCPs, and for other management programs.

6.2.1.6 Critical Habitat

To the maximum extent prudent and determinable, we designate critical habitat under Section 4(a)(3)(A) of the ESA, at the time of listing, but we may designate subsequent to listing. If critical habitat has been designated, make it a heading in the plan. Describe critical habitat, including the time when it was designated, the boundaries of the designation (include a map, if appropriate), and the physical and biological features described as essential in the designation. If important habitat has been identified as needed for recovery but has not been designated as critical habitat, be sure to note this in this section and include the necessary management of the habitat in the recovery actions section. This may also assist in future revisions of critical habitat.

It should be noted in the recovery plan that designated critical habitat carries with it consultation requirements under Section 7(a)(2) of the ESA with regard to destruction or adverse modification of critical habitat. For additional details on how the existence of a critical habitat designation can support recovery planning, and vice versa, see Chapter 9.2.2, How Critical Habitat Designations can inform Recovery plan Development and Implementation.

6.2.1.7 Reasons for Listing/Threats Assessment

This subsection should include an overview of the species' decline, and its causes of decline (to the extent they can be determined). The causes of decline, or threats, may be past, continuing from the past into the future, newly identified, and reasonably anticipated in the future (including, but not limited to, those that have been temporarily curtailed but are likely to recur). Where possible, this subsection should also identify the source of threats, e.g., if the threat is siltation in a stream, the source could be urban runoff, watering cattle, removal of riparian vegetation,

recreational uses, etc. Noting the source helps tailor the recovery action(s) needed. When discussing each threat and its source(s), the geographic scope, severity, and frequency of the various threats should be indicated, noting those that present greater or lesser threats to the species. Uncertainties with respect to threats to the species should be identified as well.
The question often arises as to whether intractable threats, such as climate change, disease (e.g., withering syndrome in abalone), or environmental shifts, should be included in recovery plans. Although sometimes difficult to address, all realistic threats should be identified, i.e., those that are likely to have an effect on the species (not a list of every conceivable threat). Although we may not be able to address the issue in the recovery plan, it is important to make the threats assessment as objective as possible, and to document the existence of all threats. In addition, in the future this might help to ascertain the extent of the threat to imperiled species or, if multiple species are affected by the same threat in a given area, it could help lead to a common solution.

Threats that were listed in the final rule should be addressed in this section and discussed in terms of the five listing factors (see **Box 6-2** on the five listing factors). If the species was recently listed, much of this information can be taken from the "ESA Section 4(a)(1) Factors Affecting the Species" section of the listing rule. Plans should assess any new threats, changes in severity of threats, and threats that have been reduced or removed since publication of the final listing rule.

Conducting a threats assessment for the species is required for listing and is required for the recovery plan if information on threats has changed since the listing or the listing documents do not provide sufficient detail to develop recovery criteria and/or recovery actions. A threats assessment is a structured approach to assessing threats, sources of threats, and their relative importance to the species' status, and often results in a threats table that summarizes the findings of the assessment. A threats assessment aids in identifying the sources of stress to the listed species or to its habitat, and in evaluating and ranking these stresses. This is particularly valuable when there are multiple, potentially interacting threats. Conducting a threats assessment is also an extremely valuable tool for ensuring that diverse people, such as a recovery team, attendees at a public meeting, or readers of a recovery plan, approach the recovery planning process with the same assumptions about threats, their sources and their importance to the recovery of the species. Explicitly outlining the threats, their sources and their importance to recovery, results in greater understanding of the recovery strategy and actions outlined in the recovery plan. Revisiting a threats table or other results of a threats assessment can also help to get a group, such as a recovery team, back on track later in the recovery planning process, should they start digressing or losing focus. The Nature Conservancy has one approach to conducting a threats assessment that may be useful (The Nature Conservancy's Threat Ranking System 2007).

Threats assessments can also evaluate sources and importance to recovery at a geographic scale or by management units. This can be helpful in identifying site-specific actions. The Recovery Plan for Puget Sound Rockfish includes a threats assessment by the management units for basins within Puget Sound. For several recovery actions, the specific basins are used to describe where the action would occur.

The reasons for a species' decline often comprise an interrelated, interactive suite of factors, rather than a linear cause-and-effect of a single factor. Therefore, a recovery plan must not only identify the different threats, but also analyze and determine the relationships among threats so that a recovery strategy can be designed to effectively reduce these threats.

Box 6-2: The five listing factors, as outlined in Section 4 of the ESA
A. The present or threatened destruction, modification, or curtailment of its habitat or range
B. Overutilization for commercial, recreational, scientific or educational purposes
C. Disease or predation
D. The inadequacy of existing regulatory mechanisms
E. Other natural or manmade factors affecting its continued existence

6.2.1.8 Conservation Efforts

For some species, conservation efforts intended to reduce or remove threats will have been ongoing or initiated prior to the approval of the recovery plan. These efforts, conducted by individuals, private organizations, tribes, state and local agencies, or federal agencies, should be discussed here. This should not be a laundry list of achievements. This section should assess the effectiveness of conservation actions to date, including if the action was in place before listing, the reasons why the efforts were considered insufficient to reduce threats to the point that listing was unnecessary (e.g., the effort only covered a small portion of the species' range or addressed only one of several threats). Explain the net benefit of these achievements to the species' conservation to date, and whether such efforts and their benefits are expected to continue. This will document why the strategy identified in subsequent sections of the recovery plan is the most effective road to recovery. Indeed, the advances made in conservation compared with the discussion of unaddressed threats from the preceding section should lead very logically to the recovery strategy. For revised plans, this is the place to list the recovery actions that have been accomplished to date.

6.2.1.9 Biological Constraints and Needs

Based on all of the above, identify any biological constraints or needs of the species that need to be considered in planning and management. The purpose of this section is to state up front any known limiting factors to a listed species' ability to breed, feed, and shelter, that are biologically inherent in the species and non-modifiable, and which must be honored when designing any management/recovery program for that species. Examples might include extremely delayed maturity, which requires unusually high annual survival in juvenile stages; needs for a particular and rare habitat for one or another life history stage; or a need for a minimum population size for successful breeding behavior. For instance, in the case of abalone, which are broadcast spawners (i.e., directly release gametes into the water column for external fertilization), a certain density of spawning individuals is essential to fertilization success rate and recruitment. Identifying biological constraints and needs will inform not only recovery planning but also the development of HCPs, Section 7 consultations, Safe Harbor Agreements, and any other activities that may affect the species.

6.2.2 Recovery Strategy

The recovery strategy is not a statutory requirement but it is an integral component of the recovery plan. It provides the link in logic, and underlying rationale (including assumptions), between the analyses in the background and achieving the recovery vision (6.1.1.1, Recovery Vision (*optional*)) and goals. For details see 6.1.1.2, Recovery Strategy.

6.2.3 Recovery Goals, Objectives, and Criteria

Development of recovery goals, objectives, and criteria under the traditional approach is similar to the 3-part framework approach. For details see 6.1.2, Recovery Goals, Objectives, and Criteria.

6.2.4 Recovery Actions

This section of a recovery plan describes the recovery actions found to be necessary to achieve the plan's goal(s) and objectives as well as the monitoring actions necessary to track the effectiveness of these actions and the status of the species. The recovery actions section also lays the foundation for assessing the effectiveness of the actions taken and whether adjustments to these actions are needed (see Chapter 8.2.2, Using Adaptive Management in Implementation). This section of the recovery plan describes all actions that will alleviate known threats and restore the species to long-term sustainability. These actions might include (but are not limited to) habitat protection, reducing or eliminating injury and mortality, outreach, research, control of disease, control of invasive species, controlled (including captive) propagation, reintroduction or augmentation of populations, and monitoring actions. Ongoing or needed federal, regional, state, local, or tribal recovery activities should be incorporated into this section. Measuring the effectiveness of the plan via monitoring actions should be included in the recovery program, and these monitoring actions should be assigned a priority equal to the activity that is being monitored. Actions that may be necessary depending on different outcomes of monitoring, may also be included. Finally, all recovery programs should include the development of a post-delisting monitoring plan as one of their actions.

Ultimately, the Recovery Actions section of the recovery plan will provide guidance to the resource manager, resource user or landowner regarding the goals of the plan and actions needed to achieve recovery (including each action's role and priority within the overall recovery program). It will facilitate tracking recovery progress and accomplishments and assist in identification of appropriate conservation actions that can be implemented via Sections 6, 7, and 10 of the ESA. As always, effective coordination with stakeholders and other interested individuals and organizations is essential in the identification of recovery actions.

6.2.4.1 Threats Tracking Table

You should maintain a tracking system (which could be a simple table or spreadsheet or an online tracking system if multiple offices or wide ranging species are involved) that cross-references (1) the listing factors, (2) the threats associated with each listing factor, (3) the recovery criteria related to each threat and/or listing factor, and (4) the numbered recovery actions (from either the narrative description of the recovery program or the Implementation Schedule) that address each threat. The use of such a table early in the planning process can promote internal consistency in the document by ensuring that the recovery criteria adequately reflect the threats identified in the background, and that there are adequate and appropriate actions to address these threats and achieve the recovery criteria for the species. Inclusion of the tracking table in the recovery plan should facilitate understanding on the part of stakeholders of the rationale and need for the various recovery actions included in the Recovery Action Narrative. See Appendix F for an example of the threat and recovery action table.

6.2.4.2 Recovery Action Outline

The recovery action outline is a "skeleton" list of tasks in the recovery action narrative. It includes all actions in the recovery action narrative without the accompanying descriptions and helps facilitate seeing the big picture of the program.

Recovery action outlines are included at the discretion of the Region. Sequential numbering using decimal points to indicate "stepped-down" actions is strongly recommended (see below). Generally, the recovery action outline is inserted into the plan after the recovery action narrative is completed because it reflects the recovery action narrative verbatim. See Appendix F for an example a recovery action outline from the Draft Blue Whale (*Balaenoptera musculus*) Recovery Plan.

6.2.4.3 Recovery Action Narrative

This section of a recovery plan describes all actions necessary to achieve recovery of the species and the monitoring actions necessary to track the status of the species, the effectiveness of these actions, and the need to adapt appropriately. The narrative that accompanies the actions should address the priority of the action (see 6.2.5, Implementation Schedule, Time, and Cost Estimates), and any monitoring actions accompanying an action should be given the same priority as that action. Within the recovery action narrative, recovery actions should be stepped down to discrete actions that can be funded, permitted, or carried out independently. Actions should also be listed as separate recovery actions if one should receive a higher priority than the other. Use judgment in deciding how finely to slice the recovery actions. Make these actions as specific as possible while leaving sufficient flexibility to allow for creative or new solutions. Activities that support implementation of the recovery action should be detailed in a separate implementation strategy document (see Chapter 8.1, Developing the Recovery Implementation Strategy).

If certain actions are dependent on the outcome of other planned actions, this should be noted in the narrative, and the time frame for the later recovery action should follow the first action in the Implementation Schedule. The following parameters should be applied to the recovery action narrative:

- Recovery actions should be discrete and action oriented, and their descriptions concise.
- Recovery actions should be as site-specific as the current information allows, as per ESA Section 4(f)(1)(B)(i)).
- The narrative should include both near-term actions (those that must be taken right away, or those that should or can be started right away) and long-term (all those other actions needed to reclassify to threatened status and delist).
- Recovery actions that are dependent on the outcome of earlier actions should be indicated as such.
- Priority 1 recovery actions (see 6.2.5, Implementation Schedule, Time, and Cost Estimates) must be justified in the recovery action narrative as those actions that must be taken to remove, reduce, or mitigate major threats and *prevent extinction* and often require urgent implementation…[may include] the outcome of a research project...necessary to initiate a protective action to prevent extinction.
- Actions should be described with sensitivity and discretion. For instance, reference to specific parcels of land or actions can result in a positive reaction (help them receive a higher priority) or a negative reaction (give unwanted attention to a specific landowner or other stakeholder). Good stakeholder communications during the planning process should help minimize these concerns.

Although near-term actions (for the next 5 to 10 years) may be better known and identification of costs and possible funding sources easier to ascertain, longer term actions that will lead to a delisting must be identified unless identification of such actions is not possible. For threats and other issues that cannot be resolved in the near-term, at a minimum, identification of interim steps that can be taken toward future resolution should be identified. The intent is to focus on near-term accomplishments that can be pursued, while ensuring that all actions fit within the long-term strategy and direction for recovery.

Recovery actions might include, but are not limited to, specific actions such as limiting measures to avoid or minimize direct or incidental take, habitat protection and restoration, or population augmentation to reduce vulnerability to small population sizes, etc. In addition, some types of actions may be cross-cutting and address multiple threat factors, such as outreach, or

recur under each of the threat categories, such as research, monitoring, or adaptive management. Specific comments on some of these categories of actions follow.

Control of Threats – Threats to the species' well-being must be sufficiently controlled to ensure that the species no longer meets the definition of threatened or endangered (see Appendix A and Chapter 1.3, Legal Standards and Policy Guidance for Recovery Planning). Recovery actions that control identified threats should be included, and the reasons for including the actions should be made clear. Control of threats includes, but is not limited to, managing invasive species (the expected effectiveness should be discussed in the narrative), reducing or eliminating human activities that cause incidental harm, protecting key areas of habitat from development or other threats, and putting regulatory mechanisms in place to control these or any other threats. Where more information is needed to determine the extent of threats or potential future threats, e.g., diseases that are likely to spread, there should be recovery actions to study these threats.

When putting together the recovery action narrative, clarify to the reader the magnitude and immediacy of the threats (this information should be obtainable, and paraphrased, from the threats assessment in 6.2.1.7, Reasons for Listing/Threats Assessment), and state the priority and extent to which the threats are expected to be addressed with the given management action. Be sure to provide recommendations in the plan for how to resolve threats via other ESA regulatory processes.

Finally, consider how a variety of federal agencies may use their authorities to conserve listed species by carrying out meaningful ESA Section 7(a)(1) programs. Identify the need for Section 7 consultations on a programmatic scale to enhance the delivery and quality of recovery programs. Many recovery actions are likely to be carried out by the Services, or by other federal agencies, and as such, may require Section 7 consultation. Early coordination with the offices or staff likely to conduct such consultations may result in proactive and prescriptive programs of actions that enhance recovery progress by reducing consultation timelines because consultations on individual actions would not be necessary. Considering Section 7 compliance for implementing recovery actions will ensure that the overall program is likely to be effective in conserving the species. For further information on Section 7 and ESA Recovery see Chapter 9.6, Interagency Cooperation.

Habitat Protection and Restoration – Recovery actions should seek to protect and, possibly, restore habitat that is important to the continued existence and recovery of the species. This habitat should have been identified in the Background section of the plan. When identifying recommendations for the protection or management of the species' important habitats, clearly identify the area and describe the goal of the action, but be careful not to limit your options by being too prescriptive. For instance, "Exclude cattle from Site A via fencing or other means," is different from "Fence Site A." Biologists in resource-management agencies have noted that specifying sites needed for protection or management in the recovery plans facilitates obtaining funding and staff-time to carry out those actions.

In the case of land that may need to be protected via land acquisition, identification of sites for acquisition (by fee title or by conservation easement) may also be extremely useful in getting funding for site purchases. Indeed, for some agencies and grants, having the site specified in the plan as important to the recovery of the species is a requirement. Identification of land acquisition needs may also assist other partners in focusing efforts on land protection schemes. However, be aware that this can be viewed as controversial by stakeholders and the public in some areas. Be sensitive to potential stakeholder concerns and initiate stakeholder contacts

early in the process to minimize misunderstandings and controversy. In some cases, it may be necessary to be less precise about specific parcels in the recovery plan.

Limiting the Amount or Extent of Take – Recovery actions can specify the need and means to eliminate or minimize take of the species. For instance, "Reduce nest disturbance by creating seasonal no-take zones" or "Establish no take zones around rookeries" may be appropriate actions to include in some plans.

Population Augmentation/Establishment of New Populations – Population augmentation (or establishment of new populations) may be necessary to prevent extinction of a species or to build a species' numbers to a sustainable level. The Services have a controlled propagation policy to guide biologists in such circumstances (65 FR 56916). This will often involve artificial propagation, although it may involve outplanting or releasing individuals directly from another population. Population augmentation can have benefits and risks to both the target species and other listed and unlisted species. Population augmentation and the species propagation that often accompanies it can entail large monetary, time, and staffing commitments, risks of disease outbreaks, and uncertainty of success. An assessment of risks and uncertainties must be undertaken, and alternatives that require less intervention should be considered seriously before undertaking such a program. Population augmentation should receive foremost consideration for recovery only when it is believed that recovery within an acceptable timeframe would not occur without it. It should not be used as a substitute for resolving the threats that led to the species' listing. Population augmentation should always take place in concert with other recovery actions, such as habitat protection and restoration, in order for augmented populations to be sustainable and to achieve recovery goals.

Where population augmentation is appropriate, it should be considered and planned for as early in the recovery process as possible, both in order to identify and capture/collect the maximum amount of genetic variation available in the extant population for breeding stock, and in order to allow adequate time to get a successful captive propagation/breeding program in place. In the case of aquatic species such as salmon and trout, some artificial propagation programs or hatcheries have been in existence for over 100 years, and extensive mixing of hatchery populations has occurred. Care must be taken to ensure that those individuals used to develop a conservation hatchery program for a listed species are closely related to the species that is being recovered.

The following steps may be included as part of a recovery action for population augmentation: (1) A determination of the genetic variation of an extant population(s); (2) development of a plan for artificial propagation and release/outplanting; (3) development of techniques for captive breeding/artificial propagation, if necessary; (4) development of a captive breeding/artificial propagation population, if necessary; (5) release/outplant of individuals; and (6) monitoring of population augmentation. These steps should be considered early in the recovery process, and planned for, as appropriate.

Outreach – Outreach is a key component for ensuring the long-term recovery of listed species. Providing information to the public and especially to those entities that are most likely to affect the species may be crucial to species and habitat recovery. Effective partnering is a good start to outreach, but other means, such as holding public meetings, producing fact sheets, writing news articles, using social media and data sharing tools, and giving public programs will usually result in increased support for recovery actions and can help ensure conservation of the species far beyond that offered by the Services alone. Increasing public interest also results in better

chances of maintaining funding (see Chapter 8.4, Continuing Involvement in the Recovery Process).

As appropriate for the species, include recovery actions that relate to educational and interpretive activities, public hearings, public events, media broadcasts or publications. Specifically, develop/improve public education materials, explain through the media how the species will be delisted, create community-based partnerships to further the message, share current science with the public, and seek the help of professional communications staff/consultants to develop an outreach strategy.

Research – Research actions in the recovery program section of the plan should be limited to those essential to meeting recovery criteria and achieving goals of the plan. These may include identifying and studying aspects of life history critical to population growth and persistence, determining underlying biological and ecological causes of population decline, and identifying and studying threats to the species. Genetic research may also be important when establishing new or augmenting existing populations, when establishing priorities where only a subset of the existing population can be protected, or for a species with critically low levels (Schemske et al., 1994). Within the recovery action narrative, also explain the potential need to change recovery actions or priorities as the results of research become available (see Monitoring below). Specifying research actions may be necessary for obtaining funding for these actions and helpful in obtaining scientific research permits under Section 10(a)(1)(A) of the ESA.

Monitoring – Monitoring is the measurement of an action or an environmental characteristic to determine compliance, status, trends, or effects of the action. Three basic types of monitoring are conducted in the recovery program as follows: (1) implementation (compliance) monitoring, which is used to see whether actions have been carried out (Did we do what we said we could do in the recovery plan?); (2) status and trend monitoring, which determines whether a population or threat is increasing or decreasing (What is happening to our population right now? To what extent has the threat been controlled? Is the population increasing over time and what can we predict for the future?); and (3) cause and effect monitoring, which tests hypotheses and determines (via research) whether an action is effective and should be continued (Is the dam hindering fish migration? To what extent? Is our management action causing the population to increase? To what extent?). Implementation monitoring is generally completed by the Services through some type of tracking system and may not be reflected in the recovery action narrative per se (see Chapter 8.2, Implementation). However, monitoring will have a great influence on whether recovery goals and objectives are met. “Status and trend” and “cause and effect” monitoring will be more meaningful in guiding recovery actions. This is especially true of “cause and effect” monitoring, where adaptive management may be useful (see Chapter 8.2.2, Using Adaptive Management in Implementation). Monitoring may be best achieved by partnering with other programs within the Services, other federal agencies, academic institutions, and researchers.

In the Recovery Action Narrative, monitoring details can be: (a) incorporated in each action or suite of actions to be monitored, or (b) combined into a separate monitoring section. Linking the monitoring directly to the action(s) reminds managers and others using the recovery plan of when monitoring should be undertaken. It also clarifies that monitoring is an integral component of achieving and tracking recovery, especially for cases in which populations are geographically distinct and localized, and each population is likely to be managed by different entities. This way, if monitoring actions are included with other recovery actions within a geographic area, managers can focus on all actions, including monitoring, to be taken for the populations of concern to them. Managers should not have to look for information in a separate monitoring

plan and determine what applies to them. On the other hand, combining all monitoring into a separate section of the narrative may ensure that monitoring is consistent across the range of the species and result in a more cohesive monitoring program. This may work best for widespread species for which different entities may manage portions of the same population. It will ensure consistent monitoring across the species' range, and may be helpful where numerous HCPs or other plans for the species are being implemented or are anticipated. It will also be helpful in organizing information for future post-delisting monitoring plans (see Post-Delisting Monitoring below).

The decision regarding whether monitoring actions are included throughout the plan or in a separate monitoring section is left up to the authors. Whichever way it is included, monitoring should be an integral and important component of the plan, and, as stated earlier, monitoring actions and their implementation should be given the same priority as the actions they are monitoring. For those species for which a separate monitoring section is developed, it may be useful to cross reference key actions to that monitoring to ensure that such monitoring is not overlooked.

Post-Delisting Monitoring –The ESA requires the Services, in cooperation with affected states, to monitor delisted species for at least five years post-delisting to ensure that removal of the protections of the ESA does not result in a return to threatened or endangered status. While not required, it is recommended that you include a post-delisting monitoring plan as part of the recovery action narrative. The need for a post-delisting monitoring plan also should be kept in mind while other monitoring programs are being developed, to ensure that early monitoring programs are designed in such a way as to lead naturally into post-delisting monitoring, including providing appropriate baseline data. Finally, the post-delisting monitoring plan should be developed well before delisting is contemplated. This will ensure that a well thought out plan is in place at the time of delisting.

6.2.5 Implementation Schedule, Time, and Cost Estimates

This section will focus on the Implementation Schedule, which is included in the traditional approach. For additional detail on time and costs estimates see 6.1.5, Implementation Schedule or Action/Time/Cost Table.

The implementation schedule is designed to satisfy the requirement under the ESA that recovery plans must contain "estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal" (ESA Section 4 (f)(1)(A)(iii)). The implementation schedule also identifies a priority for each recovery action in the narrative and recommends potential party(ies) for carrying out each recovery action. The implementation for each final recovery plan is uploaded into the RAMT, in which the status of each action is tracked throughout the recovery process.

The implementation schedule is usually located immediately after the recovery action narrative. It is usually presented in a table format in a landscape orientation with each row representing an individual action (see Appendix E).

Introduction/Disclaimer – Given the limitations to the information contained in an Implementation Schedule, it is advisable to include as a preface an introduction/disclaimer, such as the following:

The Implementation Schedule that follows outlines actions and estimated costs for the recovery program for the [name of species], as set forth in this recovery plan. It is a guide for meeting the

recovery goals outlined in this plan. This schedule indicates action priorities, action numbers, action descriptions, duration of actions, the individuals and organizations responsible for actions (either funding or carrying out), and estimated costs. Individuals and organizations with authority, responsibility, or expressed interest to implement a specific recovery action are identified in the Implementation Schedule. When more than one party has been identified, the proposed lead party is indicated by an asterisk (*). The listing of a party in the Implementation Schedule does not require the identified party to implement the action(s) or to secure funding for implementing the action(s).

Assigning priorities – Priorities are assigned to each action in the implementation schedule. In compliance with NMFS' Endangered and Threatened Species Listing and Recovery Priority Guidelines (84 FR 18243), all recovery actions will have assigned priorities based on the following (**Table 6-4**):

Table 6-4: Priority Assignments for Actions in the Recovery Plan

Priority Number	**Description**
Priority 1 Recovery Actions	These are the recovery actions that must be taken to remove, reduce, or mitigate major threats and *prevent extinction* and often require urgent implementation…[may include] the outcome of a research project...necessary to initiate a protective action to prevent extinction...
Priority 2 Recovery Actions	These are recovery actions to remove, reduce, or mitigate major threats and prevent continued population decline, or research needed to fill knowledge gaps to prevent continued population decline, but their implementation is less urgent than Priority 1 actions.
Priority 3 Recovery Actions	These are all recovery actions that should be taken to remove, reduce, or mitigate any remaining, non-major threats and ensure the species can maintain an increasing or stable population to achieve delisting criteria, including research needed to fill remaining knowledge gaps and monitoring to demonstrate achievement of recovery criteria.
Priority 4 Post-Delisting Actions	These are actions that are not linked to downlisting or delisting criteria and are not needed for ESA recovery, but are needed to facilitate post-delisting monitoring under ESA Section 4(g), such as the development of a post-delisting monitoring plan that provides monitoring design (e.g., sampling error estimates). Some of these actions may carry out post-delisting monitoring.
Priority 0 Other Actions	These are actions that are not needed for ESA recovery or post-delisting monitoring but that would advance broader goals beyond delisting. Other actions include, for example, other legislative mandates or social, economic, and ecological values. These actions are given a zero priority number because they do not fall within the priorities for delisting the species, yet the numeric value allows tracking these types of actions in the NMFS RAMT database.

It is important to emphasize that a priority 1 recovery action is an action that must be taken to remove, reduce, or mitigate major threats and *prevent extinction* and often require urgent implementation. Because threatened species by definition are likely *to become* an endangered species within the foreseeable future and are *presently not* in danger of extinction, Priority 1 should be given primarily to recovery actions for endangered species ranked as a HIGH demographic risk (84 FR 18243, Table 3). The use of Priority 1 recovery actions in a recovery plan for an endangered species with MODERATE demographic risk or any threatened species (84 FR 18243, Table 3) should be done judiciously and thoughtfully. Even the highest priority actions within a particular plan will not be assigned a Priority 1 ranking unless they are actions necessary to prevent a species from becoming extinct or are research actions needed to fill knowledge gaps and identify management actions necessary to prevent extinction. Therefore, some plans will not have any Priority 1 actions. At the same time, we also need to be careful not to assign a lower priority than is warranted, simply because an action is but one component of a larger effort that must be undertaken. For instance, there is often confusion as to whether a research action can be assigned a Priority of 1 since it, in and of itself, will not prevent extinction. However, the outcome of a research project may provide critical information necessary to initiate a protective action to prevent extinction (e.g., applying the results of a genetics study to a captive propagation program for a seriously declining species) and would warrant Priority 1 status.

Most actions will likely be Priority 2 or 3, because the majority of actions will likely contribute to preventing further declines of the species, but may not prevent extinction. This system recognizes the need to work toward the recovery of all listed species, not simply those facing the highest magnitude of threat. In general, NMFS intends that Priority 1 actions will be addressed before Priority 2 actions and Priority 2 actions before Priority 3 actions, etc. We also recognize, however, that some lower priority actions may be implemented before Priority 1 actions because, for example, a partner is interested in implementing a lower priority action, or a Priority 1 action is not currently possible (e.g., there is lack of political support for the action), or implementation of the Priority 1 action may take many years.

For some species, such as those with complicated recovery programs involving multiple listed species and many actions, it may be useful to assign sub-priorities within these categories (e.g., Priority 2a, Priority 2b, and Priority 2c). In assigning sub-priorities within a category, recovery actions that benefit multiple species and/or are likely to yield faster results that are sustainable should be given the highest priority, e.g., Priority 1a versus Priority 1c. If sub-priorities are assigned, a description of and criteria for each sub-priority should be provided in the recovery plan.

Table structure – The Implementation Schedule should be completed on an excel spreadsheet (for uploading into RAMT). Recovery actions in the implementation schedule can be arranged in various ways, depending on what the authors feel is the most useful organization for users of the plan. They are usually arranged in the order of the recovery outline/narrative, although they may also be arranged according to geographic locations (where they occur in distinct populations), by the categories of threats delineated in the threats assessment (see 6.2.1.7, Reasons for Listing/Threats Assessment), by category of actions (habitat protection, research, population augmentation etc.), in priority order (all Priority 1 recovery actions grouped first, Priority 2 recovery actions grouped next, and Priority 3 actions last), or any combination therein. For instance, actions can be arranged by priority within a category of tasks (where different entities would be carrying out research and management) or by priority within geographic location (where different managers would be carrying out the actions but it would be helpful to

have actions within a geographic location prioritized). See Appendix E for an example of a NMFS Implementation Schedule.

Recovery action number – This number should be identical to that identified in the recovery action narrative. Recovery actions listed in an implementation schedule should be of the lowest (most specific) order, i.e., there is no reason to list 1.0 and 1.1 if you list 1.1.1, 1.1.2, and 1.1.3.

Recovery action description – Enter the title or a brief description of the recovery action (this should reflect the wording in the recovery action narrative to the extent possible).

Recovery action duration – Estimate the length of time to complete the recovery action. State whether the recovery action is currently underway by adding a comment under the comment column or, if the action will be continuous throughout the recovery of the species and is currently underway, it may be described as "ongoing." Some actions may be continuous throughout the recovery period but not currently underway, and may appropriately be described as "continuous." Other actions are of a definite duration, such as research projects and development of regulations, and should include specific time estimates, unless it has been documented for the decision file why time estimates were not feasible. These time estimates are important in estimating the overall cost of recovery of the species. Be precise and note that identifying too many actions as "ongoing/continuous" is inappropriate (*Defenders of Wildlife v. Babbitt*, 130 F. Supp.2d. 121 (D.D.C. 2001); Appendix A).

Potential parties – Identify the best lead party or parties to actually accomplish the recovery action. It is preferable, and strongly recommended, to obtain agreement from the party(ies) beforehand, in order to help facilitate implementation of the plan. Note that inclusion under Potential Parties does not commit any party to actually doing the work, but merely identifies the best candidate for completing the action. However for some agencies, e.g., the National Park Service, if a party is not identified as lead or co-lead, it may be difficult for it to obtain funding and staffing for that action. Thus, you may want to be liberal in your identification of leads if it will assist parties in participating in the action. In identifying responsible parties, do not forget that all federal agencies have a responsibility under Section 7(a)(1) of the ESA to carry out programs for listed species conservation. Consideration of how a variety of federal agencies may use their authorities to conserve listed species can improve the chance of those agencies carrying out meaningful Section 7(a)(1) programs. If an agency can help, make sure the recovery plan describes the role they can play.

Cost Estimates – Enter the estimated costs for each identified recovery action in accordance with Section 4(f) of the ESA, which requires the time and cost to be estimated to reach the plan's goal (usually delisting). Costs for actions must be estimated through the recovery of the species. In response to the GAO audit (GAO 2006) that most plans had inadequate time and costs estimates, the Department of Commerce agreed that estimates of the time and cost to recover each species will be included in new and revised recovery plans. For the sake of brevity, in the Implementation Schedule that accompanies the plan, costs should be provided on an annual basis for the first 5 years and also projected out to the estimated time of full recovery, i.e., there should be six columns for cost estimates, five stating the costs for the first 5 years and the sixth column giving the cost for that action to recovery. In order to estimate all costs, including those that do not occur in the first 5 years, it is wise to use a spreadsheet on which costs are input for the entire recovery period and derive the Implementation Schedule from that. Given the duration and annual cost of an action, the cost to recovery is a matter of filling out the spreadsheet/table. The total of all actions will be the estimated cost to recovery.

Completing this section can be difficult, in part, because obtaining cost estimates from other identified individuals and organizations can be challenging and estimating costs far into the future becomes increasingly imprecise. Cost estimates should also include staff time for NMFS (and/or FWS) employees working on recovery planning and implementation of the species. Consulting with potential responsible individuals and organizations can often be helpful in establishing cost estimates—and keeps them from being surprised when they see the recovery plan. In some cases, best estimates are all that can be supplied; in others, it may be acceptable to state "To Be Determined" or TBD, especially where it is unclear whether or not the action will be necessary, e.g., for the action "Adjust action in response to effectiveness monitoring, if necessary." Estimates should be based on realistically optimistic projections of the ability to get actions funded and staffed, as this may assist in obtaining funding at the appropriate time for the species.

Estimating costs is also difficult because recovery plans may contain actions that are required under mandates other than the ESA, e.g., state law, Clean Water Act (CWA), etc. Although only so much time can be given to figuring the cost of every action, there may be instances in which it is worthwhile to figure the incremental cost, if any, above those incurred under the other mandates. A rule of thumb would be, if the costs are incurred because the species is listed and the action is necessary for recovery (i.e., they would not be incurred "but for" the recovery action for the listed species), include the cost in the plan. If, on the other hand, the action truly would take place regardless of the involvement of the listed species, and the plan says to consider the needs of the species while taking the action, you may add only the incremental costs, if there are any, or partial costs if that is more appropriate (and note this in the comments column). For example, actions may be underway or planned to meet CWA standards in a river in which a listed species occurs. These actions may be cited in the plan as important to the species' recovery, but the cost of these actions in the implementation schedule may be zero because the action is taking place regardless of the need to recover the listed species. It is important to note that not all recovery actions have costs—sometimes it is just a matter of considering the needs of the species while implementing an action that would be done regardless. If incremental costs are negligible, but the action is important to the recovery of the species, it is acceptable to put $0 under the party that would need to consider the needs of the species while undertaking that action. Be sure, however, to explain in the comments section that the consideration of species has a negligible cost but is still important.

It may be helpful to describe the existing federal, state, county, and other local budgets and programs that are being carried out in a manner that contributes to recovery. In particular, describe and reference budgets for relevant federal agencies as well as state and county budget information, if available. For example, the recovery plan can identify state budgets for implementing CWA programs.

Clearly state the assumptions being used to calculate the incremental costs estimates of recovery. For example, it is assumed that the programs currently being funded will continue to be funded and that if existing programs lose funding, those lost funds would need to be added to recovery cost estimates. If a program or action is currently funded or partially funded, the cost estimate should reference that fact, and for federal programs, specifically reference the budget. If a program or action is not currently funded or fully funded, identify the funds needed to implement it.

Comments – A comments column in the implementation schedule is a good place to note if a recovery action is already underway, if an action relates to another action (if the action will likely

be accomplished simultaneously with another action or if it is dependent on another action being completed first), and if any other relevant information pertaining to that recovery action exists.

7 Assembling the Plan and Procedural Requirements

Chapter 5 discusses approaches to recovery plans and Chapter 6 discusses recovery plan content based on the approach used. This Chapter addresses the additional content necessary to format your recovery plan for publication and the procedural requirements necessary to do so. At the end of the chapter are checklists of required (**Table 7-1**) and optional/recommended (**Table 7-2**) elements of a recovery plan regardless of the approach (3-part framework or traditional) used.

In the past, NMFS typically prepared plans in a print-ready format. Today, recovery plans are rarely printed. Instead, plans are prepared using word processing software and converted to PDF formats for posting electronic versions online, but are still generally formatted to be printer-ready (i.e., they can be printed on a standard office printer). However, plans may now be developed and viewed entirely in an online format rather than in printer-friendly format; therefore, we recommend that any format used allows for easy navigation among sections of the plan.

Regardless of format, the content discussed in this chapter should be considered and included in the draft and final published versions of the recovery plan where required or appropriate.

Check NMFS website for examples of various plans and plan content: NMFS Recovery Plans. Most of the currently posted recovery plans will not reflect the 3-part framework. While these plans may not reflect the format for a 3-part framework recovery plan, they may nevertheless provide a variety of useful examples to consider in preparing plans.

7.1 Formatting

Recovery plans should be “living documents” and, as such, should be formatted to allow for updates, revisions, and addenda. Whether a plan is prepared using word processing software and converted to a PDF, or prepared as an online plan, such as html-based recovery plans, the formatting should follow a pattern of organization that allows individual plan sections to be updated and replaced in their entirety. Headings should follow a decimal system such as that used in this handbook and each page should have headers/footers that clearly identify the name of the plan, plan chapter, section or page number, and date that section was last revised. Regardless of whether a plan was originally prepared using the 3-part framework or the traditional approach, recovery implementation strategies (e.g., RIS) can be prepared and updated frequently for any species.

For recovery plans that are printed, they should be converted to “.pdf” file format using Adobe Acrobat to allow for easy posting on and downloading from Internet websites. Very large plans may also be distributed electronically (e.g., the cloud) or through a transferable media, but will still require the page numbering, disclaimer note, and web-posting to allow for easy updating of individual sections. Plans may be posted in addition on field office websites, but they still must be posted on the Regional and Headquarters websites so that stakeholders and the public can find them easily. See below 7.3.3, Recovery plan Citation and Obtaining Copies, in the handbook for the websites mentioned.

Additionally, recovery plans must be formatted to be accessible for individuals with disabilities (i.e., 508 compliant). Section 508, an amendment to the United States Workforce Rehabilitation Act of 1973, is a federal law mandating that all electronic and information technology developed, procured, maintained, or used by the federal government be accessible to people with

disabilities. 508 Compliance, therefore, involves developing websites and electronic information that can be used by people with limited vision or blindness, deafness, seizure disorders, and other disabilities. Resources for ensuring your document is 508 compliant include https://www.section508.gov/, and NOAA Library Resources.

7.2 User Friendly/Plain Language

For recovery plans to serve not only as internal organizational documents but also as effective outreach documents to a diverse group of potential partners and stakeholders, presentation is very important. If a document is poorly organized, or looks sloppy and hastily thrown together, potential partners and stakeholders are less likely to regard it seriously or to implement its recommendations. It is important to check and correct seemingly minor errors in spelling, punctuation, or syntax. A copy of The Elements of Style (White and Strunk 1972) is a handy tool when writing documents like recovery plans. Try to provide illustrative graphics and break up the text with useful headings, text boxes, and other formatting techniques to enhance reader attention and comprehension. Figures and tables should be easily understood.

"Plain language" amounts to developing technical documents in a writing style that clearly explains to the public what the government requires or recommends. Clear explanations improve the relationship between the government and the public it serves by not letting jargon and technical terms get in the way of communication. A good relationship with partners and stakeholders who hold the key to implementation of recovery actions is essential; therefore, clear communication is essential. Through directives and guidance, the federal government, including the Office of the Federal Register, strongly supports the use of plain language.

Writing in plain language is based on the following three key concepts:

- *Use reader-oriented writing* – Write for your customers, not for other government employees. This means avoiding unnecessary use of acronyms, keeping sentences short and simple, and using terminology that lay people can understand. At the same time, keep the document accurate.
- *Use the informal level of expression* – To the extent possible, write as you would speak, preferring short sentences to long and preferring Anglo-Saxon words to the Greek and Latin derivatives. Avoid slang and colloquial expressions. In all cases give preference to the accurate word, even though it is long or derived from Greek or Latin.
- *Make your document visually appealing* – Present your text in a way that highlights the main points you want to communicate.

For detailed instructions on how to "de-bureaucratize" your documents, please visit: www.plainlanguage.gov. Additionally, the FWS' National Conservation Training Center (NCTC) offers a "Critical Writing/Critical Thinking" course that can provide guidance on writing clear, concise documents.

7.3 Content Before the Main Body of the Recovery Plan

Though recovery plans are becoming much more concise and focused, there are still some items, described below, that should be considered for including at the beginning and end of the recovery plan; some of these items are suggested, though some are required. Where content is required it is clearly indicated.

7.3.1 Title, Version, Agency/Office, and Signatories (Required)

Name of the plan: Typically, the title of your recovery plan should indicate whether the plan is a draft recovery plan, include the common and scientific names of the species if it is a single-species plan, or indicate the group of species or ecosystem included if it is a multispecies or ecosystem plan, and indicate whether the recovery plan is a revision. Example titles:

- (Draft) Recovery Plan for the Common Name (*Scientific name*)
- (Draft) Coastal Multispecies Recovery Plan for the California Coastal Chinook Salmon, Northern California Steelhead, and Central California Coast Steelhead

If the recovery plan is a revision, indicate the version at the end of the title:

- (Draft) Recovery Plan for the Common Name (*Scientific name*), First (Second, etc.) Revision

Revision History: If your recovery plan is a revision, give the dates for previous revisions. For example:

- Original version: 1982
- First Revision: 1998

Agency/Office: Indicate the Regional/ Headquarters office, agency, and location of lead region or lead office. Some examples are listed below:

- National Marine Fisheries Service, West Coast Region, California Central Valley Office, Sacramento, California
- National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland

Signatories and dates: Recovery plans should include information on who has or will approve the plan and the date of issuance or approval.

- Draft recovery plans should be unsigned but included a signature line and indicate the title of who will approve the plan. Joint recovery plans should include information for all signatories. Include a month and date of issuance of the draft plan.
- Final recovery plans should include the approval signature(s) and their title(s), along with the date of approval.

7.3.2 Disclaimer (Required)

All draft and final recovery plans (whether 3-part framework or traditional approach) should include a disclaimer statement. The purpose of the disclaimer is to notify the reader that recovery plans:

- Are guidance documents
- Represent the official position of NMFS and not necessarily that of any other individual or agency involved in the plan, and only after it is approved and signed
- Are subject to modification based on new information
- Do not create a legal obligation for any party identified in the plan to implement recovery actions
- Cannot be construed to commit any federal agency to obligate funds in contravention of the Anti-Deficiency Act or other laws or regulations

See recent examples and check with your Regional or Headquarters recovery coordinator to ensure you are using up to date language in your disclaimer statement.

The disclaimer (for draft and final) and citation information should be included on this page. Unless there is a specific reason not to, the disclaimer should appear exactly as it does here.

Disclaimer sample template language:

DISCLAIMER
RECOVERY PLANS DELINEATE SUCH REASONABLE ACTIONS AS MAY BE NECESSARY, BASED UPON THE BEST SCIENTIFIC AND COMMERCIAL DATA AVAILABLE, FOR THE CONSERVATION AND SURVIVAL OF LISTED SPECIES. PLANS ARE PUBLISHED BY THE [*INSERT* NATIONAL MARINE FISHERIES SERVICE (NMFS) *OR IF JOINT* INCLUDE U.S. FISH & WILDLIFE SERVICE*]*, SOMETIMES PREPARED WITH THE ASSISTANCE OF RECOVERY TEAMS, CONTRACTORS, STATE AGENCIES AND OTHERS. RECOVERY PLANS DO NOT NECESSARILY REPRESENT THE VIEWS, OFFICIAL POSITIONS OR APPROVAL OF ANY INDIVIDUALS OR AGENCIES INVOLVED IN THE PLAN FORMULATION, OTHER THAN [NMFS AND FWS IF JOINT]. THEY REPRESENT THE OFFICIAL POSITION OF [NMFS AND FWS IF JOINT] ONLY AFTER THEY HAVE BEEN SIGNED BY THE [ASSISTANT ADMINISTRATOR (NMFS) AND REGIONAL DIRECTOR (FWS) FOR JOINT). RECOVERY PLANS ARE GUIDANCE AND PLANNING DOCUMENTS ONLY; IDENTIFICATION OF AN ACTION TO BE IMPLEMENTED BY ANY PUBLIC OR PRIVATE PARTY DOES NOT CREATE A LEGAL OBLIGATION BEYOND EXISTING LEGAL REQUIREMENTS. NOTHING IN THIS PLAN SHOULD BE CONSTRUED AS A COMMITMENT OR REQUIREMENT THAT ANY FEDERAL AGENCY OBLIGATE OR PAY FUNDS IN ANY ONE FISCAL YEAR IN EXCESS OF APPROPRIATIONS MADE BY CONGRESS FOR THAT FISCAL YEAR IN CONTRAVENTION OF THE ANTI-DEFICIENCY ACT, 31 U.S.C. 1341, OR ANY OTHER LAW OR REGULATION. APPROVED RECOVERY PLANS ARE SUBJECT TO MODIFICATION AS DICTATED BY NEW FINDINGS, CHANGES IN SPECIES STATUS, AND THE COMPLETION OF RECOVERY ACTIONS.

7.3.3 Recovery Plan Citation and Obtaining Copies

Your recovery plan should indicate to the public how the plan should be cited (See **Box 7-1** for an example). NMFS or FWS/NMFS for joint should be cited as the plan's author, even if it is drafted by an individual or recovery team. Also indicate how additional copies of the recovery plan can be obtained. Be sure to include the website from which the plan can be downloaded. See the example below or review examples on NMFS website (NMFS Recovery Plans):

Box 7-1: Example of Recovery Plan Citation and Obtaining Copies

LITERATURE CITATION SHOULD READ AS FOLLOWS:

NMFS (National Marine Fisheries Service). 2019. ESA Recovery Plan for the Puget Sound Steelhead Distinct Population Segment (*Oncorhynchus mykiss*). National Marine Fisheries Service. Seattle, WA.

ADDITIONAL COPIES MAY BE OBTAINED FROM:

National Marine Fisheries Service
West Coast Regional Office Oregon Washington Coastal Area Office
7600 Sand Point Way NE Seattle, WA 98115

An electronic copy of this plan will be made available at:
https://www.fisheries.noaa.gov/resource/document/esa-recovery-plan-puget-sound-steelhead-distinct-population-segment-oncorhynchus

7.3.4 Acknowledgments

Your recovery plan should include acknowledgments of significant contributors to the recovery plan. This section should acknowledge:

- Primary author(s), if completed in-house or by contract
- The recovery team (if one was appointed), noting their affiliations
- Other significant contributors, such as:
    - Reviewers—peer review, internal, etc.
    - Individuals, groups, organizations, and agencies that were actively engaged in development of the plan or the planned implementation
    - Individuals or groups that provided technical support, such as Geographic Information System (GIS) analyses or language translation

Again, check NMFS website for examples of various acknowledgements in recovery plans: NMFS Recovery Plans

7.3.5 Executive Summary

Recovery plans that use the traditional approach typically include an executive summary. Recovery plans using the 3-part framework will typically be much shorter and therefore may not benefit from an executive summary. However, consider using an executive summary for any plan if the document is lengthy and/or complex in organization. If your species is a transboundary species, particularly if the range countries participated in or contributed to recovery planning, consider including translations of the executive summary in your plan.

Example of plans with translated executive summaries:
Huachuca water umbel recovery plan has a Spanish translation of the executive summary and Bi-National Recovery Plan for the Kemp's Ridley Sea Turtle (2nd revision) has a Spanish translation of the executive summary as well as the entire recovery plan content--see More Information at the right bottom of the webpage.

The Executive Summary should provide an overview of the recovery plan and summarize major sections of the plan. Try to keep the summary to a single page, front and back, if possible. The Executive Summary should be written after the main components of the plan are completed (or nearly so) and should include the following:

Current Species Status: Include listing status (threatened or endangered), date listed, recovery priority (optional), numbers, distribution of populations, and key biological needs and constraints. If including the recovery priority number for the species, note that it may be updated as needed and that the current recovery priority number can be found in the most recent 5-year review or biennial recovery report to Congress.

Habitat Requirements and Limiting Factors: Summarize specialized habitat requirements and major threats to be addressed under Actions Needed.

Recovery Strategy: State as clearly and succinctly as possible, with page references where greater detail is given, if needed.

Recovery Goals, Objectives, and Criteria: Generally take verbatim from the plan, but abbreviate if necessary, with page references where specifics are given.

Actions Needed: The ESA requires that recovery plans include the site specific management actions that may be necessary to achieve recovery. Include all major recovery actions, recognizing that there may be numerous actions that fall under each one. In other words, include 1.0 – Protect and manage existing habitat, 2.0—Conduct management-oriented research, 3.0 – Monitor key populations, etc., but not their subcomponents. Depending on how

actions are categorized in the recovery action outline, some general actions may be combined into broader categories in the Executive Summary.

Estimated Date and Cost of Recovery: The ESA requires that plans contain estimates of the time required and the cost to carry out recovery plans. After completing the Implementation Schedule, add total yearly cost estimates (see Chapter 6.1.4,Time and Cost Estimates for the 3-part framework and 6.2.5, Implementation Schedule, Time, and Cost Estimates for the traditional approach, Appendix E).

Again, check NMFS website for a variety of examples of various executive summaries in recovery plans: NMFS Recovery Plans.

7.3.6 Other Optional Pre-Plan Content Sections

You may also consider including other useful preface material that can assist in making your document user-friendly or providing the reader a brief orientation to the plan:

- Agency mission statement
- Guide to plan organization or how to use this document (if long or complex)
- Abbreviations and acronyms – for plans with multiple stakeholder groups and partners, a key to acronyms may be useful to the reader. If abbreviations are used frequently, consider providing a key for those.
- List of figures or list of tables – if figures and tables are used extensively, consider providing a list to help the reader quickly find key items
- Notice of copyrighted materials – if any figures, illustrations, or images are copyrighted and used by us with permission of the copyright holders, provide a notice to readers that permission must be obtained to use or reproduce those materials.
- Paragraph explaining 3-part framework to recovery plans – the 3-part framework approach to recovery planning will be new to most readers. We recommend introductory language to include the approach in a NOA for the draft plan; text may vary depending on the circumstance. For example, you may be relying on the Status Review from the listing rule as your science document or a revised Recovery Status Review. You may also have an implementation document that differs from the RIS (e.g., RAMT) online activities or an annual planning memorandum).

7.3.7 Table of Contents

A Table of Contents can be helpful in providing a guide to the organization of the plan and assisting the reader in quickly finding sections of interest. However, shorter plans may consider foregoing a Table of Contents if the plan organization and content can be easily assessed without it; for some 3-part framework plans, a table of contents would not be necessary for the recovery plan. For longer plans, particularly plans using the traditional approach, a Table of Contents will likely facilitate ease of use.

For most plans, the Table of Contents should include all headings and subheadings in the plan. Try to limit the Table of Contents to one to three pages, so that a reader can understand the organization and find pertinent sections at a glance. For particularly complex plans, such as multiple-species plans, this may mean leaving out subheadings at the lower levels or using some other means of keeping the number of pages in the Table of Contents to a minimum.

Headings, subheadings, tables etc. can be coded using word processing software, which allows for pagination in the Table of Contents to be adjusted with each version of the document as the plan is being written. To facilitate navigating through plans that will be viewed online or are only

provided electronically, you may also want to hyperlink headings and subheadings within the Table of Contents to those sections in the plan.

Again, check NMFS website for examples of various Table of Contents in recovery plans: NMFS Recovery Plans.

7.4 Content After the Main Body of the Recovery Plan

7.4.1 Literature Cited (Required)

All recovery plans should include a literature cited section. For 3-part framework plans most, if not all, of the literature references will be in the Status Review, but if references are used in the plan itself, they should be included here. Be sure to refer to all literature that is cited in the recovery plan in proper scientific citation format and to list it alphabetically at the end of the plan. There are various scientific citation formats to choose from (e.g., American Psychological Association, Modern Literature Association), but use the same format for the entire document. It may also be helpful to include a list of references not cited but which were used in background research or may be of interest to the reader. Uncited references may be listed in a separate section or in the same section as the literature cited, provided that the title of the section is changed to References.

7.4.2 Appendices

Any peripheral but pertinent documents can be included in the appendices of the recovery plan. Resist putting too much into the appendices. In deciding whether to include a document as an appendix, consider whether and to what extent the document may need to be updated. If a document is included as part of the recovery plan, it may be difficult to update frequently without providing for public review and comment. In general, supporting materials that would not need frequent updating may be appropriate for appendices.

Appendices can include outreach materials, relevant reports (or their executive summaries), data, monitoring protocols, habitat management plans, the comments or summaries of public comments, and information on public meetings. Appendices can be good places for specific issues to be fleshed out in detail.

- Usually includes summary and response to comments, summary of peer review for final recovery plans
- Glossary
- Supplemental information such as methodologies used for a particular model.
- Other?

Other Supporting materials – Some materials, particularly those that may require frequent updates, may not be appropriate for inclusion as appendices to the recovery plan. However, we may still want to share information and supporting materials with partners, stakeholders, and the public. Therefore, it may be appropriate to include these documents as appendices of the RIS or share them in other ways. For example, we may develop a website where updated information can be posted as needed. Other options include listservs, social media, etc.

7.5 Procedural Requirements

7.5.1 Review of Recovery Plans

According to Section 4(f)(4) of the ESA, the Services must provide public notice and an opportunity for public review and comment on all draft and revised recovery plans. In order to ensure recovery plans are based on the best scientific information and judgment, joint policy also requires the Services to solicit peer review of pertinent scientific data relating to recovery planning (59 FR 34270). In addition, plan preparers may want to consider other reviews.

National Environmental Policy Act (NEPA)

NMFS has determined that issuance of recovery plans under Section 4(f) of the ESA is categorically excluded from further review under NEPA (NMFS - NOAA Administrative Order 216-6, Section 6.03e3(a)). The NOAA Administrative Order (NAO) notes that "Preparation of [a] recovery plan pursuant to Section 4(f)(1) of the ESA is categorically excluded because such plans are only advisory documents that provide consultative and technical assistance in recovery planning." Similarly, the Department Manual lists "Issuance of recovery plans under Section 4(f) of the ESA" as categorically excluded. However, NMFS' guidance note exceptions to categorical exclusions (for NMFS see NAO 216-6, Section 5.05c), and therefore the decision file should document that the categorical exclusion applies, and that no exception applies.

All executive federal agencies, including the Services, are subject to the requirements for analysis under NEPA when planning to implement recovery actions identified in a recovery plan.

7.5.1.1 Technical Review

A technical draft of the plan is optional and may be developed for separate scientific and/or policy review. Distribution may include scientists or experts in pertinent fields—both in-house and at academic institutions or other pertinent agencies and scientific organizations—and agency experts in the ESA, including attorneys in the Office of General Counsel. If the review is conducted by outside scientific experts, it may constitute peer review (see below 7.5.1.2, Peer Review). It may also be conducted in addition to another peer review at the time of the public review.

7.5.1.2 Peer Review

Scientific integrity is of paramount importance in recovery planning and implementation as well as other endangered species program activities. Peer reviews strengthen the quality and credibility of ESA recovery decisions. Peer review is a thorough review by two or more independent scientists. The Services recognize that peer review requires thoughtful responsiveness to the specific issues raised in each recovery plan, clear communication between reviewers and NMFS biologists, and flexible approaches to implementing effective review.

7.5.1.2.1 Policy Requirements of Peer Review

Although independent peer review of recovery plans is not required under the ESA, NMFS has a longstanding practice of inviting comments from knowledgeable scientists on the pertinent scientific data relating to recovery planning topics in draft recovery plans. In 1994, this practice was reinforced by a joint agency policy mandating independent "peer review" (59 FR 34270). This policy states that the Services will "utilize the expertise of and actively solicit independent peer review to obtain all available scientific and commercial data from appropriate local, state, and federal agencies; tribal governments; academic and scientific groups and individuals; and any other party that may possess pertinent information…" Furthermore, the Services will "summarize in the final plan the opinions of all independent peer reviewers" ... and include the

reports and opinions in the decision file for that plan. The Services must (1) seek peer review during public comment periods, (2) document reviewers' opinions, and (3) maintain a record of all materials received (59 FR 34270).

Additional guidance on peer review was established by the 2004 OMB IQA Guidelines (see PDF of Final Information Quality Bulletin for Peer Review). The bulletin includes guidance to federal agencies on what information is subject to peer review, the selection of appropriate peer reviewers, opportunities for public participation, and related issues.

Per OMB guidelines, if information and analyses have already been subject to adequate peer review, no further peer review may be needed. However, in determining whether prior peer review is adequate, we must consider the novelty and complexity of the science to be reviewed, the extent of prior peer review, and expected costs or benefits of additional review. Typically, NMFS will conduct peer review on the Status Review. In the case where a Status Review serves as the basis of a recovery plan's scientific information and analyses, additional peer review may not be necessary. However, if we relied on substantive new information or analyses, or made new conclusions from or interpretations of the available information, we may need to consider conducting additional peer review.

7.5.1.2.2 Guidelines to Ensure Effectiveness of Peer Reviews

NMFS biologists should request that independent reviewers (1) assess the completeness of the data in the plan and provide pertinent information that may be missing, and (2) evaluate these data with reference to plan recovery criteria and actions.

At a minimum, peer review must be conducted during the public comment period for agency draft plans, unless we have concluded prior peer review, and comments must be documented and records kept on file. NMFS biologists should (1) compose letters or develop other means of soliciting peer review from identified individuals at the time the draft plan is released for public review, (2) develop a point-by-point response to substantive feedback received from peer reviewers, (3) document (summarize) these responses in the final plan to be submitted for approval, and (4) maintain copies of both the letters and NMFS responses as part of the decision file. Note that in many cases it may be appropriate for NMFS to go beyond these minimum requirements in order to increase the benefits of peer review. For example, peer review of focused sections of the plan before the public review period is often desirable.

Although the policy does not stipulate a minimum number of peer reviewers to be solicited for draft recovery plans (as it does for listing packages), its intent clearly is to have sufficient peer review of all significant aspects of the plan. Peer review is not necessarily confined to scientific review. Thus, while biological review will form the core of peer review of recovery plans, review by other types of experts may also be necessary if issues raised in the plan indicate that such a need goes beyond what can be achieved through the public review mandated by the ESA. Thus, in coordinating peer review, NMFS biologists should identify the types of information that need to be reviewed, identify one or more reviewers that can address each category of information, and ask for reviews that are germane to each reviewer's area of expertise.

Finally, in order to ensure that peer reviewers are "independent," NMFS biologists should seek reviewers who are not members of the species' recovery team or otherwise involved in plan preparation, have no potential conflict of interest regarding recovery planning outcomes, and are deemed capable of providing an objective, unbiased review.

7.5.1.2.3 Focused Peer Reviews

In many cases, focusing peer review (of either interim products or draft plans) on specific questions can substantially improve the effectiveness of the review process. This approach is supported by the policy language that calls for peer review "relating to the selection or implementation of specialized recovery actions or similar topics in ... recovery plans ..." (59 FR 34270). To accomplish this, NMFS biologists should direct the reviewer's attention to scientific or commercial questions that pertain to his/her area of expertise. More specifically, NMFS should (1) define the critical issues, (2) seek reviewers with expertise pertaining to each issue, and (3) ask each reviewer to scrutinize relevant aspects of the document (if several individuals review distinct aspects of a document, it may also be advisable for another reviewer to assess whether these issues have been properly integrated). Although a reviewer may choose to read an entire document for a contextual understanding—if it is provided for them—focusing on discrete issues may enhance the review process.

Focused peer reviews may include preliminary planning products such as a Population Viability Analysis (PVA), taxonomic study, threats assessment, or draft of the Background section of a traditional recovery plan. These preliminary, or interim, peer reviews can ensure that critical information feeding into the planning process is sound—information that might influence recovery strategies, criteria, or actions. If at all possible, structure the planning process so that other facets of the process can proceed pending interim review of a particular issue.

As a consequence of taking a focused approach, more experts may be involved in reviewing a particular document, but individual time demands should diminish. Focused reviews should be more successful and productive. Seeking focused reviews may be the best way to ameliorate otherwise intractable time and funding constraints.

7.5.1.2.4 Information Standards for Peer Reviews

To facilitate constructive independent reviews, the following measures are recommended:

- Precisely formulate questions for reviewers. For example, reviewers of a recovery plan based in part on a PVA model might be asked to comment specifically on whether, using best available data, modeling techniques incorporate appropriate assumptions regarding demographic parameters.
- Supply reviewers with background information regarding the legal and administrative requirements for recovery plans as well as "ground rules" for conducting useful and timely reviews. See NMFS Information Quality for further guidance on the peer review process and how to identify potential independent reviewers.
- Be available to answer questions from reviewers regarding the scope of their review.

7.5.1.3 Public Review

In accordance with Section 4(f)(4) of the ESA, the opportunity for public review and comment is required for all new and revised recovery plans, and input received during this period must be considered prior to completion and approval of the plan. Draft plans released for public review should be as close to final as possible; however, it is possible or even likely that serious concerns or significant information may arise through public review. Sufficient time to address comments should be built into the planning process. An NOA of a Draft Recovery Plan for Review and Comment (see Appendix G for examples) must be published in the Federal Register. The public review period should be at least 30 days, but 60 days is recommended to ensure adequate time for review and comment.

During the review process, a copy of the Federal Register NOA or an emailed link to the NOA should be sent to all interested individuals and organizations, including, but not limited to

landowners and other affected individuals; tribes; NGOs, such as environmental groups and user groups; other federal agencies; appropriate state, county, and local agencies; appropriate agencies in other range countries; all potential partners including academic institutions, businesses, and, in many cases, Congressional offices. In the NOA, the ADDRESSES section should state clearly the place where the reader should write to receive a hard copy of the plan, the Internet address where an electronic copy of the plan can be obtained, and how to submit comments. NMFS requires that draft and final recovery plans be posted on their agency website, so ensure that the plan is posted there as well as on any regional office websites. At this time, news releases and fact sheets may be desirable if the plan addresses highly visible, widespread, or controversial species.

All federal agencies may also use www.regulations.gov through the Federal Docket Management System (FDMS) for collecting public comments and sharing documents for review, along with any supporting materials. (Regulations.gov is the public-facing side where the public can access Federal Register documents and view and submit public comments; FDMS is the user interface for federal agencies managing content provided in regulations.gov.) NMFS is required to use regulations.gov and FDMS for receiving public comments on recovery plans. When regulations.gov is used, a copy of the plan and any supporting documents should also be uploaded to the FDMS so that the public can access supporting documents and comment on the plan.

7.5.1.4 Incorporation of Comments

Information obtained through public comments should be incorporated throughout the final plan, as appropriate, and a summary of comments may also be included in the final plan as an appendix or as a stand-alone document made available to the public on NMFS website. The decision file should include copies of all comments with an indication of how the comments were addressed. Even with a public comment period, NMFS should, within reason, be receptive to input at any point during the recovery planning process. However, NMFS is required to address only those comments received during the formal public comment period. If significant new information is gathered during or after the public review process, leading to significant changes in the draft plan, the public comment period should be re-opened.

7.5.2 Approval and Distribution Process

NMFS recovery plans must be approved by the Assistant Administrator for Fisheries after review by the OPR. For recovery plans on listed ESUs of Pacific salmon, approval of recovery plans has been delegated to the Regional Administrator, but the plans must still be sent to the Assistant Administrator for concurrence. In the case of plans for species that occur in multiple regions of NMFS, review and concurrence of the final plan by the Regional Administrator(s) in the non-lead regions must be obtained prior to final approval (NOAA Organization Handbook Transmittal No. 61).

NMFS draft and final recovery plans should be forwarded to the OPR, accompanied by a decision memorandum from the Regional Administrator to the Assistant Administrator and, for draft recovery plans, an NOA for publication in the Federal Register. Each regional office will be responsible for posting draft and final plans on the Internet and for printing and distributing draft and final plans.

A roll out plan (see Appendix G), which is generally low interest, must accompany the clearance package submitted to the Silver Spring, MD, Headquarters Office. For wide-ranging or controversial species, a high interest roll out plan may be needed to guide this process (see Appendix G).

7.5.2.1 Distribution of Comments to Federal Agencies

Section 4(f)(5) of the ESA requires that "Each Federal agency shall, prior to implementation of a new or revised recovery plan, consider all information presented during the public comment period." Accordingly, copies of all comments on new and revised recovery plans should be provided to all relevant federal agencies. This is especially valuable where comments identify the potential role a federal agency may play in carrying out ESA Section 7(a)(1) programs for the conservation of the species in question, or to alert federal agencies to their potential need to conduct ESA Section 7(a)(2) consultations on discretionary actions they fund, authorize, or carry out that may affect listed species or critical habitat.

7.5.2.2 Distribution Process

Upon approval, all interested individuals, organizations, and parties who received draft plans for review should be notified of the final plan's availability. In addition, anyone who commented on the plan should be made aware that the final recovery plan is available on NMFS' website. Notice in the Federal Register of availability of a final recovery is not required. However, in some cases for high-interest recovery plans, you may want to also publish a NOA in the Federal Register. Regardless of whether a formal notice is published, the plan should be made available on the /NMFS website. You may also want to distribute news releases, fact sheets, and other outreach materials on the final plan, especially for highly visible, wide-ranging, or controversial species.

Table 7-1: Checklist of required elements in a recovery plan, regardless of approach (3-part framework or traditional) used.

Required Elements in a Recovery Plan	
Content	**Format & Procedural**
☐ Recovery Criteria (6.1.2.3)	☐ 508 Compliant (7.1)
☐ Recovery Actions (6.1.3; 6.2.4)	☐ Public Review (7.5.1.3)
☐ Time and Cost Estimates (6.1.4; 6.2.5)	☐ NEPA (categorically excluded; 7.5.1)
☐ Title, Version, Agency/Office and Signatories (7.3.1)	☐ Public Comments Distributed to Federal Agencies (7.5.2.1)
☐ Disclaimer (7.3.2)	☐ Agency Approved (7.5.2)
☐ Literature Citation (7.4.1)	

Table 7-2: Checklist of optional/recommended elements in a recovery plan, regardless of approach (3-part framework or traditional) used.

Optional/Recommended Elements in a Recovery Plan	
Content	**Format & Procedural**
• Executive Summary (7.3.5) • Acknowledgments (7.3.4) • Other Optional Pre-Plan Content (7.3.6) • Table of Contents (7.3.7) • Recovery Vision (6.1.1.1) • Recovery Strategy (6.1.1.2) • Recovery Units (6.1.1.2.1) • Appendices (7.4.2)	• User Friendly/Plain Language (7.2) • Peer Review (with exceptions; 7.5.1.2) • Technical Review (7.5.1.1) • Final Plan Distributed to Stakeholders/Public (7.5.2.2)

8 Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Modifying the Recovery Plan

Recovery plans are roadmaps to recovery and should be consulted frequently, used to initiate recovery activities, and updated as needed. If a recovery plan is never consulted, the recovery of the species may go awry, and the thinking, time, and effort put into developing a well-written document will be wasted. Your recovery plan should make a clear and compelling case for recovery that provides a sound basis for implementing individual recovery actions; is a tool for generating advocates for the species; and provides criteria for monitoring progress and guiding analyses of the status of the species (i.e. Section 7 consultations, 5-year reviews, and Status Reviews). To accomplish these things, you must keep the plan current and relevant. This chapter describes the development of the RIS, tools for implementing recovery actions and activities, databases and methods used for tracking progress, and appropriate steps to update a recovery plan.

8.1 Developing the Recovery Implementation Strategy

The RIS is a flexible operational document(s) separate from a recovery plan that steps down recovery actions into implementation activities.

As described in Chapter 5, Approaches to Recovery Plans and their Documents, when a RIS is developed to accompany a recovery plan, the recovery actions in the Plan are described at a higher-level, and are more "visionary" and strategic than in many traditional plans of the past. The actual on-the-ground, prioritized detailed activities for implementing each recovery action in the recovery plan are described in the RIS. The RIS is intended to be an adaptable, nimble operational plan for stepping down recovery plan actions into manageable, step-by-step activities. The RIS provides specific, prioritized activities necessary to fully implement the recovery actions in the plan, while affording us the ability to modify these activities in real time to reflect changes in the information available and progress towards recovery. The form and content of the RIS are adaptable to the individual recovery planning effort. NMFS staff may adopt the RIS template or develop their own implementation strategy document (e.g., track activities in the RAMT, see 8.3.1.1, Recovery Action Mapping Tool (RAMT)).

Although the Status Review and RIS accompany the recovery plan, these documents are **not** part of the recovery plan and therefore, are not subject to the ESA requirement for public review. This means that the RIS provides a real-time platform for making near-term adjustments as new information becomes available, more effective collaboration with partners, and refinements in how recovery actions will be implemented, etc.

8.1.1 Contents of the RIS

A RIS cannot create new recovery actions. Rather, the RIS contains recovery activities that are stepped down from each recovery action in a recovery plan. Recovery activities are specific, individual, prioritized tasks identified in the RIS that implement the recovery actions in the recovery plan (see **Table 8-1** for an example of a RIS). Since the RIS is flexible in terms of content and timeframe, it can be revised as necessary and can cover whatever timeframe the recovery participants deem appropriate. We recommend the RIS be reviewed, and revised if appropriate, at least every five years, at the time of the 5-year review. Some offices have 'work plans' for implementing current recovery plans, and revisit them on a regular basis (e.g. annually), and revise them as appropriate.

Table 8-1: How Recovery Actions in the Recovery Plan differ from Activities in the RIS – Example adapted from draft FWS recovery plan and RIS

Recovery Action (in recovery plan)	**Activities (in RIS)**	**Comments:**
Survey and monitor mammal A to determine population status in the United States	Capture and collar mammal A	*An estimated 30 individuals will be captured and collared annually with a goal of having two collared individuals per pack. All appropriately sized individuals released from captivity will be collared. Efforts will focus on capturing and collaring cross-fostered pups to determine survival.*
	Conduct annual count	*The annual count occurs from November through January each year in AZ, NM, and on Fort Apache Indian Reservation to determine the minimum number of individuals in the wild. We will explore integrated population models as a statistical sampling technique that may be more appropriate as the population grows.*
	Conduct aerial/ground telemetry and Global Positioning System (GPS) monitoring of mammal A	*Aerial and ground telemetry are conducted to determine location and status of mammal A in the wild and to gather demographic information. Aerial and ground telemetry will decrease as the number of GPS collars to monitor mammal A is increased.*
	Document population parameters	*Mammal A demographics, including survival, pup production, dispersal, and colonization, will be monitored in Arizona, New Mexico, and on tribal lands.*

Unlike the recovery actions in a recovery plan, the RIS can be revised and updated as needed. While a RIS can adjust the activities needed for implementation of an action described in the plan, it **cannot modify the action in the recovery plan itself**. Modification of the statutory elements of a recovery plan require revision of the plan and public comment (*See* 8.5, Recovery Plan Modifications).

Components of the RIS can include:

- Recovery actions in recovery plan, prioritized by results of the “threats assessment” in the Status Review (should transfer directly from the recovery plan – cannot add new actions here)
- Activities necessary to implement each action in the near term, and their priorities
- Estimates of time and costs to implement each activity (may be rolled up and extrapolated to help with time and cost estimates in the recovery plan)
- Identification of partners for implementation
- Any other items you and partners think would be helpful to guide implementation

8.1.2 Timing of the RIS

Ideally, the RIS development should coincide with the development of the recovery plan. A draft RIS should be completed and made available when the recovery plan goes out for public review, and a completed RIS should be made available upon publication of the final plan.

Having a draft RIS available during the public comment period allows stakeholders and the public to understand the relationship between higher-level actions in the recovery plan and the stepped-down activities described in the RIS. It also allows planners the opportunity to examine actions in the plan and activities in the RIS, to ensure that all anticipated activities are covered by an action and the two documents are in sync. If it is not possible to have a draft RIS available during the public review period, then we strongly recommend that you flesh out the first few years of the RIS, to give the public, partners, and stakeholders an idea of how the recovery actions will be implemented on the ground. Alternatively, you could develop a RIS framework that describes, with as much detail as possible, what the RIS will include.

As more 3-part framework recovery plans are developed and as we get more examples of various structures and formats for a RIS, we may provide additional guidance.

8.1.3 Developing Multiple RISs

If there is an interest in developing more than one RIS (different partners, different geographic areas, etc.), we recommend developing an “umbrella” or “framework” RIS. The RIS framework should provide the big picture of how each RIS relates to the others, the priorities among actions/partners and provide a comprehensive understanding of anticipated implementation of the recovery plan to users and stakeholders.

Give careful thought to whether one or multiple RIS’s are necessary, and specify the highest priority actions, and possibly some of the anticipated activities. It would be helpful if an estimate of when the first RIS will be developed and when it will be posted (to the Headquarters Regional Office website). Since the RIS is flexible in terms of content and timeframe, it can be revised as necessary and can cover whatever timeframe recovery participants deem appropriate. Subsequent RISs can be developed to build upon the recovery work that has been done in previous RIS, per adaptive management protocols.

8.1.4 Examples of RIS’s or RIS Frameworks

A few RIS examples have been developed to-date:

- Recovery Implementation Strategy for Texas snowbells
- Recovery Implementation Strategy for Yellowcheek Darter
- Recovery Implementation Strategy for Chucky Madtom

8.2 Implementation

8.2.1 Taking Action

The most important thing about a recovery plan is that the actions contained within it are implemented. A good plan does no good if it is not translated into action. We recommend that you find ways to ensure the plan is used. NMFS has attempted to do this by using recovery plan implementation schedules when designing a tracking system in RAMT, and by referring to recovery criteria in 5-year reviews. You may want to bring recovery plans to share at meetings of interested groups or partners, and refer to them when writing reports and briefing papers. If you are a supervisor, you can have implementing actions part of your employees’ performance plans.

A good recovery plan provides the basis for implementing the various tools provided by other sections of the ESA (see Chapter 9, Integrating Recovery and Other ESA Programs). If they are not the same staff, recovery biologists should work with biologists who work on Section 7 consultations to ensure they understand the plan's content for use in Section 7(a)(1) conservation programs, and refer to and use the objectives and criteria of the plan in their Section 7(a)(2) jeopardy and adverse modification analyses. Recovery biologists can also refer those staff developing Section 10 conservation plans to the needed actions outlined in the recovery plan. In addition to providing significant direction for Section 7 consultations and Section 10 permits and conservation plans, recovery plans may also provide the rationale and parameters for using other actions and approaches set forth in the ESA, such as introduction of Section 10(j) experimental populations.

Many actions will be undertaken entirely or in part with partners. The recovery plan can be a tool for highlighting high priority actions to implement, describing goals and where the actions fit into them, and showing adaptive feedback loops following research, monitoring, and evaluation. Pointing to the actions in the plan is an effective approach to foster partnerships and secure funding. States, in particular, can use recovery plans as guidance to identify and implement projects that further the conservation of listed species. They can help states identify projects that may compete better for federal funding opportunities, such as Section 6 funds and Pacific Coastal Salmon Recovery Fund.

A Recovery Implementation Schedule (See Chapter 6.1.5, Implementation Schedule or Action/Time/Cost Table and 6.2.5, Implementation, Time, and Costs Estimates) identifies potential parties (often multiple parties), needed to implement actions. All or many of these parties need to be involved in seeing these actions to fruition. To ensure that recovery is taking place on the ground, work closely with these parties, provide technical assistance where needed, and/or simply check in and provide support and words of encouragement. These parties (as well as other partners) can be key to funding recovery implementation, whether by funding actions themselves, or securing funds through grant programs or other means. Hold recovery implementation meetings to bring partners together to share information and encourage them to continue their efforts by knowing they are part of a bigger effort. These meetings can be held periodically on a regular basis, such as annually, or as time and funding allows.

Beyond the parties mentioned in the recovery plan are those partners whose support is needed to ensure that a project can go forward, whether they be local businesses, adjacent landowners, community leaders, or other concerned citizens. These partners can be instrumental in successful implementation of actions either by providing support or, importantly, by not providing resistance. Keep them in the loop by providing information through talks to groups, listservs, and one-on-one communication. Ensure your office's website is up-to-date about the direction of recovery activities to keep partners informed and provide them an opportunity to engage in implementation.

In addition to the ESA requirements, the Services have developed policies and guidance at both the national and regional levels to inform specific recovery actions and guide programs that contribute to recovery. Some examples are the Services Controlled Propagation Policy (65 FR 56916**;** September 20, 2000), Safe Harbor Policy (64 FR 32717; June 17, 1999), Post-Delisting Monitoring Plan Guidance, HCP Handbook and the Addendum to the HCP Handbook, and the Section 7 Consultation Handbook. There are also general and scientific tools that span biology, ecology, and conservation sciences and support recovery implementation by providing strong scientific foundations and justification. Some, such as modeling, PVAs, and conceptual models,

have already been identified as part of the recovery planning process (see Chapter 6, The Recovery Plan). Some specific tools and techniques are used to inform habitat-based actions, such as habitat assessments and GIS analyses. These applications can help prioritize habitat actions and display geographic information for partners and public audiences.

Beyond scientific tools, a range of general decision-making and project management tools can be useful in recovery implementation. Structured decision-making clarifies objectives, fosters critical thinking, incorporates transparency, and creates a process where decisions are replicable (see Gregory et al. 2012, or Conroy and Peterson 2013 for more information on structured decision-making).

This is not an exhaustive list of potential tools for implementing recovery actions and does not include lengthy descriptions of each potential tool. Instead, this chapter is a reminder to be creative, use everything at your disposal, and capitalize on partnerships to support implementation of recovery actions. There is a large and diverse toolbox for implementation and each specific species, threat, or action may lend itself to particular approaches and tools. But the most important thing is to get started and keep up the momentum for recovery implementation. Recovery action implementation can easily be swept aside to complete other actions with statutory deadlines. Do not let this happen! Even carving out a few hours a week to make a phone call, work on a project plan, or otherwise ensure recovery actions are moving forward, is imperative.

8.2.2 Using Adaptive Management in Implementation

There are several approaches to management: (1) Trial and error—management choices are usually opportunistic or based on untested assumptions; (2) passive—data are used to construct a decision; and (3) active—data are used to construct alternative hypotheses or predictive models, experiments are used to test the hypotheses or models, and monitoring is used to evaluate the outcome of the experiment. All approaches have their usefulness in managing species, but only the latter—the active approach—is conducive to adaptive management.

In the recovery process, decisions must often be made and actions taken in the face of uncertainty about threats to the species, the species' life history, or the effectiveness of various management actions. Adaptive management is a method of taking action in the face of these scientific uncertainties via "learning by doing." It involves (1) setting management objectives and exploring alternative ways to meet these objectives, (2) predicting the outcomes of alternatives based on the current state of knowledge and agreeing on actions for achieving objectives, (3) implementing one or more of these alternatives and monitoring to learn about the impacts of the management actions, (4) assessing the outcomes, and (5) using the results to update knowledge and adjust management actions if needed (modified from Williams et al. 2009). This process provides feedback to ensure that actions are effective and minimizes surprises if additional steps become necessary because an agreed-upon objective is not reached. It should be emphasized that adaptive management is *not* merely monitoring activities and occasionally revisiting and changing them. The characteristic steps in taking an adaptive management approach are shown in **Figure 8-1** and were introduced in Chapter 1.5.4, Adaptive Management when developing a recovery plan. As with the overall recovery process, adaptive management is essentially an iterative process, whether it is employed for a single recovery action or as a general recovery strategy.

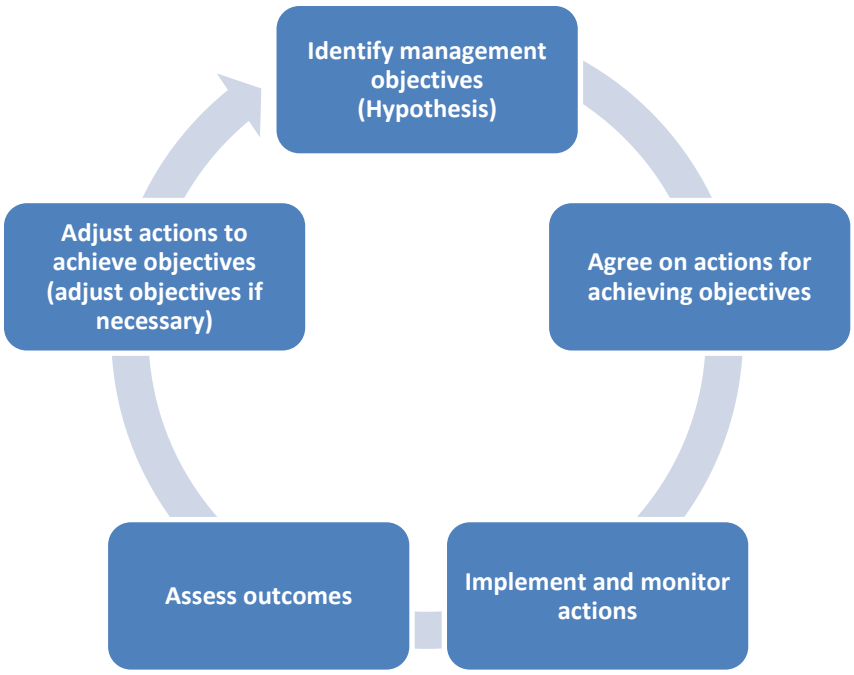

Figure 8-1: Adaptive Management Process

In a recovery plan context, for actions around which there are significant uncertainties (either about the species itself, the threats to the species, or which management action will be effective), the description of a recovery action should include, at a minimum, the *hypothesis* to be tested/question that needs answering (e.g., "Determine whether fish ladders…"). If possible, it should also indicate how the action will be monitored (as specifically as possible), what standards will be used to determine if the action is effective, and how the action will be adjusted if these criteria are not met. How the adaptive management framework is incorporated should be the same for both the traditional and the 3-part framework approach to recovery planning.

Incorporating Adaptive Management in the Recovery Plan and Implementation Strategy:
As described above, the recovery plan should include the hypotheses to be tested for recovery actions that we are uncertain about in terms of effectiveness. An example of a site specific recovery action might be to "*Enhance habitat at Sites A and C to encourage additional nesting*." If there is uncertainty about how to do this or how the species will respond, the recovery plan should either describe the desired outcome (number of nesters or percent increase of nesters) within a given timeframe or monitoring of the desired outcome for that recovery action. The recovery plan should clearly state the management objective in measurable terms. This will allow the public and all parties to comment on and understand whether and when goals have been met. Any activities associated with the recovery action that help identify adaptations to implementing the recovery action would be described in the separate implementation strategy.

The activities associated with the recovery action may or use some other document (e.g., annual planning memorandum) or database (e.g., RAMT) as an implementation strategy. Within the RIS or implementation strategy, you will identify the activities needed to address the primary objective (in this case the recovery action "*Enhance habitat at Sites A and C to encourage additional nesting"),* along with the activities that represent the monitoring, setting of desired outcomes, and adjustments as necessary. For example, the implementation strategy may

include monitoring and describe specifics, such as use of control sites or frequency or type of monitoring, as necessary.

Follow-up approaches to achieving the recovery action's desired results may depend on the results of the monitoring. For example, the desired outcome for a recovery action to protect nesting sites may be specified in the recovery plan as: (1) a 10% increase in nesting within 8 years, maintain habitat enhancements" (*note:* this may take a less intensive program at this point, or continuation of the current one); and (2) "If management action does not result in a 10% increase within 8 years, implement increased protection of nesting sites by increasing measures to control the threat" (predators, invasive species, fishery bycatch etc.). If the objective is not reached, you may want to introduce new activities (as opposed to an increase in activities already undertaken; e.g., captive propagation in addition to enhanced habitat) that should be taken to achieve additional nesting if it is not achieved within the agreed upon timeframe. The implementation strategy should identify what additional steps will be taken to achieve the objective of the recovery action. However, it is important to note that through this adaptive management approach, if the original recovery action is no longer valid, then a revised recovery plan with the new recovery action would need to go out for public review and comment.

In summary, adaptive management is a means of implementing recovery in the face of uncertainty. The five step process in **Figure 8-1** serves as a feedback loop to implement, evaluate, and adjust management actions until a desired goal has been achieved. Sufficient information to specify each of these steps may or may not be available at the time a recovery plan is being written. If additional data is needed, the recovery plan may call for collecting that data and should be written in such a way that it encourages adaptive management, where there is uncertainty and it is warranted. The RIS or implementation strategy may serve as your adaptive management plan by identifying the activities needed to address the primary objectives of the recovery actions. The benefits of adaptive management are that it provides flexibility and ability to act in the face of uncertainty and promotes optimal decision-making with the information available. Encouraging long-term collaboration among stakeholders and agreement on goals and criteria can be essential to a successful adaptive management program. It is crucial to have (or create) a culture that acknowledges uncertainty and promotes learning.

8.3 Tracking Actions and Progress Toward Recovery

The status of actions and activities is important to ensure funding commitments throughout the recovery process. Tracking recovery actions and activities allow us to prioritize resources, assess progress toward meeting recovery criteria, and identify additional recovery needs, such as funding, partnerships, and new actions or implementation activities. Tracking recovery actions also supports agency-wide ESA reporting, such as reporting on annual Government Performance and Results Act measures. Tracking and evaluating implementation of actions is also essential in an adaptive approach to recovery as described above and in Chapter 1.5.4, Adaptive Management.

Tracking, often directly based on the recovery plan's implementation schedule, is an important component of the recovery program, and can be useful in communicating accomplishments and workload issues to various audiences, justifying budgets, and determining if a plan revision, addendum, or update may be appropriate. Identifying high priority actions that require implementation and/or funding will facilitate budget requests and ESA Section 7 or 10 decisions, and aid in reviewing grant proposals, making research recommendations, and identifying opportunities for partnerships. Identification of actions that have and have not been

implemented will also indicate how both our agencies and stakeholders can best contribute to the species' recovery effort.

The recovery lead should track recovery actions described in the recovery plan as well as any associated activities identified in a RIS. For jointly listed species, recovery coordinators for each agency should work in coordination with one another to track all recovery actions in their respective tracking databases. This should include implementation status (pending, ongoing, or completed); contribution of funds and support by the Service or other partner organizations; and comments or narrative description for specific activities. Non-lead offices should coordinate with the lead office to ensure that all implementation information is up to date. There are established tracking systems in place and more specialized databases or systems can be developed for specific plans, species or actions. NMFS maintains an online system that is available for all species. Conducting 5-year reviews also provides an opportunity to periodically review the status of actions and evaluate if recovery criteria have been met. These tools are described below.

8.3.1 Agency Databases

8.3.1.1 Recovery Action Mapping Tool (RAMT)

RAMT allows NMFS to manage and report on activities related to recovery of ESA-listed species, as set forth in species recovery plans. RAMT is a web application that provides a searchable/sortable database to track the status of recovery action implementation as well as activities that support the recovery actions identified in the plan. The database also maps actions in GIS. The web application enables users to interactively visualize data from the action spatial database in a map viewer. It is designed to be a simple user interface with limited data layers. Spatial information added to the basemap includes two fish-related datasets—recovery domains and recovery actions. It also includes two hydrologic datasets—watersheds and rivers. RAMT provides the public and stakeholders to access real-time action data via an interactive web tool.

8.3.1.2 Updating Recovery Plans and Implementation Schedules Using RAMT

RAMT can also be used to track and update recovery plan versions (original, revision, and updates) and implementation schedules. Updates or revisions will be added to RAMT as they are completed and approved, as appropriate, using the procedures described for initial plans. Updates and revisions will be reflected in the Plan Folder and the Plan Summary screen using the terms "update" or "revision" in the document title. For NMFS Offices, authority is delegated to species recovery coordinators once a plan is final and ready to be tracked in RAMT. For recovery plans for which the FWS and NMFS have joint lead, recovery coordinators will discuss updates annually to be entered into Recovery Plans Module and RAMT, but only at the Regional Office level and after coordination between the two agencies.

Updates to the implementation schedule primarily include (1) updating the status of each recovery action; and (2) updating, adding, or removing individual implementation activities under a recovery action. It is important to ensure the status of recovery actions is reviewed and kept up-to-date at least annually. In addition to tracking that status, biologists may find it useful to track implementation activities to allow for finer-level progress to be tracked on a specific recovery action. RAMT also can track actual expenditures of a recovery plan. As discussed above, whether in the RAMT or tracked elsewhere, changes cannot be made to any of the statutory elements without public notice and comment. However, multiple incremental changes will need to be tracked closely to ensure that they do not trigger a revision that requires public review and comment.

8.3.1.3 Using RIS as a Tracking Tool

Although RAMT is the agency's official tracking tool, for 3-part framework plans the RIS can serve as a very effective tool for recovery coordinators to track on-the-ground progress in addressing recovery actions. The status of activities associated with recovery actions can be updated as needed in the RIS. Furthermore, recovery coordinators can use the RIS as a planning tool to work directly with stakeholders to show where progress is being made and where more attention is needed. For RAMT, detailed notes on the progress of activities can be entered in the activities profile under each recovery action. Thus, RAMT can serve as the implementation strategy.

8.3.2 5-Year Reviews

Section 4(c)(2) of the ESA requires a review at least once every five years of species classified as threatened or endangered on the List of Endangered and Threatened Wildlife and Plants (List) (50 CFR 17.11 – 17.12). A joint FWS-NMFS 5-Year Review Guidance, including a Template, was completed in 2005 and can be found on NMFS ESA 5-Year Review web page. The routine tracking of implementation and assessment of the species' progress towards recovery will facilitate the 5-year review process and make it more meaningful.

Recovery plans are important source documents for 5-year reviews. If a species has a current recovery plan with complete recovery criteria (i.e., must include the threats-based criteria for the ESA Section 4(a)(1) factors), then a 5-year review can be as straightforward as gathering current information on the species (status, trends, and new biological or other pertinent information), implementation of recovery actions and other actions that have affected the species, and threats to the species, and determining whether its recovery criteria have been met. For species without recovery plans or with plans that are not current or that lack threats-based recovery criteria, a 5-year review entails analyzing information available on the species relative to the definitions of endangered and threatened and in the context of the five listing factors. The 5-year review process allows for an opportunity to incorporate new information and identify the need to update recovery criteria to fully address the five factors described under Section 4(a)(1) of the ESA.

In addition to reviewing the classification of a species, a 5-year review presents an opportunity to reassess the recovery priority number (see Chapter 3.2, Recovery Outline Template). This allows NMFS to assign resources where they are most needed. The 5-year review also presents an opportunity to recommend appropriate next steps for its conservation through the "Recommended Future Actions" section of the 5-year review template. Recommended Future Actions from 5-year reviews can assist in prioritizing conservation efforts over the next five or more years, highlight new or updated information that will guide next steps, and may call for revising or updating the recovery plan, if appropriate (see Chapter 6.1.3, Recovery Actions).

If a review of the plan and its implementation, whether during a 5-year review or other process, shows that the plan is not current (i.e., is no longer being used to guide recovery efforts or does not contain adequate criteria) or that its usefulness is limited, the plan should be modified as discussed in 8.5, Recovery Plan Modifications.

8.4 Continuing Involvement in the Recovery Process

In addition to formal notification requirements and comment periods, our responsibility to invite public involvement and respond to public input throughout the recovery process extends beyond the letter of the law.

As stakeholders are involved in developing plans, they should also have continued involvement as partners in implementing the approved recovery plan, and any updates or revisions to the plan. The stakeholder involvement process should be viewed as an interactive process, and, in this sense, technologies that facilitate ongoing interaction should be used whenever possible. Such tools as social media networks like Facebook and Twitter, listservs, websites, e-mail networks, audio- and video-conferencing, and discussion threads may enhance the ability to keep recovery plans continually current and provide for the ongoing involvement of all interested individuals and organizations. Below are specific suggestions for continued involvement of recovery teams, partners, and the general public during implementation and also as modifications to the plan are contemplated.

8.4.1 Maintaining the Recovery Team

Completion and approval of a recovery plan sometimes signal an appropriate time for disbanding the recovery team, particularly if it was appointed strictly to prepare the plan. There are other cases in which the team can continue to function effectively as the recovery plan is implemented or new teams are formed for implementation of the plan or specific actions. If the team's responsibilities are limited to plan preparation, this should be made clear from the outset of the process, and it may have a strong influence on selection of the Team Leader and team members (see Chapter 2.5.2.4, Recovery Teams). Likewise, if the team has a broader recovery mandate, team membership should be arranged with this in mind. In the latter case, the right team can provide effective assistance with implementation progress. Inefficiencies or other pitfalls that may have affected team performance during preparation of the initial recovery plan should be identified and dealt with if the same team is expected to prepare plan updates, addenda, and/or revisions. This level of work entails a significant commitment on the part of each team member, and it may be wise to build in a system of turnover or revolving membership that recognizes this. The role of the recovery team may also evolve over time, and it may be necessary to revisit the ground rules, or TOR, for the team and possibly to revise its membership and responsibilities to include implementation, evaluation of progress, and updating or revising recovery plans.

When maintaining the recovery team as an ongoing planning and implementation advisory group, you should continue to foster the involvement of other individuals and organizations in the recovery process. Recovery teams can, if allowed, become a surrogate for stakeholder involvement that could result in the exclusion of other interested individuals and organizations and important contributors to the recovery effort.

If a recovery team is retained or reappointed for preparing a plan revision or update, the same considerations that were discussed in Chapter 2, Pre-planning Considerations, and Chapter 4, Managing Recovery Plan Development, apply.

8.4.2 Maintaining Partnerships

Initially, partnerships may be limited to those identified in the "Potential Agencies" column of the implementation schedule. As the recovery process proceeds, it is likely that additional or different implementation partners will be identified. Individuals and organizations who have been actively involved in implementing the approved recovery plan will have a strong sense of what is working and what needs fixing in the recovery program, and they can thus be valuable allies in the recovery program. To work with our partners effectively entails a significant degree of coordination and good communication. Agency biologists should employ all the tools at their disposal, as described in Chapter 2.5.2, Plan Preparation, for more effective and interactive working relationships. Periodic reviews of recovery progress can provide opportunities to share information and to ensure that we and our partners have a common understanding of the

species' recovery needs. It will be important to both notify and draw on the experience of partners when implementing actions from the plan and during consideration of plan modifications.

8.4.3 Maintaining Public Support

If the plan has made a clear and convincing case for recovery, public support for implementing recovery actions may follow, although there will be exceptions to this rule. Various tools for effectively involving interested individuals and organizations in recovery are presented in Chapter 4.3, Managing Stakeholder Involvement. NMFS should be aware of public expectations and anticipate public response to recovery initiatives. One aspect of public expectation that needs to be carefully managed is the need for evaluating potential impacts to stakeholder groups from implementing actions. When an action is identified in a recovery plan, all potential impacts to the public may not be fully considered. The recovery plan itself is not a regulatory document, but as specific actions are implemented through regulations or other agency actions, additional review and communication with the public may be needed to address all concerns.

Once a plan has incorporated public comments and been finalized, it is important to communicate and explain the basis for any changes or modifications. An understanding of implementation as a dynamic, adaptive process needs to be transparent to the public. Understanding of the recovery plan as a living document is also essential, so that plan modifications will be more acceptable. When the time comes to make substantial plan modifications, interested and affected individuals and organizations will once again play an important role in recovery deliberations, and the Services should prepare for this effort. If the case for recovery is convincing, if recovery biologists follow the plan and identify its inadequacies in an open, timely way, and if communication channels are kept open, support for the effort will be more easily mustered.

8.5 Recovery Plan Modifications

Keeping recovery plans current will ensure that the species benefits through timely, partner-coordinated implementation based on the best available information. Chapter 5, Approaches to Recovery Plans and their Documents, includes suggestions for making recovery plans flexible and dynamic. Even as new approaches and technology will provide opportunities to keep plans as living documents, some updates or modifications to plans require a more formal process including public input. Using the 3-part framework approach to recovery planning provides greater flexibility in maintaining a living document that reflects the most up-to-date science and available information, as both the Status Review and RIS are independent, separate documents from the recovery plan that can be updated as needed without going through the formal review process. Keeping a plan useful and current depends on the scope and complexity of the initial plan, the structure of the document, and the involvement of stakeholders. Single-species plans may be easier to modify than ecosystem or multiple-species plans. The resources spent on modifying a plan should be balanced against the resources spent on managing implementation of ongoing recovery actions since recovery implementation does not halt while plan revisions are being made.

When updating the recovery plan, there are two main types of plan modifications: (1) updates and (2) revisions. A **Recovery Plan Update** is *a* relatively minor change to a recovery plan that affects one or more sections of the recovery plan (or associated documents), but *does not* result in changes to any of the statutory elements, or *change* the direction of the plan. A **Recovery Plan Revision** is a substantial rewrite to the plan or a change to the statutory elements, which include (1) site-specific management actions; (2) objective, measurable recovery criteria; and 3)

estimates of time and costs. Revisions (with public notice and comment) are **required** if there are any changes to these statutory elements.

If there are no changes to the statutory elements, to determine which type of modification is most applicable, consider the:

- Adequacy of recovery strategy
- Relevance of the plan
- Amount of new or changed information since the plan was developed
- Technologies that were not available or accepted when the previous plan was written
- Changes in land ownership or other factors that may open other avenues to recovery
- Level of interest or controversy surrounding the species' recovery.

Table 8-2 (below) provides a general guide to help determine whether an update or revision is needed for the recovery plan.

8.5.1 Plan Update

As stated above, an update represents a change that affects one or more sections of the recovery plan (or associated documents), but does not result in changes to any of the statutory elements, or a change the direction of the plan. Updates **may** include refining step-down implementation activities or strategy based on enhanced information and/or further deliberations on how to proceed, describing how or where actions have been implemented since the plan was completed (for example, see Chapter 6.1, 3-Part Framework Recovery Plans), incorporating new implementation activities, or summarizing changes in species status or background information that do not alter the overall direction of the recovery effort.

For recovery plans based on the 3-part framework approach, there might be updates to the Status Review and/or the RIS that are posted to the species website (see Chapter 5.1.1.2, Versioning the Status Review Relative to the Recovery Plan). For recovery plans that are not based on the 3-part framework approach, it is still possible to update the background sections and details regarding implementation activities in a similar vein to the 3-part framework approach by using a species website to post the new background sections and/or short-term plans for implementation of recovery activities. Or alternatively, you may make updates in the recovery plan itself making sure that the recovery plan is labeled as updated.

Documents that complement the plan by identifying new information and current issues relevant to the conservation of the species, but that do not supersede or contradict the recovery plan statutory elements, may be developed and are an essential component to 3-part framework plans. Incorporating study findings that enhance the scientific basis of the plan, and incorporating monitoring outcomes that have reduced uncertainties as to life history, threats, or species' response to management, can (1) refine and/or prioritize recovery actions, (2) help refine recovery criteria in the future, and (3) assist in making ESA Section 7 and 10 determinations. Interim documents can stand alone or be appended to an approved recovery plan as an addendum. These documents may be completed by a recovery team or in-house, but should be approved by the Regional Administrator and be posted on the agency's website along with the recovery plan. Refinements reflected in these documents may be reflected in the Implementation Activities tracked in the RAMT.

Updates may also include addenda or amendments. An addendum is a companion document that supplements an existing recovery plan. Addenda that are considered updates (rather than revisions) might include survey protocols, Standard Operating Procedures, Memorandums of

Agreements (MOAs), or lists of qualified surveyors. Amendments are used to change, add, or rephrase content, with the intention of making an improvement to the document.

Updates can be completed by the lead office or the recovery team (if applicable), in coordination with offices helping to implement recovery actions. Delegation for plan updates may come from Headquarters to Assistant Regional Administrators. Because an update does not represent a major change in recovery direction or a change in any of the statutory elements, it does not require a public review and comment period. Although these minor changes require no formal public comment periods, contributors, partners (i.e., state and federal agencies and tribes), stakeholders, the Regional Office, and the OPR office should be sent a copy of the changes to the plan and the changes should be posted on appropriate regional and national websites[9].

8.5.2 Plan Revision

A revision is a substantial rewrite or a major change in direction of a recovery plan (partially or in its entirety). As stated above, revisions are **required** if there are any changes to the statutory elements of a recovery plan which include: (1) site-specific management actions; (2) objective, measurable recovery criteria; and (3) estimates of time and costs. Plan revisions can also include adding statutory elements that were initially missing (addenda), adding a species to a multispecies or ecosystem plan, or supplementing time and cost estimates.

In many cases, recovery plans may be kept current most efficiently by updating them frequently enough to preclude the need for major revisions. But when a revision is required, it represents a significant change to the recovery plan and must go through public notice and comment that is announced in the Federal Register, and final draft approved by the Assistant Administrator for Fisheries, except for Pacific salmon (see Chapter 7.5.2, Approval and Distribution Process). Peer review of revisions is recommended and should be coordinated with the Regional Recovery Coordinator. In addition, revisions may call for reconvening a recovery team, if appropriate.

Addenda or amendments can include the addition of new science or information, or previously omitted information that supports a recovery plan. The review and approval process for addenda or amendments (i.e., whether or not to include public review and comment) should be determined on a case-by-case basis due to the highly variable significance of different types of addenda. Addenda that represent significant additions to the recovery plan, such as adding a species to a multispecies plan, should undergo public review and comment before being attached to the recovery plan, and should be signed by the Assistant Administrator, as would a new plan. An addendum that is determined not to need review and comment would be signed at the regional level.

It is important to keep contributors to the recovery effort and all stakeholders informed[10] about key revisions, addenda, and updates. Updated recovery plans benefit our partners and the public by reducing the uncertainty of what is needed for species' recovery. A current recovery plan allows all partners to base their efforts on the same overall strategy for recovery and focus

[9] Depending on the type of update, the new page or new section could be inserted in the existing pdf or posted separately so both versions of the document are available.

[10] Publishing a Federal Register notice announcing our intention to revise the recovery plan instead of only announcing the draft plan availability for review and comment is one way to ensure early stakeholder involvement in the revision process.

on the same goals and priorities. When partners and stakeholders are informed, priority actions are more likely to be implemented in an efficient and timely manner.

Table 8-2: Guidance on Modifying Recovery Plans

Types of Recovery Plan Changes	Action Needed
Updated Status Information *Based on new status information and/or viability assessment*	***Update***
Research and Monitoring Results	***Update***
Minor Correction or Clarification *Non-substantive changes such as format corrections, typographical errors, updated citations, clarification of terminology, etc.*	**Update**
Recovery Activities and Adaptive Implementation *Work plans detailing proposed projects, priorities, etc.*	**Update**
Recovery Actions *Revised recovery actions including revised or new actions, revised costs, etc.*	**Revision**
New or Revised Research, Monitoring and Evaluation Plan and/or Adaptive Management Framework	**Update**
Further Refinement of Limiting Factors and Threats Information *Improved understanding, greater detail, new or changed priority of limiting factors or threats that do not affect delisting criteria; can include modification of relative priority.*	**Update**
Revised Recovery Criteria *New or changed delisting criteria for limiting factors or threats at the species, subspecies, or DPS scale, that would change the direction of the recovery effort*	**Revision**
Revised Population Delineation *For example, if a change in population structure or delineation was recommended following a 5-year review, such changes would likely necessitate changes in the delisting criteria and would change the direction of the recovery effort.*	**Revision**
Revised DPS- or Species-level Definition	**Revision**
New or Revised Delisting Scenarios *For example, changes in population or habitat/watershed prioritization, changes in the specific populations or habitat/watersheds targeted for viability, changes in the level of risk or associated certainty targeted for specific populations or habitat/watersheds, etc.*	**Revision**
Revised Viability or Delisting Criteria *Revised recovery unit/population-level viability targets* *Revised DPS, or species-level delisting goals*	**Revision**

Types of Recovery Plan Changes	Action Needed
Adding a Species to a Plan *Adding to or amending an existing plan to incorporate a newly listed species*	**Revision**

8.5.3 Plan Maintenance

In recovery plans that have live links to other documents, especially in plans that use the 3-part framework, it is important that recovery coordinators check the links on an annual basis to ensure that they are functioning properly. It is also important that recovery coordinators check the supporting documents and supplemental information referenced in a recovery plan to ensure that they are up to date and reflect the most recent available information. This is especially true in respect to agency policies, guidelines, Executive Orders, or decision memos that are referenced within a plan.

9 Integrating Recovery and Other ESA Programs

The ESA provides a framework to ensure the survival and conservation, i.e. recovery, of listed species. While Section 4(f) directs the Services specifically to develop and implement recovery plans, several other ESA sections and associated programs and activities also provide important opportunities to promote recovery. This chapter provides ideas for integrating recovery with those programs and activities. Each section: (a) provides a brief introduction to these ESA programs and activities; (b) addresses how to use information from these programs and activities to inform recovery planning and implementation; and (c) discusses how to use recovery planning tools when implementing those programs and activities. Recovery planning tools can broadly be considered as tools available for NMFS and our partners to inform and prioritize what and where conservation actions and activities should be implemented to achieve the purpose of the ESA. These may include recovery outlines, recovery plans, 5-year reviews, documents associated with the 3-part framework approach described in Chapter 1.4, The Recovery Planning Process, such as the Status Review, and RIS, as well as underlying analysis tools and associated outputs such as threats assessments, technical recovery team reports, models, etc. Practitioners are encouraged to coordinate closely with their colleagues to ensure adequate consideration of the outcomes and influences of these programs on recovery planning, and vice versa.

9.1 Classification Decisions – Sections 4(a)(1) and 4(b)(1)

9.1.1 Introduction

ESA Sections 4(a)(1) and 4(b)(1) call on the Services to list wildlife and plants that meet the definition of an endangered species or a threatened species. “Species” include taxonomic species, subspecies, and DPSs. Once species have recovered to the point where they are no longer in need of protection under the ESA, then the species would be delisted. Where a species’ status improves to the point where they are no longer endangered but still meet the definition of threatened, the species would be reclassified as threatened. In other cases, the species may require reclassification from threatened to endangered. Determinations must be based solely on the best available scientific and commercial information. In each of these cases, the Services determine whether a species should be listed, reclassified, or delisted due to the present or threatened destruction, modification, or curtailment of its habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms; or other natural or manmade factors affecting its continued existence. The agencies must also take into account conservation practices and other efforts being made by any state or foreign country to protect the species.

9.1.2 How Listing Decisions can Inform Recovery Planning and Implementation

As mentioned in Chapter 3, The Recovery Outline, the recovery process begins immediately following (or ideally parallel to) the process of listing a species, usually with the publication of a recovery outline. In the interim between listing of a species and approval of its recovery plan, the recovery outline provides a preliminary strategy for conservation while recovery plans are being developed (see Chapter 3, The Recovery Outline). Listing rules typically have information on the species’ status and on primary threats and conservation actions that should inform recovery outlines and subsequent recovery plans. NMFS has and will continue to use Status Reviews to inform listing decisions (see Guidance on Responding to Petitions and Conducting Status Reviews under the Endangered Species Act). When available, underlying Status Reviews provide details on the status of the species and threats acting at the individual, population, and species levels. Listing decision documents help NMFS, other governmental

agencies, and the public understand what may be important for the survival and recovery of the species by identifying the current, most significant (single or cumulative) threats.

9.1.3 Applying Recovery Planning Tools to Listing Decisions

After a species is listed, recovery plans and associated documents are some of the primary tools for biologists considering future reclassification or delisting recommendations. Recovery plans provide recovery criteria that represent conditions, that when met, should indicate that the species is ready for reclassification or delisting (see Chapter 6.1.2, Recovery Goals, Objectives, and Criteria). Decision documents for changing a species' status should provide a reasoned explanation of the relationship of the species' status at the time to the reclassification or delisting criteria in the species' recovery plan. Reclassification or delisting is not dependent, however, on the recovery criteria being met (see **Box 6-1**). That said, where one or more recovery criteria have not been met, the agency should explain why the species still qualifies for reclassification or delisting in spite of the unmet criterion. In addition, discussions of the threats from other recovery planning tools (e.g., "threats assessments" from recovery plans, 5-year reviews, and Status Reviews) should be evaluated to help determine if threats have been addressed sufficiently to reduce or eliminate the listing factors. Implementation of recovery plan actions should also be evaluated and their relationship to ameliorating the species' threats described.

9.2 Critical Habitat Designations – Section 4(a)(3)

9.2.1 Introduction

Section 4(a)(3) of the ESA requires the Services to designate critical habitat for most threatened and endangered species. Habitat for a species that has been designated as critical habitat will be either (1) specific occupied areas within the geographical range of the species that contain physical and biological features (e.g., spawning sites, rearing sites, etc.) that are both essential to the conservation of the species and that may require special management considerations or protections (i.e., need to address threats to or protect habitat features), or (2) specific areas outside the geographic area occupied by the species (i.e., unoccupied habitat) that, with reasonable certainty, will contribute to the conservation of the species and contain one or more of those physical or biological features essential to the conservation of the species. When designating critical habitat, the Services first evaluate areas occupied by the species and only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied would be inadequate to ensure the conservation of the species. A key feature of critical habitat, therefore, is that both occupied and unoccupied habitat areas comprising a designation must be essential for the conservation of the species.

9.2.2 How Critical Habitat Designations can Inform Recovery Plan Development and Implementation.

Critical habitat designations generally occur concurrent with final listing rules. Because of this timing, they can often be used to inform recovery planning. For example, the number and location of critical habitat units may inform recovery plan goals, objectives, criteria, and strategies. The clear identification of essential physical or biological features within these units can help inform assessments of threats to these features and also recovery actions necessary to restore or maintain those features.

Critical habitat proposals and designations can also help NMFS and our partners with implementing recovery actions and activities, or during consideration of other actions that may affect the species' recovery. For example, where we conduct Section 7 consultations on actions that are anticipated to affect designated critical habitat, we can assist our partner federal

agencies in conserving species' habitat features that are essential for recovery. Section 7 consultations on critical habitat also provide an opportunity to incorporate recovery plan actions or activities into reasonable and prudent alternatives where destruction or adverse modification of critical habitat is demonstrated. Alternatively, federal action agencies can incorporate recovery actions or activities related to critical habitat as upfront conservation measures in proposed actions to avoid or reduce the likelihood of destruction or adverse modification of critical habitat in the early planning stages of proposed actions, where possible.

In addition to being helpful to federal agencies conducting Section 7 consultations, critical habitat can also be used by non-federal entities to help promote listed species protection and conservation. The alignment of recovery plans and associated recovery planning tools with a species' critical habitat designation can provide several benefits that should promote recovery plan implementation and species recovery. If we clearly describe essential physical or biological habitat features and threats to these features in both our recovery planning documents and critical habitat designations, then we can provide consistent direction both internally and to other federal agencies, state, local, and tribal governments, and private landowners about the importance of specific habitat areas, habitat features, and the key threats to these features.

9.2.3 Applying Recovery Planning Tools to Critical Habitat Designations

The Status Review done for the listing may inform the critical habitat designation, but more often NMFS will develop a Biological Report that focuses on the primary biological features and conservation value for designating critical habitat. In some cases, critical habitat is not proposed concurrently with listing rules, or is revised following the initial designation. In these cases, recovery plans and other recovery planning tools should contain information helpful for informing and guiding the development of new or revised critical habitat designations. Since critical habitat designations include habitat (i.e., occupied and unoccupied when occupied habitat is inadequate to ensure conservation of the species) that is essential for conservation, designation of those geographic areas that recovery plans and associated documents describe as necessary for achieving recovery goals and criteria may be appropriate. For example, key information for critical habitat may include watersheds or other areas supporting populations that must be recovered, and unoccupied watersheds or areas where population expansion must take place for recovery to occur.

In conjunction with identifying habitat areas that are critical for recovery, our recovery plans and associated documents may also identify and describe important physical and biological habitat features needed for the species' life history and habitat characteristics that must be protected and/or improved to support and recover the listed species and which may require special management or protection. To the extent appropriate, we can use the threats assessment in our recovery plans and associated documents to describe those physical and biological habitat features that are important for conservation as well as to identify the specific activities that are threatening habitat features and thus require protection or management. Taking this approach will help ensure that the threats assessments in recovery documents meaningfully inform critical habitat designations. Finally, our recovery plans and associated documents may identify which unoccupied areas should be reoccupied in those cases where occupied habitat is inadequate to ensure the conservation of the species. Thus, recovery planning documents may contain information important for evaluating unoccupied areas for potential designation as critical habitat.

9.3 5-Year and Periodic Reviews – Section 4(c)(2)

9.3.1 Introduction

ESA Section 4(c)(2) requires the Services to review the status of listed species at least once every five years and recommend species that should be reclassified or removed from the lists. Also, the Services may review the status of any species at any time (periodic reviews) based upon a petition or upon other data available to them. In general, 5-year reviews and periodic reviews analyze information about the listed entity, recovery criteria, and the five listing factors. They identify whether recovery plan criteria are current and meet statutory requirements and provide recommendations for revisions or updates. They also provide an opportunity for tracking past recovery progress and making recommendations for future actions that may be a priority for the species. The 5-year and periodic reviews generally focus on new information since the last Status Review and/or discussion of information in listing decisions and older recovery plans. Thus, 5-year and periodic status reviews can be used as a recovery planning tool to guide recovery planning efforts; alternatively, 5-year and periodic reviews can also be informed by recovery planning tools.

9.3.2 How 5-Year and Periodic Reviews can Inform Recovery Plan Development and Implementation

As noted above, 5-year reviews provide updates to the best available information that should then inform the development (when updating or revising recovery plans or when initial recovery plans are not yet complete) and implementation of recovery plans. For example, 5-year reviews can be used to directly inform and adjust, revise, or refine recovery plans and their supporting documents, when new information becomes available during the 5-year or periodic review. In some instances, the review may indicate that new recovery actions or activities are needed, or alternatively, that existing activities are no longer needed or need refinement. The reviews may also indicate that recovery criteria refinements or additions are warranted, or may provide additional information about the species status that affect some other aspect of the species' recovery that should be reflected in a recovery plan update.

9.3.3 Applying Recovery Planning Tools to 5-Year and Periodic Reviews

Recovery planning tools, such as those described in Chapter 8, Developing a Recovery Implementation Strategy, Implementing Actions, Tracking Progress, and Modifying the Recovery Plan, are important sources of information for 5-year or periodic reviews. For example, Status Reviews may be updated to inform a 5-year review. Additionally, knowing which recovery actions have already been implemented or are in progress as indicated by the status of each action, can be used to inform the review of the five listing factors and for determining recommendations for future actions.

9.4 Prohibitions – Sections 9 and 4(d)

9.4.1 Introduction

ESA Section 9 describes the acts that are prohibited with endangered species, including take, import, export, sale or offer for sale in interstate or foreign commerce, and certain other commercial activities. For threatened species, prohibitions are developed by the Services through regulations under ESA Section 4(d). These 4(d) regulations include provisions determined by the agency to be necessary and advisable to provide for the conservation of the species. NMFS develops all 4(d) rules on a species-specific or batched basis. A number of exceptions to these prohibitions are provided in Sections 9 and 10 for endangered species and

through 4(d) rules for threatened species. These exceptions, and how they relate to recovery planning, are described in sections below.

9.4.2 How 4(d) Rules can Inform Recovery Plan Development and Implementation

The threats identified during the listing process or later in time (regardless of whether species are endangered or threatened) should inform the development of threat-based recovery criteria and actions to alleviate those threats. Section 4(d) rules can help target conservation actions for a threatened species and focus agency regulatory processes on the most significant (single or cumulative) threats.

In cases where a species-specific 4(d) rule already exists and there is no new information to suggest that it no longer meets the conservation needs of the species, recovery plan preparers should reinforce the 4(d) rule by aligning appropriate recovery strategies and actions with the 4(d) regulations that provide for conservation of the species. In cases where existing 4(d) rules no longer meet the conservation needs of the species, the Services can propose revised 4(d) rules.

New or revised 4(d) rules can help incentivize implementation of recovery actions for the species. For example, 4(d) rules can help to provide incentives for partners to undertake recovery actions by not including some types of incidental take prohibitions where incidental take can be controlled by other means. For other species, including a take prohibition in combination with related best management practices that promote conservation could serve to ensure that activities that are otherwise harmful would result in avoided or reduced impacts to the species from those activities. By specifying what individuals can and cannot do with a threatened species on their property via a 4(d) rule during the course of otherwise lawful activities, we can reduce the consultation and permit burden on public and private entities, as well as clarify what actions are harmful to the species and that should be avoided. By providing more certainty early in the listing process via a 4(d) rule, we can more easily foster cooperative conservation of the species throughout the recovery process.

9.4.3 Applying Recovery Planning Tools to Developing, Implementing, and Enforcing 4(d) Rules

A recovery plan is ultimately a guidance document and includes no requirements, restrictions, or other provisions that are legally binding. That said, recovery planning tools may be sources of the underlying information NMFS uses to develop conservation-based restrictions or requirements for a species.

Prohibitions for endangered species are set by statute. For threatened species, however, where no species-specific 4(d) rule exists or where an existing rule is no longer consistent with the current conservation needs of the species, recovery planning tools can inform development of a new or revised rule that will promote conservation of the species. For example, threats assessments, Status Reviews, 5-year reviews, or recovery plans should identify and prioritize threats. Biologists can assess which prohibitions in a new or revised 4(d) rule may help reduce the likelihood or severity of these threats. For example, prohibitions on sale and other commercial uses can help prevent take of a species that has commercial value. Recovery planning tools also identify key recovery activities, and 4(d) rules can prescribe how these activities should be carried out to promote conservation while reducing regulatory burdens associated with accomplishing them. Recovery planning tools may also be able to help identify areas, populations, or times where threats and/or activities vary and thus may need to be addressed differently in a 4(d) rule.

9.5 Cooperation with States – Section 6

9.5.1 Introduction to Cooperation with the States

ESA Section 6 calls for cooperation between the Services and the states to the maximum extent practicable in carrying out conservation programs for endangered and threatened species. Section 6, among other things, also allows the Services to enter into cooperative agreements with the states and U.S. territories that establish and maintain "adequate and active" programs for the conservation of listed species. For states and U.S. territories with cooperative agreements in place, Section 6 grants provide funding for species and habitat conservation projects on state, territorial, tribal, and private lands and waters.

9.5.2 Using State or Territorial Programs to Inform Recovery Planning or aid in Implementing Recovery Activities

Once a state or U.S. territory enters into a Section 6 cooperative agreement, the Services are authorized to assist in, and provide federal funding for, implementation of the state or territory's conservation program.

The *Species Recovery Grants to States Program* is NOAA Fisheries' primary mechanism for providing funding to states to implement high-priority recovery actions for listed marine and anadromous species. Species Recovery Grants are awarded through a competitive process to states each year to support management, research, monitoring, and outreach projects that have direct conservation benefits for listed species, recently delisted species, and candidate species that reside within that state.

In addition to providing funding, the Services highlighted the important roles of states in ESA implementation in our joint 2016 Revised Interagency Cooperative Policy Regarding the Role of State Agencies in Endangered Species Act Activities (81 FR 8663). Specifically, we identified the following ways that the Services will include the states in recovery planning and implementation.

1. Use the expertise and solicit the information and participation of state agencies in all aspects of the recovery planning process for all species under their jurisdiction.

2. Use the expertise and solicit the information and participation of state agencies in implementing recovery plans for listed species. State agencies have the capabilities to carry out many of the actions identified in recovery plans and are in an excellent position to do so because of their close working relationships with local governments and landowners.

3. Recognize and use the expertise and authority of state agencies in designing and implementing monitoring programs for species that have been removed from the Lists of Endangered and Threatened Wildlife and Plants. Unless preempted by federal authority (e.g., MMPA), states possess primary authority and responsibility for protection and management of fish, wildlife, and plants and their habitats, and are in an excellent position to provide for the conservation of these species following their removal from the lists.

4. Work collaboratively with state agencies to design and encourage the use of Safe Harbor Agreements to assist in recovery of listed species.

9.5.3 Applying Recovery Planning Tools to Section 6 Programs and Funding

When deciding which projects to fund through various grant programs, NMFS can use recovery plans and associated documents to prioritize those projects in meeting the conservation needs of the species. For example, states and territories can refer to recovery goals, objectives, criteria, and actions when developing their Section 6 proposals. Section 6 proposals should link the proposed activities to show how they promote the conservation and recovery of the species.

9.6 Interagency Cooperation – Section 7

The interagency consultation provisions of ESA Section 7 play a significant role in achieving the prime directive of the ESA to conserve listed species and the ecosystems upon which they depend. Adequate consideration of listed species' survival and recovery needs in planning and implementing federal actions is fundamental to federal agency compliance with the conservation purposes of the ESA. In this way, NMFS' Section 7 consultation program is an important recovery tool. Likewise, recovery plans that clearly and comprehensively identify and address the survival and recovery needs of listed species can substantially enhance the efficiency and effectiveness of federal agency compliance with Sections 7(a)(1) and 7(a)(2).

9.6.1 Section 7(a)(1)

9.6.1.1 Introduction to 7(a)(1) Agreements and Programs

Section 7(a)(1) requires the Services to review other programs we administer and use these programs in furtherance of the ESA. It also provides that other federal agencies shall, in consultation with and with the assistance of the Services, use their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of listed species.

All of the courts that have examined Section 7(a)(1) have concluded that federal agencies have an affirmative duty to develop and implement programs for the conservation of listed species. 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 606,617 (5th Cir. 1998). The court clarified that "under Section 7(a)(1), each Federal agency must consult with FWS and develop programs for the conservation of each endangered species that it can affect within its authorities."'[11] *Sierra Club at* 606, 618 FN 7. Other courts have come to the same conclusion.

The primary objective of a Section 7(a)(1) program should be to implement proactive, landscape-level conservation and recovery actions. These actions may be undertaken completely separately or as part of individual projects that are under the purview of the agency. While a 7(a)(1) program can be developed at any time, in some cases, it may be most effective to jointly develop a 7(a)(1) program with a programmatic 7(a)(2) consultation. In such a

[11] See, e.g., *Defenders of Wildlife* v. *Gutierrez,* 532 F.3d 913 (D.C. Cir. 2008) (Section 7(a)(1) gives the Coast Guard duties regarding the right whale); *Florida Key Deer* v. Paulison, (11th Cir. 2008) (Section 7(a)(1) imposes a judicially-reviewable obligation to carry out programs for the conservation of listed species); *Wyoming Farm Bureau Federation,* 199 F.3d 1224 (10th Cir. 2000) (Section 7(a)(1) authorizes the trapping and transplanting of rare species in order to conserve them); *Pyramid Lake Paiute Tribe* v. Navy, 898 F.2d 1410 (9th Cir. 1990). More recently, the District Court for the District of Nevada stated "[t]hus, the ESA required (and requires) that the USDA take some action in an effort to actually conserve the flycatcher" and "[i]n short, the USDA has not adequately demonstrated how its termination policy satisfies its affirmative duty to adopt a 'conservation' policy as required under Section 7(a)(1). *Center for Biological Diversity, et al., v. Vilsack, et al.*, (D. Nev. 2017) (--F. Supp.3d --; No. 2:13–cv–01785–RFB–GWH).

scenario, the 7(a)(1) program would function as a conservation filter through which all subsequent agency actions, both primary mission actions and conservation actions, flow.

Although Section 7(a)(1) authority is generally viewed as being under-utilized by federal agencies, there are some noteworthy examples briefly described below.

9.6.1.2 Using Section 7(a)(1) Agreements to Inform Recovery Planning or Aid in Implementing Recovery Activities

When drafting, updating, or revising a recovery plan, existing 7(a)(1) agreements may provide helpful information on recent threats and mechanisms to avoid, minimize, or compensate for impacts associated with those threats and indication of who important partners may be. Where such programs are implemented with thoughtful consideration of the species recovery needs, the associated activities have the potential to result in reductions or amelioration of specific threats and stressors to a species or group of species, either at a localized level or at a larger scale, based on the design and scope of the program. Additionally, a 7(a)(1) program may shape how or where certain future activities are conducted within a geographic area, and can be tailored to address the recovery needs of the species over the long term. Thus, a 7(a)(1) program could guide action agencies on how to incorporate the species' needs into their proposed actions that are subject to Section 7(a)(2), and would help streamline the Section 7(a)(2) process.

9.6.1.3 Applying Recovery Planning Tools to Section 7(a)(1) Agreements and Programs

Activities associated with 7(a)(1) agreements and programs should be designed to be consistent with the conservation of the species. Recovery planning tools are essential sources of information to design 7(a)(1) programs regarding the primary threats and important conservation actions and locations for those actions. For example, when Section 7(a)(1) agreements and programs are in the planning stages, review of the species recovery needs can help identify what actions may be most critical or provide the most conservation benefit to the species within a given geographic area or in evaluating certain types of stressors. Such information can be gleaned from recovery planning documents, and include recovery actions, RIS activities, and threats and stressors identified in Status Reviews. Where NMFS and other federal agencies are involved in planning a Section 7(a)(1) program, participants may be able to identify innovative methods to address threats and stressors to a species within a geographic area or through certain categories of activities considered in the program's development.

9.6.2 Section 7(a)(2)

9.6.2.1 Introduction

Section 7(a)(2) requires all federal agencies to consult with the Services to ensure that any action or project authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat. Recovery is included in the definition of "jeopardize the continued existence of" in regulations implementing ESA Section 7(a)(2) (50 CFR 402.02) – "engag[ing] in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood *of both* the survival and recovery [emphasis added] of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." The concept of recovery is also included within standards for determining whether a proposed federal action is likely to result in the "destruction or adverse modification" of designated critical habitat. The Services' regulations provide that "destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species." Conservation is defined in the ESA as "to use and the use of all methods and

procedures that are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary," i.e. the species is recovered. As with the other sections of the ESA described above, recovery can both inform, and be informed by, Section 7(a)(2) consultations (hereafter, "Section 7 consultations").

9.6.2.2 Using Section 7 Consultations and Consultation Guidance to Inform Recovery Planning or Aid in Implementing Recovery Activities

When drafting, updating, or revising a recovery plan, prior Section 7 consultations may provide helpful information on recent threats and mechanisms to avoid, minimize, or compensate for impacts associated with those threats. Section 7 consultations also provide a status summary of the species and identify important partners. Also, recovery plan preparers should be familiar with Section 7(a)(2) information needs as described in the National Consultation Handbook and regional-level guidance as they develop recovery plans. By being aware of the various types of stressors affecting the species—even where these may not rise to the level of "threats to the species" in a five factor analysis—recovery planners can nonetheless gain a better understanding of the accumulated impacts to a species by the various activities on the landscape that may impact that species. Thus, Section 7 consultations, either singly or in aggregate, can inform the need for revised recovery actions, RIS activities, recovery criteria, and/or Status Reviews to provide more comprehensive recovery planning while the species remains listed.

For example, where one or more Section 7 consultations have identified a new or unexpected stressor that would affect the recovery of a species, new recovery actions or RIS activities may be identified in a revised recovery plan, or considered during a subsequent Status Review. Alternatively, where a Section 7 consultation(s), potentially in tandem with a 7(a)(1) program as described above, results in the elimination or reduction of the effect of a stressor on a species or addresses a recovery action or RIS activity, subsequent recovery planning or 5-year reviews or Status Reviews may take this into account. A key step in connecting Section 7 consultations and subsequent recovery planning efforts is ensuring recovery planners are aware of the outcomes of these consultations and their effect(s) on the species, so that progress towards recovery is adequately documented and considered. Thus, recovery planners are encouraged to closely coordinate with their colleagues conducting Section 7 consultations on the species during recovery planning, post-listing Status Reviews or Recovery Status Reviews and 5-year reviews.

9.6.2.3 Applying Recovery Planning Tools to Section 7 Consultations

Section 7 consultations provide an important opportunity to focus on species recovery, as consultations on federal actions can often play a pivotal role in avoiding and minimizing impacts to listed species. To better achieve successful interagency cooperation and benefits to species conservation, staff working on Section 7 consultations should be knowledgeable of or become familiar with the relevant content in available recovery planning tools (recovery outlines, Status Reviews, traditional recovery plans, etc.) for the species while considering the effects of proposed actions on listed species. As various stages within the section 7 consultation may be relevant to species recovery, the following discussion includes relevant considerations within those stages.

Information from recovery planning tools can provide a basis for conducting project reviews under Section 7 and also can encourage the development of conservation recommendations and an early start to conservation efforts in accordance with Section 7(a)(1) that may stem from negotiations conducted during informal and formal consultations. If traditional or 3-part framework recovery plans are not yet available, recovery outlines and Status Reviews can be

used by biologists to help project proponents avoid narrowing or precluding future recovery options that may result from allowing the loss of a portion of habitat or exacerbating some other threat that might later be determined in a recovery plan to be important to the recovery of the species.

Recovery planning tools are particularly valuable at two points in the ESA Section 7 consultation process: (a) during pre-consultation and/or consultation initiation; and (b) while preparing letters of concurrence or biological opinions. In addition, while all Section 7 consultations need to meet basic regulatory and policy requirements, NMFS managers and staff can use recovery plan products to focus and prioritize their efforts in ESA section 7 consultations.

a) *Pre-consultation and Initiation of Consultation*. Section 7 regulations (50 CFR 402.14(c) and (d)) and the National Consultation Handbook provide requirements for initiation of consultation; for example, initiation packages must include the best scientific and commercial data available. Recovery planning tools provide information that should contribute to providing the best scientific and commercial data available in initiation packages. Also, NMFS biologists engaged in ESA Section 7 consultations will likely find recovery planning tools particularly of value as they provide technical support to federal action agencies and any applicants to help design their proposed actions in ways that will be compatible with a listed species' conservation needs and in promoting recovery. For example, where recovery plans identify specific habitats as essential for species' survival and recovery, NMFS should give close attention to actions that may affect that habitat during consultation. Similarly, to reduce impacts from a proposed action that is the subject of a Section 7 consultation, recovery plan actions or RIS activities can be used by NMFS working with action agencies to identify relevant and appropriate conservation measures that can be incorporated as part of an action agency's proposed action to avoid or minimize the effects of the proposed action on the species. To promote adequate consideration of the proposed action on the species survival and recovery, federal action agencies should be encouraged to include relevant recovery planning information in their biological assessments or other consultation initiation materials. Such relevant information could include:

   - The role of the action area relative to affected populations of each listed species addressed in the Section 7 consultation.
   - How the effects of the proposed action relate to the known threats/stressors to each affected listed species, and to the survival and recovery needs of each affected listed species.
   - How the proposed action may impact, positively or negatively, recovery programs and site-specific recovery actions for each affected listed species.

   The above information would not only help inform the basis for determining the significance of any adverse or beneficial effects caused by the proposed federal action on both the survival and recovery of the species, but would also assist Section 7 consultation practitioners as they crosswalk the effects of the proposed action to available information in the species recovery planning documents during their analyses. In some cases, for example, Section 7 consultation practitioners may be able to identify directly (or indirectly) relevant recovery actions, RIS activities, or other best available scientific and commercial data to inform selection of conservation measures, refinement of the description of the proposed action, or other aspects of the consultation.

b) *Letters of Concurrence*. Letters of concurrence—when NMFS concurs with an action agency's "may affect, not likely to adversely affect" determination—are often relatively brief,

and may not contain substantial detail (compared to a biological opinion, for example). However, in some cases, a proposed action appropriate for informal consultation may be associated with a threat/stressor to a species and/or critical habitat identified in a recovery plan product, and a Section 7 practitioner may determine a need to refer back to this information in their letter of concurrence. In our use of the best scientific and commercial data available, our concurrence letters in these cases may provide a better degree of transparency to the action agency by noting the associated threat/stressor/limiting factor from the recovery plan product and explaining why the individuals' and/or critical habitat features' exposure and response to the action will result in effects that are insignificant, discountable, or wholly beneficial.

Recovery plans also provide opportunities to promote conservation through letters of concurrence. NMFS staff may consider including an optional reminder to the action agency of their Section 7(a)(1) conservation responsibilities in letters of concurrence. For example, NMFS West Coast Region letters of concurrence template provides: "Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The action agency also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under Section 7(a)(1)." Thus, as appropriate, the letter of concurrence could suggest opportunities and examples from recovery planning tools, and while doing so, be clear that these suggestions relate to the action agency's larger Section 7(a)(1) responsibilities.

(b)(2) *Preparing a Biological Opinion*. Up to date recovery planning tools can be a clear and concise source of best available information on the factors that are most relevant to the survival and recovery of each affected listed species and to understanding the significance of adverse effects likely to be caused by the proposed action under consultation. General information from recovery plan products can be incorporated by reference; for example, biological opinions can refer readers to specific recovery plan products for more complete descriptions, while concise summaries of relevant recovery product information would be incorporated into the following sections of biological opinions. Each section is described below in some detail to provide context for recovery planners who may be less familiar with biological opinions so they can better assist their colleagues during collaboration and also to provide context for Section 7 practitioners as they develop biological opinions.

9.6.2.3.1 Rangewide Status of the Species

This section typically characterizes the current condition of the species range-wide, as described, for example, in the species' listing documents, 5-year reviews and/or Status Review, and the factors responsible for that condition, and the survival and recovery needs of the species. This sets the context for the specific action area effects that will be examined in the Biological Opinion. Survival needs are the biological traits of a viable rangewide species. Recovery needs encompass (1) what is necessary for survival and (2) the specific measures that are necessary to adequately address the threats contributing to the species endangerment; both are needed to ensure a self-sustaining and self-regulating species rangewide once the protections of the ESA are removed.

There may be multiple sources of information on recovery needs available to reference during Section 7 consultation and drafting of the biological opinion. Potential pertinent recovery information may include: delisting and downlisting criteria; species status relative to those criteria; and the current status of threats/stressors/limiting factors, including habitat-related factors that inform the status of key physical and biological features of critical habitat. To the

extent a recovery plan product or Status Review presents this information in terms of the species' reproduction, numbers, and distribution, the greater the utility for the 7(a)(2) jeopardy analysis because these parameters are specifically included in the regulatory definition of jeopardy. Likewise, to the extent the recovery plan products or Status Review presents information in terms of key physical and biological features, the greater the utility for the Section 7(a)(2) critical habitat analysis.

If a final recovery plan for the affected species includes the designation of recovery units, this section of the biological opinion also describes those units, the relationship of each recovery unit to both the survival and recovery of the listed species as a whole, and the survival and recovery function assigned to each unit. Jeopardy analyses can be based on assessing the effects of an action on a recovery unit(s) defined in a final recovery plan, provided the above information is also established.

9.6.2.3.2 Environmental Baseline

This section establishes the importance of the action area of the proposed action to each affected species' survival and recovery; for many consultations, this may be a subset of the species range, although for narrow endemics or wide-ranging consultations, the species full range may be included in the action area of the proposed action. Since this analysis would be expressed to the greatest extent possible in terms of the species' reproduction, numbers, and distribution to help inform the Section 7(a)(2) jeopardy determination—and physical and biological features to support adverse modification of critical habitat determinations—recovery plans and potentially Status Reviews or Recovery Status Reviews should help inform this assessment.

If the action area encompasses all or portions of a recovery unit(s) described in a final recovery plan, this section also discusses the role the action area plays in the survival and recovery function assigned to each unit. Recovery documents and Status Reviews may also help to inform consideration of the recovery unit(s) in this section.

9.6.2.3.3 Effects of the Action

The Effects of the Action section describes how the effects of the action on listed individuals and critical habitat within the action area are likely to exacerbate, add to, or alleviate relevant threats or limiting factors identified in recovery planning products. The significance of these effects (both adverse and beneficial) is characterized by discussing how they will influence the survival and recovery needs of the species in the action area. This information is needed to understand the action's potential influence on the affected population's ability to achieve and maintain its viability criteria/objectives. Viability criteria are often discussed in this section, if appropriate, although these are also frequently addressed, at a minimum in an Integration and Synthesis section and/or in the Conclusion of a biological opinion. As noted above, the survival and recovery-related context for this section is best informed based on information from recovery planning products, such as recovery plans, and/or from 5-year reviews and Status Reviews, where these exist. If appropriate, this part of a biological opinion may also describe how the effects of the action impede or promote the implementation of recovery strategies and site-specific actions that affect the population's ability to achieve and maintain its delisting criteria.

If a recovery unit described in a final recovery plan is involved, this section also describes how these effects influence the capability of that portion of the unit within the action area to provide the survival and recovery function assigned to the recovery unit. Recovery planning documents, reviews, and Status Review or Recovery Status Review would also likely be an important source of information for this analysis.

9.6.2.3.4 Cumulative Effects

Cumulative effects analyses under Section 7 describe the effects of future, non-federal actions reasonably certain to occur in the action area; this information may or may not be available from recovery planning documents, Status Review, or 5-year reviews. As new information becomes available over time on these activities, either through Section 7 consultations or other sources, it may be appropriate to carry these over to the next Status Review (i.e., Recovery Status Review. Ideally, these analyses can be conducted in terms of the species reproduction, numbers, and distribution to aid the Section 7 jeopardy analysis. The significance of these effects (both adverse and beneficial) can be characterized by discussing how they will influence the survival and recovery needs of the species in the action area. Recovery planning products and Status Reviews, where completed, are readily available documentation relevant to cumulative effects analyses. Assessments of threats in recovery plan products provide documented descriptions of ongoing non-federal activities and their effects on listed species. Likewise, 3-part framework and traditional recovery plan products that include site-specific actions and implementation schedules may provide information on recovery actions that are reasonably certain to occur in the action area that will help conserve the species. Many of these effects are provided at scales that are readily applicable to action areas.

If a recovery unit described in a final recovery plan is involved, this section of the biological opinion also discusses how these effects influence the capability of that portion of the unit within the action area to provide the survival and recovery function assigned to the unit. The available information from recovery-related documents, reviews, and Status Reviews or Recovery Status Reviews are also likely to be valuable in these discussions.

Jeopardy and Adverse Modification of Critical Habitat

In reaching conclusions regarding the effects of actions on listed species and critical habitat at the scale of the listed unit or designation of critical habitat as a whole, recovery plan information is instrumental in analyzing the role of the affected population(s) in the recovery of the species and whether the consequences of the proposed action are likely to reduce the species' probability of recovering given the goals, strategies, and recommended actions laid out in the recovery plan.

9.6.2.3.5 Conclusion

In this section, as stated in the Consultation Handbook, the proposed action is "...viewed against the aggregate effects of everything that has led to the species' current status and, for non-federal activities, those things likely to affect the species in the future...The final analysis then looks at whether, given the aggregate effects, the species can be expected to both survive and recover..." in the wild. This section presents the reasons why the conclusion was reached ideally, to the greatest extent possible, in terms of how the proposed action, together with any cumulative effects, is likely to affect the species' reproduction, numbers, and distribution relative to its survival and recovery needs at the range-wide scale and the role of the action area in meeting those needs. Recovery plan products, where these are up-to-date, will likely be a critical source for information on those needs.

If a recovery unit(s) described in a final recovery plan is involved, this section of the biological opinion also discusses the relationship of the unit to both the survival and recovery of the listed species as a whole and how the action, together with any cumulative effects, is likely to affect the capacity of the affected unit to provide both the survival and recovery function assigned to it. Again, recovery planning documents are likely to be instrumental in informing this discussion.

Reasonable and Prudent Alternative. If the proposed action is found to jeopardize listed species or adversely modify critical habitat, recovery plans should be consulted for recovery strategies and actions that can, as appropriate, be used to help formulate a Reasonable and Prudent Alternative. In some instances, for example, recovery actions or RIS activities may be directly relevant to the formulation of Reasonable and Prudent Alternatives. In other instances, recovery planning documents may provide insight into how stressors or threats could be alleviated in this section.

Incidental Take Statements. Reasonable and Prudent Measures and Terms and Conditions in Incidental Take Statements accompanying non-jeopardy, non-adverse modification biological opinions are intended to minimize the impacts of anticipated take of the affected listed species. Recovery plans and recovery implementation strategies can help inform the development of these measures and conditions provided that they do not violate the minor change rule.[12]

Conservation Recommendations. This final section typically provides suggestions to federal agencies and any applicants regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information needed for the species or its habitat. Conservation recommendations provide a direct opportunity to promote recovery actions through Section 7. They provide an opportunity to work outside of the more regulatory Section 7(a)(2) framework to build federal agency partnerships for implementing recovery actions. Such partnerships could lead to programs that the federal agencies recognize for conservation of listed species in furtherance of Section 7(a)(1). Thus conservation recommendations for discretionary actions are ideally drawn, to the greatest extent possible, from recovery plans, and used as a foundation for building meaningful partnerships that go beyond the Section 7(a)(2) regulatory framework. Following up on actual implementation of measures is also helpful in informing future recovery planning efforts and revisions of Status Reviews (i.e., Recovery Status Reviews) where necessary.

9.7 Permits – Sections 10(a)(1)(A)

9.7.1 Permits for Scientific Purposes or for Enhancement of Survival

ESA Section 10(a)(1) allows the Services to issue permits for any act otherwise prohibited by Section 9 (e.g., that would result in "take") for scientific purposes or to enhance the propagation or survival of threatened or endangered species, with certain findings under Section 10(d) required for those seeking exemptions. Section 10(a)(1)(A) permits may be a tool to allow for some "take" of individuals while achieving an overall benefit to the species. There are generally two types of 10(a)(1) permits, those for scientific purposes and those for enhancement of survival.[13]

[12] Minor change rule – when preparing incidental take statements, the Services must specify reasonable and prudent measures and their implementing terms and conditions to minimize the impacts of incidental take that do not alter the basic design, location, scope, duration, or timing of the action, and that involve only minor changes [50 CFR§402.14(i)(2)].

[13] For threatened species, authorization of prohibited activities is also governed by the Services' 4(d) rules (see 9.4, Prohibitions – Sections 9 and 4(d) above). For NMFS, regulations for permitting endangered and threatened species are found at 50 CFR 222.307-309 and 222.501-504 (experimental populations).

9.7.2 How 10(a)(1)(A) Permits Can Inform Recovery Plan Development and Implementation

Issued 10(a)(1)(A) permits can provide an important source of information to inform recovery planning efforts for listed species. For example, individuals of listed species covered under the permits may be captured and marked to learn more about their numbers, distribution, or habitat requirements, all of which may address information needs for recovery planning, 5-year reviews or Status Reviews. Information gathered from permit reporting (such as annual reports) can help determine the most appropriate locations for future recovery activities (e.g., land acquisition or management). This information can also help address data gaps identified in recovery plans, 5-year reviews, and Status Reviews. In some cases, new information may suggest revisiting the direction of the recovery program for the species. Without 10(a)(1)(A) permits, our basic knowledge about the abundance, stability and resiliency of populations, habitat use and requirements, geographic ranges, and diseases of federally listed species would be much more limited. Timely coordination between recovery planners and NMFS staff administering permits is important to ensure this information is considered adequately at the appropriate stage(s) of recovery planning.

9.7.3 Applying Recovery Planning Tools to Development and Authorization of 10(a)(1)(A) Permits

NMFS staff reviewing 10(a)(1)(A) permit applications necessarily develop an understanding of the species' recovery needs through recovery planning documents, and consider how well various permit proposals meet the conservation needs of the species. For example, staff consider whether the risk to individuals associated with the research or management project is outweighed by benefits to those same individuals, populations, or the species as a whole.

Permittees and other partners working with listed species via 10(a)(1)(A) permits should assist in achieving the identified conservation needs of the species. For example, research activities should be designed to provide information that will aid in the conservation and recovery of listed species, and NMFS' partners can use recovery planning tools to help focus research towards efforts that will assist in the management and recovery of the species.

9.7.4 Safe Harbor Agreements and Section 10(a)(1)(A)

The Services have a joint Safe Harbor Policy (Policy) (64 FR 32717, June 17, 1999) that promotes recovery by providing incentives for non-federal landowners to implement recovery actions on their land. Under this Policy, the Services will enter into a Safe Harbor Agreement with non-federal landowners that manage habitat for recovery of listed species in exchange for formal assurances that the Service will not impose additional restrictions as a result of the landowner's voluntary actions. The Services will issue a Section 10(a)(1)(A) enhancement of survival permit if we make a finding that the Safe Harbor Agreement will result in a net conservation benefit to the species. Recovery planning tools are essential best available science for helping to determine whether Safe Harbor Agreements are a priority to undertake and whether they result in a net conservation benefit. If the landowner's actions address key threats or stressors and help implement recovery actions, e.g., by being recovery activities in a RIS, then the Services have a strong foundation for allocating resources to work on the Safe Harbor Agreement and for making the net conservation benefit finding.

9.7.5 Experimental Populations (Section 10(j) and Section 10(a)(1)(A)

Another important type of Section 10(a)(1)(A) permit is for incidental take associated with the establishment of experimental populations pursuant to Section 10(j). See 9.9, Experimental Populations, below.

9.8 Permits - Section 10(a)(1)(B) Incidental Take Permits and Habitat Conservation Plans

9.8.1 Introduction

HCPs, along with their associated incidental take permits under ESA Section 10(a)(1)(B), provide another important opportunity to complement recovery planning, 5-year reviews, and Status Reviews. The 2016 HCP Handbook contains related guidance for considering recovery issues when developing the conservation strategy (see 9, Integrating Recovery and Other ESA Programs). The sections below briefly suggest ways in which these permits and the HCPs themselves inform, and are informed by, recovery planning and tools. For additional information, see the various sections of the HCP Handbook.

9.8.2 Using Incidental Take Permits and HCPs to Inform Recovery Planning or Aid in Implementing Recovery Activities

Similar to Section 7 consultations, when drafting, updating, or revising a recovery plan, prior incidental take permits may provide helpful information on recent threats and mechanisms to avoid, minimize or compensate for impacts associated with those threats and indication of who important partners may be. Additionally, when working with prospective applicants, we encourage them to develop conservation plans that are consistent with the recovery plans and contribute to the recovery of covered species. As those conservation plans and associated permits are developed, they can be considered in further recovery planning efforts as well as, 5-year reviews and Status Reviews, and subsequent Recovery Status Reviews.

9.8.3 Applying Recovery Planning Tools to Issuing Incidental Take Permits

Similar to 10(a)(1)(A) permits, activities associated with 10(a)(1)(B) permits should be designed to be consistent with the conservation of the species. Therefore, NMFS staff reviewing permit applications should consider how well various projects are consistent with the recovery plans and contribute to the recovery of covered species. The Service's HCP Handbook discusses this concept throughout the document, and both the use of recovery plans and coordination with Service recovery staff early in the development process is key to successfully integrating recovery with conservation planning. Additionally, while the Services cannot require that applicants actively work toward recovering species, we strive to encourage applicants to develop HCPs that contribute to recovery of the species. HCP participants could generally benefit from species recovery, which leads to delisting. Where the efforts can be consistent with recovery planning documents and strategies, the HCP Handbook offers guidance on how to proceed.

For example, section 2.3 of the HCP Handbook states, "The Services should examine recovery plans and other relevant documents to help identify strategies to minimize and mitigate the effects of the covered activities. When recovery plans are not available or have not been updated to include the best available science, contact recovery teams, state wildlife agencies, or other species experts to obtain information (i.e., 5-year reviews, recovery outlines, and updated information on climate change effects) pertinent to HCP development."

Section 7.6 of HCP Handbook provides an important discussion of considering the role of the HCP Plan in the overall conservation of the species. Recovery planning tools are a logical source of information to address this question. This will help inform the entire direction (e.g., biological goals and objectives) of the HCP. Recovery planning tools will also help with analyses of impacts, describing the impacts of the taking, and targeting avoidance, minimization and mitigation.

As part of ensuring that a proposed action meets permit issuance criteria, the Services also conduct intra-Service consultation on the issuance of the permit; therefore, Section 7(a)(2) concepts discussed above also apply.

9.9 Experimental Populations – Section 10(j)

9.9.1 Introduction

ESA Section 10(j) defines an experimental population as any population authorized by the Secretary (Services) for release, but only when, and at such times as, the population is wholly separate geographically from non-experimental populations of the same species. Section 10(j) allows the Services to authorize the release of an experimental population outside the current range of the species, if they determine that such release will further the conservation of the species. Before any release, the Service must, by regulation, identify the population and determine whether or not it is essential to the continued existence of a listed species.

The Services may issue a permit under Section 10(A)(1)(a) (see 9.7, Permits – Sections 10(a)(1)(A) and 4(d), above), if appropriate, to allow acts necessary for the establishment and maintenance of an experimental population. An experimental population shall be treated as if it were listed as threatened for purposes of establishing regulations under Section 4(d) (see 9.4, Prohibitions – Sections 9 and 4(d), above). See NMFS regulations for implementing Section 10(j) at 50 CFR 222 Subpart E.

9.9.2 Using Designated Experimental Populations to Inform Recovery Planning Tools or aid in Implementing Recovery Activities

The status of designated experimental populations can inform 5-year reviews and other updates to the listed species' status. Also, the implementation of recovery activities that promote the conservation of the experimental population could be important to prioritize, particularly, for essential experimental populations.

9.9.3 Applying Recovery Planning Tools to Designation or Revision of Experimental Populations

The need to establish experimental populations should be established as a recovery action in recovery plans. Recovery plans and other recovery planning tools should provide the scientific foundation for making the determination of whether releasing an experimental population outside the current range of the species will further the conservation of the species. They also should provide the information for determining whether the experimental population is essential to the continued existence of the species. In cases where 4(d) rules are developed for experimental populations, recovery planning tools should provide context and best available science to support the development of regulations that are necessary and advisable to provide for the conservation of the species.

Glossary

For purposes of this handbook only, unless a citation is provided, the below terms have the following meanings.

5-year review – A 5-year review is a periodic analysis of a species' status conducted to ensure that the listing classification of a species as threatened or endangered is accurate as called for under Section 4(c)(2) of the ESA.

Abundance – Number of individuals. If this is used in a specific context, e.g., number of nesting females or number of individuals within a given geographic area, then that should be specified where abundance is discussed.

Adaptive management – A specific method of taking action in the face of scientific uncertainty via "learning by doing." Adaptive management involves exploring alternative ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of the management actions, and then using the results to update knowledge and adjust current or future management actions.

Baseline monitoring/conditions – Monitoring done or conditions existing before implementation of a specific project, in order to establish historical and/or current conditions against which progress can be measured.

Broad sense recovery goals – Goals outlined in some Pacific salmon recovery plans which are generally defined by local recovery planning groups and go beyond the requirements for delisting to address other legislative mandates or social, economic, and ecological values.

Conserve, conserving, and conservation – To use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary… ESA Section 3(3). As a practical matter, in this handbook the term "conservation" is synonymous with the term "recovery" in this handbook.

Conservation actions – A general term to mean actions taken to conserve a population or species.

Conservation measures – In the context of interagency Section 7(a)(2) consultations, actions to benefit or promote the recovery of listed species that are included by the federal agency as an integral part of the proposed action. These actions will be taken by the federal agency or applicant, and serve to minimize or compensate for, project effects on the species under review. These may include actions taken prior to the initiation of consultation, or actions which the federal agency or applicant have committed to complete in a biological assessment or similar document (1998 Services Consultation Handbook).

Conservation Reliant – A species subject to pervasive, recurring threats, and the risk of extinction can only be reduced through intensive or frequent human intervention or both, but cannot be eliminated (at least with the current tools at hand). These species' long-term viability depends on continual management.

Distinct Population Segment (DPS) – A listable vertebrate entity under the ESA that meets tests of discreteness and significance according to the 1996 joint FWS and NMFS Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act (see full discussion of discreteness and significance at 61 FR 4722). A DPS is a population segment that is discrete in relation to the remainder of the species to which it belongs, and significant to the species to which it belongs. An ESU of Pacific Salmon is considered a DPS (see below definition). DPSs must be designated through a rulemaking.

Distribution – The geographical range of a taxon or group; the spatial pattern or arrangement of the members of a population or group. This can be discussed in a Recovery Plan in the context of historic, current, or desired future distribution (range); the context in which it is used should be specified.

Domestic Species – Domestic species are those whose current or historical geographic ranges occur entirely within waters of the United States or its EEZ.

Endangered species – Any species which is in danger of extinction throughout all or a significant portion of its range (ESA Section 3(6)). In the ESA, “endangered species” also is defined to exclude certain species of insects.

Evolutionarily Significant Unit (ESU) – A listable entity under the ESA that is (1) substantially reproductively isolated from other conspecific units and (2) represents an important component of the evolutionary legacy of the species; used only for Pacific salmonids (see Applying the Definition of Species to Pacific Salmon (November 20, 1991; 56 FR 58612).

Extinction – No longer in existence, i.e., no individuals of the species exist.

Extirpated – Locally extinct; other populations of the species exist elsewhere.

Factor – Generally refers to the factors specified in Section 4(a)(1) of the ESA that are used to determine whether or not a species is endangered or threatened (often referred to as the five factors): (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

Foreign Species – Foreign species are those ESA-listed species with current and historical geographical ranges exclusively within the waters or the EEZ of foreign nations.

Limiting factor – Generally used, including in this handbook, as any environmental factor that controls a process such as growth, abundance or distribution, of an organism or population.

Monitoring – The measurement of an action or an environmental characteristic to determine compliance, status, trends, or effects of the action or characteristic. Three basic types of monitoring are conducted in the recovery program as follows: (1) implementation (compliance) monitoring, which is used to see whether actions have been carried out; (2) status and trend monitoring, which determines whether a population or threat is increasing or decreasing; and (3) cause and effect monitoring, which tests hypotheses and determines (via research) whether an action is effective and should be continued.

Physical or biological features essential to the conservation of the species –The features that occur in specific areas and that are essential to support the life-history needs of the

species, including but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Practicable – Capable of being put into practice or being done; feasible.

Productivity – An indicator of a population's ability to sustain itself or, in the context of listed species, its ability to rebound from low numbers.

Range – See Distribution. The limits of the geographical distribution of a taxon or group**.**

Recovered – Within the context of the ESA, recovered is the point at which a listed species is sufficiently resilient to be viable in the wild over the long-term and the factors that caused the species to be listed have been adequately addressed such that it no longer needs the protection of the ESA.

Recovery – Improvement in the status of listed species to the point at which listing is no longer appropriate on the basis of the best scientific and commercial data available after conducting a review of the species' status, that the species *no longer* meets the definition of an endangered species or a threatened species because of any one or a combination of the ESA Section 4(a)(1) factors (see 50 CFR 424.11). For purposes of this handbook, also a process, consisting of discrete actions, to conserve listed species. See also definition of "Recovered" above.

Recovery Action – Site-specific actions taken to achieve the recovery plan's goal for the conservation and survival of the species. In older plans these were called Recovery Tasks.

Recovery criteria – The demographic parameters and threat conditions that, when combined, comprise the standards upon which the decision to consider whether to reclassify or delist a species should be based. Recovery criteria "evaluate the Service's progress toward its goal of conserving the species." *Friends of Blackwater v. Salazar*, 691 F.3d 428 (D.C. Cir. 2012). Recovery criteria must be objective and measurable. ESA Section 4(f)(1)(B)(ii).

Recovery goals – The desired outcome of the recovery plan. The ESA-mandated goal is delisting, whenever practicable, of each listed species. If a species is listed as endangered, an intermediate goal is usually reclassifying the species to threatened.

Recovery strategy – A specific, brief section of a recovery plan that identifies the assumptions, logic, and objectives for the species' recovery program.

Recovery team – A group of scientists and other stakeholders appointed by the OPR Director/Regional Administrator to develop a recovery plan and/or assist in recovery implementation. Using a recovery team for plan development is optional.

Recovery unit – A special unit of the listed entity that is geographically or otherwise identifiable and is essential to the recovery of the entire listed entity, i.e., recovery units are individually necessary to conserve genetic robustness, demographic robustness, important life history stages, or some other feature necessary for long-term sustainability of the entire listed entity. Since every recovery unit is necessary for the long-term health and stability of the overall listed

entity, recovery criteria for the listed entity should address each identified recovery unit and every recovery unit must be recovered before the species can be delisted.

Redundancy – Sufficient number of populations to provide a margin of safety for the species to withstand catastrophic events; combined with resiliency and representation to form the three-pronged biodiversity principles (Schaffer and Stein 2000).

Representation – Breadth of the genetic makeup of the species to conserve its adaptive capabilities; combined with resiliency and redundancy to form the three-pronged biodiversity principles (Schaffer and Stein 2000).

Resilience – Sufficiently large populations to withstand stochastic events; combined with representation and redundancy to form the three-pronged biodiversity principles (Schaffer and Stein 2000).

Source (also referred to as Source of Stressor) – The human-produced (anthropogenic) or natural origins of a stressor or benefit. A single stressor, or benefit can have many sources, and a source may produce many stressors or benefits. In the Recovery Program, these terms are used in a Threats Assessment (see Stressor and Threat definitions).

Species – Includes any subspecies of fish or wildlife or plants, and any DPS of any species of vertebrate fish or wildlife which interbreeds when mature (ESA Section 3(16)). For purposes of this handbook, also the basic unit of biological classification; the category below genus.

Stable or stability – Tendency to remain in, or return to, an equilibrium state; the ability of populations to withstand perturbations without marked changes in composition.

Stakeholders – Anyone with an interest in the recovery of the species or particular actions taken to recover the species. Includes federal, state, local, tribal, and foreign governments; NGOs; industries; other associations; and individuals with an interest in recovery of the species or who may be affected by recovery planning or implementation.

Stressor – Any physical, chemical, or biological alteration (i.e., increase, decrease, introduction, or removal) that can lead to an adverse organism response. This in turn can result in population and/or species level responses. Stressors can act directly or indirectly.

Status Review – Status reviews are comprehensive assessments of a species' biological status and its threats. They are used as the basis for making determinations as to whether a species warrants listing, delisting, or reclassification under the ESA. A 5-year review is one type of status review.

Survival – For determination of jeopardy/adverse modification: the species' persistence as listed or as a recovery unit, beyond the conditions leading to its endangerment, with sufficient resilience to allow for the potential recovery from endangerment. Said another way, survival is the condition in which a species continues to exist into the future while retaining the potential for recovery. This condition is characterized by a species with a sufficient population, represented by all necessary age classes, genetic heterogeneity, and number of sexually mature individuals producing viable offspring, which exists in an environment providing all requirements for completion of the species' entire life cycle, including reproduction, sustenance, and shelter [1998 Services Consultation Handbook; Clarification of usage].

Threatened species – Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (ESA Section 3(20)).

Threat – A commonly used term for something having an adverse impact on the species. In the context of the ESA implementation, this encompasses sources and their associated stressors. See Source and Stressor definitions.

Threats assessment – A systematic identification, deconstruction and analysis of potential threats, including sources and their associated stressors. It results in a well-documented population by population assessment of the scope and severity and the related imminence of each potential threat. A threats assessment can be organized by the five factors in Section 4(a)(1). Sometimes called a threats analysis.

Transnational Species – Transnational species are those ESA-listed species with current/and or historical geographical ranges both within the United States, the U.S. EEZ, and/or the high seas, and within the waters or the EEZ of one or more foreign country.

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Appendix A

Judicial Opinions Involving ESA Recovery Plans or Recovery Plan Implementation[14]

Note: Federal court opinions are published in the Federal Supplement (F. Supp.) for U.S. District Court cases or the Federal Reporter (F.3d) for U.S. Circuit Court cases. Unpublished opinions (those with no citation to the Federal Supplement or Federal Reporter) are generally available through online legal research services only. All opinions (published and unpublished) are available through online legal research services such as LexisNexis and Westlaw. Contact your agency attorney for assistance in finding a particular opinion.

Recovery Plans

Nature of recovery plans

Oregon Natural Resources Council v. Turner, 863 F. Supp. 1277 (D. Or. 1994) (plant species). Plan presents guideline for future goals but does not mandate any actions at any particular time to obtain those goals.

Fund for Animals v. Rice, 85 F.3d 535 (11th Cir. 1996) (Florida panther). Recovery plans are for guidance purposes only.

Biodiversity Legal Foundation v. Norton, 285 F. Supp. 2d 1 (D.D.C. 2003) (Cape Sable seaside sparrow). Recovery plan is "merely a guideline" that agency has discretion to follow.

Friends of Blackwater v. Salazar, 691 F.3d 428 (D.C. Cir. 2012) (WV northern flying squirrel), *reh'g en banc denied* (Nov. 01, 2012). A recovery plan is a statement of intention, not a legally binding document. If the plan is overtaken by events, there is no requirement to change the plan; it may simply be irrelevant.

Cascadia Wildlands v. Thrailkill, 49 F. Supp. 3d 774 (D. Or. 2014) (northern spotted owl), *aff'd*, 806 F.3d 1234 (9th Cir. 2015). Recovery plans "do not have the force of law" and "are not binding on federal agencies."

Conservation Congress v. Finley, 774 F.3d 611 (9th Cir. 2014) (northern spotted owl). While recovery plans provide guidance for the conservation of species, they are not binding authorities.

Conservation Congress v. George, No. 14–cv–01979, 2015 WL 2157274 (N.D. Cal. May 7, 2015) (northern spotted owl). Recovery plans do not have the force of law, and federal agencies do not *necessarily* have to comply with them. However, consistency with such plans is a factor to consider in determining whether approval of an agency action was arbitrary or capricious.

[14] Current as of May 2019

Cascadia Wildlands v. Bureau of Indian Affairs, 801 F.3d 1105, 1114 n.8 (9th Cir. 2015) (northern spotted owl). It is undisputed that, generally, FWS recovery plans are not mandatory. The ESA does not mandate compliance with recovery plans for endangered species.

Conservation Congress v. United States Forest Service, No. 2:15-00249, 2016 WL 727272 (E.D. Cal. Feb. 24, 2016) (northern spotted owl; gray wolf). Recovery plans are useful in evaluating an action's impact on the species' recovery, but recovery plan objectives are discretionary for federal agencies.

Friends of the Wild Swan v. Director, United States Fish & Wildlife Serv., 745 Fed. Appx. 718 (9th Cir. 2018) (unpublished opinion) (bull trout). Recovery plans do not create any legal rights or obligations for the Services or any third parties. Accordingly, recovery plans are not agency actions "by which rights or obligations have been determined, or from which legal consequences will flow." (citing *Bennett v. Spear*).

Duty to develop a plan

Oregon Natural Resources Council v. Turner, 863 F. Supp. 1277 (D. Or. 1994) (plant species). Priority system in statute allows agency broad discretion to allocate scarce resources to those species determined most likely to benefit from development of a plan; fact that statute does not include time limit to develop plan must be considered in determining whether delay in developing plan was reasonable. 2 ½-year delay from time FWS came under duty to develop plan and time it began actively working on plan was not unreasonable.

Strahan v. Linnon, 967 F. Supp. 581 (D. Mass. 1997) (whales), *aff'd*, 187 F.3d 623 (1st Cir. 1998). Court defers to NMFS's priority system for developing recovery plans and therefore finds that NMFS has not violated 4(f) by not yet developing plans for three species.

Environmental Defense Center v. U.S. Dep't of the Interior, No. 99-9042 (C.D. Cal. March 20, 2001) (tidewater goby). Where agency concedes it has not found that recovery plan would not promote conservation of the species, it has mandatory duty to develop plan and next question is whether delay has been unreasonable. Where recovery plan must be completed, it is illogical to argue that obligation may be delayed indefinitely. Whether delay has been reasonable greatly depends on the status of the species.

Friends of the Wild Swan v. Ashe, 18 F. Supp. 3d 1077 (D. Mont. 2014) (Canada lynx). With no statutory deadline, agency's control of timetable is entitled to considerable deference, but inordinate delay frustrates congressional intent. Agency's history of delay "raises the concern – even the certainty" that if no deadline is set by the court, a new impediment will always prevent development of the plan. Court ordered FWS to file proposed schedule for completion of recovery plan, allowed Plaintiffs to file objections, and then ordered deadline for completion.

Center for Biological Diversity v. Bureau of Land Management, 35 F. Supp. 3d 1137 (N.D. Cal. 2014) (Peirson's milk-vetch), *aff'd*, 833 F.3d 1136 (9th Cir. 2016). Absent determination that recovery plan will not promote conservation of the species, agency is required to develop plan; court rejects argument that exception allowing agency not to develop a plan means FWS does not have duty to develop plan and court cannot require it. Court finds delay is unreasonable but is reluctant to re-order the agency's priorities. Court accepts FWS proposed date to develop plan and rejects Plaintiffs' proposal that plan should be finished in 2 years. Court orders FWS to complete recovery plan in 5 years unless it finds a plan would not promote conservation of the species.

Information standard

Fund for Animals v. Babbitt, 903 F Supp. 96 (D.D.C. 1995) (grizzly bear). Consideration of social consequences that might increase human-caused mortality is not impermissible where the record supports that human factors have biological consequences for the species.

Grand Canyon Trust v. Norton, No. 04-CV-636, 2006 WL 167560 (D. Ariz. Jan. 18, 2006) (humpback chub, part 2). In dicta, court notes that unlike section 4(b), section 4(f) does not require use of "best available scientific and commercial data" for developing and implementing recovery plans, and therefore plaintiff's claim for failure to use best available science "would likely fail."

Procedural requirements of recovery planning

Sierra Club v. Lujan, No. MO-91-CA-069, 36 Env't Rep. Cas. (BNA) 1533, 1993 U.S. Dist. LEXIS 3361 (W.D. Tex. Jan. 30, 1993) (spring & aquifer species). FWS decision to use free advisory services (but reimbursed for travel and meal expenses) of recovery team members, including those who were consultants to or employees of parties to litigation, was rational.

Southwest Center for Biological Diversity v. Klasse, No. S-97-1969, 1999 WL 34689321 (E.D. Cal. April 1, 1999) (southwestern willow flycatcher). Team of experts (a subcommittee of the recovery team) convened to determine necessity of "any additional mitigation requirements" for the conservation and survival of the species in connection with operation of a dam was a recovery team and therefore exempt from FACA under section 4(f)(2).

Carpenters Indus. Council v. Gould, No. 1:11-00181 (D.D.C. Aug. 8, 2011) (order dismissing case following May 26, 2011, order denying motion for TRO and preliminary injunction) (northern spotted owl). Plaintiffs unlikely to succeed on merits where Spotted Owl Modeling Team was appointed to "develop and apply modeling tools for [FWS] use in designing and evaluating various conservation options for achieving spotted owl recovery" and therefore exempt from FACA under ESA 4(f).

Substantive requirements of recovery planning

Morrill v. Lujan, 802 F. Supp. 424 (S.D. Ala. 1992) (Perdido Key beach mouse). While adoption of recovery plans is mandatory, contents of plans are discretionary as evidenced by language "to the maximum extent practicable."

Fund for Animals v. Babbitt, 903 F. Supp. 96 (D.D.C. 1995) (grizzly bear). Management actions and recovery criteria must be linked to threats to the species (plan must recommend actions to address identified threats and criteria must measure whether threats have been reduced or removed). Agency has flexibility to recommend wide range of management actions on site-specific basis; management actions may be the same for more than one site as long as justified in the administrative record; agency must provide sufficient detail on actions but need not be exhaustively detailed. Promise to develop criteria in future document not adequate.

Strahan v. Linnon, 967 F. Supp. 581 (D. Mass. 1997) (whale species), *aff'd*, 187 F.3d 623 (1st Cir. 1998). While ESA does not permit agency unbridled discretion, agency has discretion to determine which management actions to include and criteria will be upheld as long as they are objective and measurable.

United States v. McKittrick, 142 F.3d 1170 (9th Cir. 1998) (gray wolf). Presence of healthy wolf populations in Alaska and Canada did not make reintroduction of wolves in Yellowstone a violation of recovery priorities.

Southwest Center for Biological Diversity v. Babbitt, No. 98-372, 1999 WL 33438081 (D. Ariz. Sep. 3, 1999) (Gila trout). Agency must include de-listing criteria and not merely down-listing criteria unless agency articulates why development of de-listing criteria is not feasible. Court deferred to agency's explanation for why it was not practicable to include de-listing criteria.

Defenders of Wildlife v. Babbitt, 130 F. Supp. 2d 121 (D.D.C. 2001) (Sonoran pronghorn). Phrase "to the maximum extent practicable" does not permit agency unbridled discretion – agency has duty to fulfill statutory command to extent feasible. Court defers to agency's discretion where some actions merely provided for research but others were concrete and specific, and that annual updates were best method where information was lacking to develop exhaustively detailed management actions. In designing criteria, agency must address each of five delisting factors; discussion of five factors elsewhere in plan as areas for further research fails to satisfy requirement that criteria address the five factors. Criteria must address delisting, not merely downlisting. Plan must include specific time estimates or explain why estimates are not practicable.

National Wildlife Federation v. Norton, 386 F. Supp. 2d 553 (D. Vt. 2005) (gray wolf). Court defers to decision to develop three separate regional recovery plans for gray wolf rather than single, comprehensive national plan.

Grand Canyon Trust v. Norton, No. 04-CV-636, 2006 WL 167560, (D. Ariz. Jan. 8, 2006) (humpback chub, part 2). ESA creates a non-discretionary duty to develop and implement plans, but the substance of the plan is left to the discretion of the agency.

Center for Biological Diversity v. Kempthorne/Defenders of Wildlife v. Hall, 607 F. Supp. 2d 1078 (D. Ariz. 2009) (jaguar). Finding that preparation of a recovery plan would not promote conservation of the jaguar not supported by the administrative record and inconsistent with the agency's guidance. Court found that the circumstances did not strictly meet any exceptions in the 2004 NMFS/FWS agency guidance and found that historically FWS had generally developed plans for transboundary species. In background section, court notes prior documents indicating that FWS would conduct recovery planning for the species.

Friends of Blackwater v. Salazar, 691 F.3d 428 (D.C. Cir. 2012) (WV northern flying squirrel), *reh'g en banc denied* (Nov. 1, 2012). Purpose of objective, measureable criteria is to evaluate agency's progress toward meeting goal of conserving the species. Court accepts FWS' argument that recovery criteria serve as proxies at time of plan development, standing in for the 4(a)(1) factors that ultimately control the delisting decision.

Plan Revision

Strahan v. Linnon, 967 F.Supp. 581 (D. Mass. 1997) (whale species), *aff'd*, 187 F.3d 623 (1st Cir. 1998). There are no time requirements for revising a recovery plan.

Grand Canyon Trust v. Norton, No. 04-CV-636, 2006 WL 167560 (D. Ariz. 2006) (humpback chub, part 2). Agency failed to comply with requirements of ESA when it updated the recovery

plan and failed to include updated cost estimates; reference to the original plan's cost estimates was not sufficient once the "measures needed to achieve the plan's goals" had been updated.

Aina Nui Corp. v. Jewell, 52 F. Supp. 3d 1110 (D. Hawaii 2014) ('akoko). Recovery strategy is not a recovery plan finalized without public notice and comment where the Recovery Strategy is a "white paper" that does not contain the statutorily required criteria. In addition, Recovery Strategy is not a de facto revision of the existing recovery plan completed without public notice and comment where it is consistent with, not a revision of, preexisting analysis.

Relationship with other areas of the ESA

United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126 (E.D. Cal. 1992) (Sacramento River winter-run chinook salmon). Enforcement of ESA prohibition on take is not premature prior to development of recovery plan.

Leatherback Sea Turtle v. National Marine Fisheries Serv., No. 99-00152, 1999 WL 33594329 (D. Haw. Oct. 18, 1999). NMFS did not act arbitrarily and capriciously in authorization incidental takes under ESA section 7 even though recovery plan recommended eliminating incidental takes. The evaluations and determinations under ESA sections 4(f) and 7 are different.

Biodiversity Legal Foundation v. Norton, 285 F. Supp. 2d 1 (D.D.C. 2003) (Cape Sable seaside sparrow). Recovery plan's commitment to "review and revise" critical habitat could only be seen as manifestation of FWS to do so. Therefore, court measures length of delay in revising critical habitat based on date of final recovery plan.

Center for Biological Diversity v. Evans, No. 04-04496, 2005 WL 1514102 (N.D. Cal. June 14, 2005) (right whale) Court looked to statements in recovery plan (which set date by which NMFS should designate critical habitat) to find that agency unreasonably delayed and arbitrarily and capriciously delayed designation of critical habitat.

Southwest Center for Biological Diversity v. Bartel, 470 F. Supp. 2d 1118 (S.D. Cal. 2006) (vernal pool species). During a court-ordered re-initiation of section 7 consultation, FWS must consider the standards and other information in the recovery plan to evaluate the effect of a potential section 10 incidental take permit and determine whether mitigation is adequate.

Defenders of Wildlife v. Hall, 565 F. Supp. 2d 1160 (D. Mont. 2008) (gray wolf). Court granted preliminary injunction reinstating ESA listing where delisted DPS had not met recovery criteria in recovery plan and EIS. Although recovery criteria were not binding, FWS had to provide adequate reasons for rejecting the recovery criteria when it delisted the DPS.

Center for Biological Diversity v. U.S. Bureau of Land Management, 746 F. Supp. 2d 1055 (N.D. Cal. 2009) (desert tortoise and Lane Mountain milk-vetch). Court upheld FWS' nonjeopardy biological opinions, finding that just because there were differences between recovery needs identified in plans for the species and the measures in the BLM plans consulted on, this did not make the FWS findings arbitrary and capricious where FWS clearly considered impacts on the species' recovery. The FWS' nonjeopardy findings were not arbitrary and capricious just because the BLM plans did not promote recovery to the full extent recommended in the recovery plan.

Arizona Cattle Growers' Association v. Kempthorne, 534 F. Supp. 2d 1013 (D. Ariz. 2008) (Mexican spotted owl), *aff'd sub nom. Arizona Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160

(9th Cir. 2010), *cert. denied*, 562 U.S. 1216 (2011). Language of ESA requires the point at which a species will be conserved to be determined in the recovery plan, not at the time of critical habitat designation.

Wild Fish Conservancy v. U.S. EPA, No. C08-156, 72 Env't Rep. Cas. (BNA) 1150, 2010 U.S. Dist. LEXIS 41838 (W.D. Wash. Apr. 28, 2010) (Chinook Puget Sound salmon & orca whale). EPA and NMFS violated requirement to use best available science under section 7 of ESA when agencies failed to consider recovery plans that incorporated best available science according to NMFS.

Center for Biological Diversity v. Lubchenco, 758 F. Supp. 2d 945 (N.D. Cal. 2010) (ribbon seal). Time frames associated with recovery criteria in recovery plans have no bearing on the "foreseeable future" analysis in an ESA listing decision.

Center for Biological Diversity v. Salazar, 804 F. Supp. 2d 987 (D. Ariz. 2011) (Huachuca water umbel, southwestern willow flycatcher). Requirement to use best available data in section 7 consultation does not require FWS to conduct new studies, effectively forcing it to prepare *de facto* recovery plan during the consultation process for species with no recovery plan.

Center for Sierra Nevada Conservation v. U.S. Forest Service, 832 F. Supp. 2d 1138 (E.D. Cal. 2011) (California red-legged frog). U.S. Forest Service did not violate section 7 of ESA by relying on FWS programmatic concurrence in spite of impacts to recovery plan "core recovery areas" where recovery plan pre-dated FWS concurrence and therefore was not "new" information.

Friends of Blackwater v. Salazar, 691 F.3d 428 (D.C. Cir. 2012) (WV northern flying squirrel), *reh'g en banc denied* (Nov. 01, 2012). Recovery criteria are not binding upon agency in deciding whether a species is no longer E or T and therefore should be delisted; the statute does not require that recovery criteria must be met or a plan with outdated criteria revised before a species may be delisted. (Court overturned D. D.C. decision holding that delisting species under section 4(a) of ESA when two of four recovery criteria in recovery plan had not been met constituted a revision of the recovery plan without notice and comment procedures required under section 4(f)).

Alaska v. Lubchenco, 723 F.3d 1043 (9th Cir. 2013) (Steller sea lion). NMFS properly relied on sub-populations identified in recovery plan in determining whether continued fishing would jeopardize the species (i.e., DPS) as a whole or adversely modify its critical habitat during ESA section 7 consultation. Agency also properly considered whether the proposed action of continued fishing would prevent the species from achieving the recovery goals for delisting.

Markle Interests, LLC v. U.S. Fish and Wildlife Service, 40 F. Supp. 3d 744 (E.D. La. 2014), *aff'd*, 827 F.3d 452 (5th Cir. 2016), *reh'g en banc denied*, 827 F.3d 452 (5th Cir. 2017) (dusky gopher frog). According to the plain language and structure of the ESA, the requirement for designating critical habitat is separate from the requirement for preparing a recovery plan. The ESA recognizes that FWS must designate critical habitat even if it does not know precisely how or when recovery of a viable population will be achieved. *I*n directing FWS to assess what would be "essential for the conservation" of a species, Congress did not explicitly require that FWS identify specific recovery criteria at that time. It is notable that Congress imposed specific deadlines for the designation of critical habitat, but included no such deadlines for the preparation of a recovery plan.

Cascadia Wildlands v. Thrailkill, 49 F. Supp. 3d 774 (D. Or. 2014), *aff'd*, 806 F.3d 1234 (9th Cir. 2015) (northern spotted owl). Court refuses to blur concepts of section 7 jeopardy and section 4 recovery. Jeopardy analysis conducted under section 7 is concerned with whether a given federal action would appreciably reduce the likelihood of recovery, not whether that federal action would itself implement or bring about recovery.

Aina Nui Corp. v. Jewell, 52 F. Supp. 3d 1110 (D. Hawaii 2014) ('akoko). Reliance on the species' Recovery Strategy in the agency's critical habitat designation final rule did not add critical information after the close of the public comment period and therefore require public comment on the Strategy.

Humane Society of the United States v. Jewell, 76 F. Supp. 3d 69 (D.D.C. 2014) (Western Great Lakes gray wolf). FWS' reliance on 22-year-old recovery plan to support its conclusion that regulatory mechanisms would be adequate, without a separate finding that the recommendations in the recovery plan were still based on the best available biological and commercial data, was not consistent with ESA statutory requirements.

Conservation Congress v. Finley, 774 F.3d 611 (9th Cir. 2014) (northern spotted owl). Declining to adopt particular recommendations from the recovery plan did not constitute failure to consider the information as called for under ESA consultation regulations.

Cascadia Wildlands v. Thrailkill, 806 F.3d 1234 (9th Cir. 2015) (northern spotted owl). The court affirmed denial of a preliminary injunction because the plaintiffs were unlikely to succeed on the merits of their challenge to a biological opinion. The court found that the biological opinion "properly focused on jeopardy rather than monitoring for perfect compliance with the recovery plans." In any event, the biological opinion was consistent with the pertinent recovery actions in the plan.

Center for Biological Diversity v. Kelly, 93 F. Supp. 3d 1193 (D. Idaho 2015) (Selkirk Mountains caribou). Plain language and structure of the ESA provides that the requirement for designating critical habitat is separate from the requirement for preparing a recovery plan. Nevertheless, this distinction does not change the fact that critical habitat designation language in the ESA is intended to ensure "conservation" of the species.

Center for Biological Diversity v. Branton, 126 F. Supp. 3d 1090 (D. Ariz. 2015) (Chiricahua leopard frog). ESA should not be interpreted to incorporate the ESA's separate recovery planning provisions into the section 7 consultation process.

Oceana v. Pritzker, 125 F. Supp. 3d 232 (D.D.C. 2015) (Northwest Atlantic Distinct Population Segment of loggerhead sea turtles). Court upheld NMFS' biological opinion upon finding the agency adequately considered impacts on recovery. Court notes that NMFS discussed in detail the recovery plan and the effects of fisheries with respect to various recovery criteria.

Conservation Congress v. United States Forest Service, No. 2:15-00249, 2016 WL 727272 (E.D. Cal. Feb. 23, 2016) (northern spotted owl; gray wolf). Court found USFS's action was consistent with the species' recovery plan in upholding USFS biological assessment and FWS concurrence letter for USFS project, despite short-term impacts.

Relationship to Other Laws

Oregon Wild v. Bureau of Land Management, No. 6:14–CV–0110, 2015 WL 1190131 (D. Or. March 14, 2015) (northern spotted owl). Information in recovery plan is relevant to determination whether impacts are likely to be highly controversial for purposes of analysis of an action's significance under the National Environmental Policy Act.

Cascadia Wildlands v. Bureau of Indian Affairs, 801 F.3d 1105 (9th Cir. 2015) (northern spotted owl). BIA's approval of a timber sale in the Coquille Forest did not violate Coquille Restoration Act (CRA), 25 U.S.C. § 715 *et seq.*, where a resource management plan had an "objective" of protecting, managing and conserving federal listed species to achieve their recovery consistent with, among other things, approved recovery plans. Court declined to read the CRA's specific reference to "standards and guidelines" to include such objectives.

Judicial Review

Fund for Animals v. Babbitt, 903 F. Supp. 96, 105 (D.D.C. 1995) (grizzly bear). Court reviewed elements of recovery plan under both ESA and APA standards. According to the court, actions taken by FWS pursuant to the ESA are reviewed as agency actions subject to the standards of review under the APA.

Gordon v. Norton, 322 F.3d 1213 (10th Cir. 2003) (gray wolf). ESA action not ripe for review where citizen suit challenged decisions about wolf control. Fourth ripeness factor, promotion of effective administration, not met where addressing merits would not promote efficacy in administering recovery plan.

Grand Canyon Trust v. Norton, No. 04-CV-636 (D. Ariz. 2005) (humpback chub, part 1). Agency's failure to include time and cost estimates in recovery plan is reviewable under citizen suit provision of ESA, but challenge to adequacy of the contents of the plan is not reviewable under the APA because recommendations contained in the plan do not qualify as final agency actions.

Grand Canyon Trust v. Norton, No. 04-CV-636, 2006 WL 167560, (D. Ariz. Jan. 8, 2006) (humpback chub, part 2). Because substance of recovery plan is left to discretion of the agency, no cause of action arises under the citizen-suit provision for failure to adequately provide for the conservation and survival of the species.

Seattle Audubon Society v. Norton, No. C05-1835, 63 Env't Rep. Cas. (BNA) 1029, 2005 U.S. Dist. LEXIS 42243 (W.D. Wash. May 24, 2005) (northern spotted owl). Failure to complete recovery plan within reasonable period of time after listing is a claim properly brought under ESA citizen-suit provision, not the APA. However, because the claim is analogous to an "unreasonable delay" claim under the APA, standards that would apply to such a claim are relevant. In determining scope of review, court adopts APA standard of "whole record," although extra-record evidence could be appropriate because it is a failure-to-act claim.

Carpenters Indus. Council v. Salazar, 734 F. Supp. 2d 126 (D.D.C. 2010) (northern spotted owl). Granting voluntary remand of recovery plan as part of FWS's voluntary reconsideration of critical habitat designation is appropriate after agency confessed legal error.

Friends of the Wild Swan v. Thorson, 260 F. Supp. 3d 1338 (D. Or. 2017), *aff'd*, 745 Fed. Appx. 718 (9th Cir. 2018) (9th Cir. unpublished opinion) (bull trout). Plaintiff may bring lawsuit under ESA citizen-suit provision when FWS fails to include one of the section 4(f) required components to the maximum extent possible, but the way in which the agency incorporates the

components into the recovery plan is discretionary and therefore not judicially reviewable under the ESA. The agency has a mandatory duty to determine whether it is practicable to incorporate the three delineated components and, if so, incorporate each into the plan. The court would have jurisdiction to consider challenges to the agency's failure to include these components. But the manner in which the agency addresses the components is discretionary and beyond the purview of the court. In addition, recovery plans are not reviewable under the APA because they are not legally binding and therefore not APA "final agency actions." A recovery plan does not determine any rights or obligations and does not require immediate compliance with its terms.

Recovery Plan Implementation

National Wildlife Federation v. National Park Service, 669 F. Supp. 384 (D. Wyo. 1987) (grizzly bear). Court deferred to agency decision not to follow recovery plan: agency could have reasonably concluded that implementation of plan should be stayed until new analysis was completed.

Sierra Club v. Lujan, No. MO-91-CA-069, 36 Env't Rep. Cas. (BNA) 1533, 1993 U.S. Dist. LEXIS 3361 (W.D. Tex. Jan. 30, 1993) (spring & aquifer species). Agency is not required to implement every action in recovery plan, but may not arbitrarily for no reason or for improper reasons choose to remain idle.

Fund for Animals v. Rice, 85 F.3d 535 (11th Cir. 1996) (Florida panther). Plaintiffs' argument that ESA required FWS and Corps of Engineers to implement recovery plan is flawed.

Strahan v. Linnon, 967 F. Supp. 581 (D. Mass. 1997), *aff'd*, 187 F.3d 623 (1st Cir. 1998) (whale species). No violation of ESA where Court found evidence that agency was taking steps to implement plan.

Leatherback Sea Turtle v. National Marine Fisheries Service, No. 99-00152, 1999 WL 33594329 (D. Haw. Oct. 18, 1999). Plan is a discretionary document and it is not mandatory that agency implement its suggestions.

Biodiversity Legal Foundation v. Norton, 285 F. Supp. 2d 1 (D.D.C. 2003) (Cape Sable seaside sparrow). FWS had duty to revise critical habitat because it committed to do so in recovery plan.

Southwest Center for Biological Diversity v. Bartel, 470 F. Supp. 2d 1118 (S.D. Cal. 2006) (vernal pool species). Court disagrees with 11th Circuit in *Fund for Animals v. Rice* that FWS has no legal obligation to implement recovery plans because they do not have the force of law.

Conservation Northwest v. Kempthorne, No. 04-1331, 2007 WL 1847143, 2007 U.S. Dist. LEXIS 46089 (W.D. Wash. June 25, 2007) (North Cascades grizzly bear). Even if the Service has a duty to implement all actions in a recovery plan in a timely manner, this duty is discretionary and therefore not reviewable under the ESA. Because this duty is discretionary, the failure to implement some actions is also not reviewable under the APA.

Center for Biological Diversity v. U.S. Bureau of Land Management, 746 F. Supp. 2d 1055 (N.D. Cal. 2009) (desert tortoise and Lane Mountain milk-vetch). Court stated that the ESA does not require that recovery plans "be fully implemented."

Friends of Animals v. U.S. Fish and Wildlife Service, No. 6:14–cv–01449, 2015 WL 4429147 (D. Or. July 16, 2015) (northern spotted owl). Court finds NEPA purpose and need statement

reasonable where recovery plan is a discretionary document and it is not mandatory that FWS implement any of its actions, much less all of its actions at one time. Actions delineated in a recovery plan may occur at different times and be performed by different agencies. Recovery actions are not alternatives of one another but rather separate, independent events that, when used collectively, are intended to result in recovery of the species.

* Case descriptions are summaries of court holdings for informational purposes only. They are not intended to provide legal advice and do not represent the official position of the United States government.

Appendix B

NMFS Internal Guidance for Determining when a Recovery Plan Will or Will Not Promote the Conservation of a Species, February 12, 2018

NOAA FISHERIES

Internal Guidance for Determining when a Recovery Plan Will or Will Not Promote the Conservation of a Species, February 12, 2018

Purpose and Goal

The purpose of this internal guidance is to expand on the existing National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) 2010 Interim Endangered and Threatened Species Recovery Planning Guidance Version 1.3 (Interim Guidance) by providing further clarity regarding when: (a) recovery plans will not, as a general matter, promote the conservation of foreign species; (b) recovery plans may promote the conservation of a foreign species; and (c) recovery plans may not promote the conservation of certain other species. Additionally this guidance responds to the NMFS' 2016 National Recovery Program Review recommendation to develop a decision matrix for determining when a species should not have a recovery plan[1].

Any decision regarding the preparation of a recovery plan under the Endangered Species Act (ESA) for threatened or endangered marine mammals for which a conservation plan has not yet been developed pursuant to Section 115(b) of the Marine Mammal Protection Act (MMPA), should also consider the obligations pursuant to Section 115(b)(1)(C) of the MMPA[2].

Background

Statutory Standards

The ESA directs the Secretary to develop and implement recovery plans for listed species (defined as species, subspecies, or vertebrate distinct population segment) "… unless [he/she] finds that such a plan will not promote the conservation of the species" (ESA Section 4(f)(1)).

[1] The NMFS' National Recovery Program Review recommendation to prioritize recovery plan development for domestic species currently without recovery plans is also being addressed. NMFS published a proposed revision to the Endangered and Threatened Species; Listing and Recovery Priority Guidelines in 2017 (82 FR 24944; May 31, 2017).

[2] Section 115(b)(1)(C) of the MMPA requires the Secretary, as soon as possible, prepare a conservation plan for any species or stock designated as depleted under the MMPA, except that a conservation plan need not be prepared if the Secretary determines that it will not promote the conservation of the species or stock.

The terms "conserve," "conserving," and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary (ESA Section 3(3)). Recovery plans include "site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species; objective, measurable criteria which, when met, would result in a determination that the species be removed from the [ESA] list; and estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal" (ESA Section 4(f)(1)(B)). Section 8(b) states that in order to carry out the provisions (including conservation of endangered and threatened species) of the ESA, the Secretary, through the Secretary of State, shall encourage foreign countries to provide for the conservation of…species; enter into bilateral or multilateral agreements; and encourage foreign persons who import fish and wildlife or plants into the United States to develop conservation practices.

Existing Guidance[3]

The Interim Guidance states there are very few acceptable justifications for an exemption from developing a recovery plan. The Interim Guidance also highlights that any determination that an exemption is warranted should be well documented in the administrative record. The determination that a plan will not promote the conservation of the listed species is an agency decision that must be made by the Assistant Administrator for Fisheries. The Interim guidance provides the following justifications for not developing a recovery plan:

1. Delisting is anticipated in the near future because (1) the species is presumed to be extinct or (2) the species is determined to have been listed in error, possibly due to new taxonomic or status information.

2. The species' current and historical ranges occur entirely under the jurisdiction of other countries, i.e., it is a foreign species. Generally, the United States has little authority to implement actions needed to recover foreign species, and therefore, a recovery plan may not promote the conservation of these species. While importation into the United States and the commercial transportation or sale in foreign commerce of such species by any person subject to U.S. jurisdiction are prohibited unless authorized, the taking of listed species is prohibited only within the United States, within the territorial seas of the United States, and on the high seas. The management and recovery of listed foreign species remains the responsibility of the countries in which the species occur, with the help of available technical and monetary assistance from the United States.

3. Other circumstances that are not easily foreseen, but in which the species would not benefit from a recovery plan.

[3] Interim Endangered and Threatened Species Recovery Planning Guidance Version 1.3 (NMFS and FWS 2010).: http://www.nmfs.noaa.gov/pr/laws/esa/policies.htm

Recommendations from National Recovery Program Review

In April 2016, NMFS convened an independent panel to review the agency's implementation of its National Recovery Program under ESA Section 4(f)—Recovery Plans. The objectives of the program review were to: 1) evaluate whether the current NMFS Recovery Program results in progress towards recovery; and 2) identify improvements to the recovery program that would increase the likelihood of recovering species. The review evaluated the efficacy of the recovery planning process, including the quality of the recovery plans, the implementation of recovery actions, and the monitoring of recovery progress.

The review panel made several recommendations regarding the decision to develop and implement a recovery plan under ESA Section 4(f)(1):

1. Create a decision matrix[4] to prioritize which species should have recovery plans, and if so, the type of plan they might benefit from (e.g., multiple species plan, ecosystem plan, or multinational species plans if a significant portion of their range occurs outside the U.S.). The decision matrix should consider both the historical range and current range of the species.
2. Set a range or population threshold[5] for excluding the development of a recovery plan (or conversely for mandating a multinational plan) for species that have a very small percentage of their range in U.S. waters (and there are no significant breeding sites within their small range in the U.S.), and where the majority of known threats are operating outside of U.S. jurisdiction.
3. Consider whether and how international partnerships, multilateral environmental agreements, and partnerships with non-profit organizations and academia might be leveraged to assist with the recovery of those species for which no recovery plan will be completed.

New Internal Guidance

Section A. Determining Whether a Plan Would Promote the Conservation of a Species

Section 4(f) of the ESA requires that a recovery plan be developed and implemented for all endangered and threatened species, unless the agency finds that developing and implementing a plan would not promote the conservation of the species. There are a few circumstances that meet this exception, as described below. Several terms used in the guidance are defined in Section D. Definitions for the Purposes of this Internal Guidance.

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[4] In response to the recommendation to create a decision matrix, we determined that a decision key would be more appropriate because identifying a set of values required for a matrix would be difficult across all the factors to consider. Keying on factors and information to consider in a question format will be easier for the decision-maker to reach a conclusion.

[5] In response to setting a range or population threshold, we define the threshold as individuals and the population(s) they represent have never contributed, in a biologically meaningful way, to the species' ability to persist.

Domestic, transnational, and transboundary species

As a general matter, a recovery plan will promote the conservation of species under NMFS jurisdiction that occur or historically occurred in U.S. waters or on the high seas, including transnational and transboundary species. However, there are rare exceptions. Generally, a recovery plan would promote the conservation of a species unless one or more of the following conditions are met:[6]

1. Delisting is anticipated in the near future because (1) the species is presumed to be extinct or (2) the species is determined to have been listed in error, possibly due to new taxonomic or status information or (3) a species status review indicates the species no longer meets the definition of threatened or endangered such that listing is no longer warranted;
2. The species currently or historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters, but the individuals and the population(s) they represent never contributed, in a biologically meaningful way, to the species' ability to persist. The contribution towards a species ability to persist is measured by these individuals' and the populations' contribution to overall abundance, spatial distribution, productivity, and diversity of the species[7]. Those individuals and populations that do not contribute to the species' ability to persist in a meaningful way do not contribute to the species ability to recover from periodic disturbances and catastrophic events in a significant way.
3. U.S. activities do not contribute to threats to the species or will not contribute to threats should the species reoccupy U.S. waters. Examples include: (a) the threat is from a natural cause and recovery actions cannot be developed to mitigate the effects: (b) the threat occurs to a species on the high seas, but U.S. activities are not the cause of the threat (e.g., impacts from foreign fisheries); (c) the threats occur to a species exclusively within territorial seas or the EEZ of foreign nations; and (d) the U.S. activities that may have once contributed to the threat no longer exist. In these circumstances, a recovery plan would not promote the conservation of the species because the threats that need to be addressed either are unresolvable or are under the authority or control of foreign countries (see Foreign Species section on page 5 for more explanation).
4. When transnational and transboundary species meet conditions 2 or 3 the agency will consider whether effective international instruments exist and the international entity(ies) with jurisdiction is interested in engaging in joint recovery efforts (condition 1 Foreign species on page 6).
5. Other circumstances that are not easily foreseen, but in which the species would not benefit from a recovery plan. These circumstances may include species for which data on demographic risk and threats are *so poor* that recovery criteria cannot be developed

[6] Even for these species, there are possible situations where development of a recovery plan could promote the conservation of the species based on unique circumstances

[7] See McElhany et al. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-42,156 p.

and it would not be possible to identify or develop recovery actions with any confidence of reducing threats to the species. The ESA requires, to the maximum extent practicable, that recovery plans incorporate criteria which, when met, would result in delisting the species. Because listing a species is based on the five factors in Sec 4(a)(1), those same factors must be considered in designing recovery criteria to measure whether threats to the species have been ameliorated. In most cases, information provided in the status review and proposed and final listing rules should be sufficient to identify, at minimum, interim recovery criteria and recovery actions. However, the data needed to determine that a species meets the definition of either endangered or threatened, may be, in rare cases, insufficient to develop recovery criteria that are both objective and measurable and which, when met, would result in a determination that the species be removed from the list. In many status reviews, there is likely to be significant variation as to the amount or quality of data available with respect to demography and threats relevant to a status determination, Translating such variable data into measurable targets, or values, by which progress toward achievement of recovery can be measured may be impossible. For species for which little is known about demography and threats, the development of recovery criteria would be mere speculation. In these rare cases, a recovery plan may not promote the conservation of the species because the recovery criteria, which are guideposts that allows us to determine when the species should be ready to delist, would be highly uncertain. Similarly, for species where little is known about demography and threats, the development of recovery actions that must be implemented to remove, reduce, or mitigate the effects of threats identified under factors in Sec 4(a)(1) would not be possible. In these rare cases, a recovery plan would not promote the conservation of the species because recovery actions would be absent or inadequate to achieve the plan's goal to delist the species. If data are sufficient to identify *at least one* recovery criterion and associated recovery action to ameliorate a threat then a recovery plan should be developed. We anticipate instances in which data is so limited as to justify not developing a recovery plan to be rare. Research needed to fill knowledge gaps can be a part of the recovery plan.

Foreign species

Generally, the United States has little authority or jurisdiction to implement actions needed to recover foreign species and therefore, a recovery plan typically would not promote the conservation of a foreign species. While the ESA can assist some foreign species threatened by international trade through restrictions on activities such as importation into the United States, sale, offer for sale, or other commercial activities in interstate or foreign commerce, the essential measures needed to assist the survival and recovery of a foreign species and its habitat are usually outside the scope of U.S. jurisdiction. For example, the taking of an endangered species (or threatened species through an ESA Section 4(d) protective regulation) is prohibited only within the United States, within the U.S. territorial seas, and on the high seas. In addition, none of the ESA prohibitions (including take, import and export, sale and offer for sale, etc.) applies unless the person is subject to U.S. jurisdiction. And, the Services do not designate critical

habitat within foreign countries or in other areas outside the jurisdiction of the United States. Finally, ESA section 7 consultation requirements apply only to federal agency actions in the United States or on the high seas. The management, protection, and recovery of listed foreign species primarily remain the responsibility of the countries in which these species occur.

Therefore, recovery plans generally should not be developed for foreign species unless it is determined that the species may be considered to benefit from a recovery plan because:

1. Effective international instruments exist (e.g., multilateral agreements, conventions, treaties) or partnerships that the United States does or can participate in that would promote the conservation of the species and the international entity(ies) with jurisdiction where the species occurs is interested in engaging in joint recovery efforts, or
2. The United States is a primary source of the demand for the species and mechanisms exist (e.g., Convention on International Trade in Endangered Species of Wild Fauna and Flora, Canada-Mexico-U.S. Trilateral Committee) to reduce, eliminate, or otherwise appropriately regulate such demand and a recovery plan would complement existing mechanisms and promote the conservation of the species by addressing the U.S. demand.

Section B. Decision Key for Section A

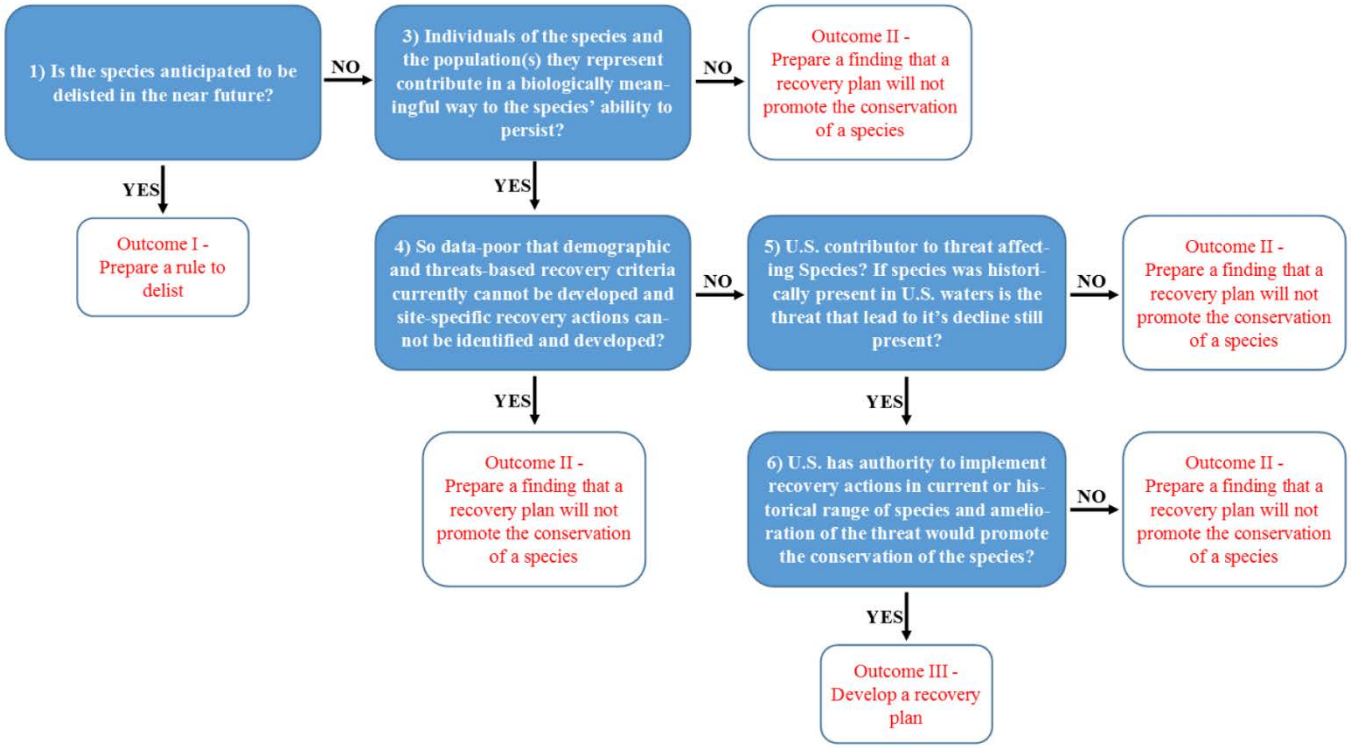
Section B consists of two parts: (1) a narrative decision key, which lays out a series of questions to guide a decision about whether a recovery plan would promote the conservation of a species; and (2) a graphical representation of the narrative decision key. The graphical representation visually aides the decision maker in following the logic train presented in the narrative questions 1 through 9. The user should refer to the full questions provided in the question narrative when using the graphics.

Narrative Decision Key

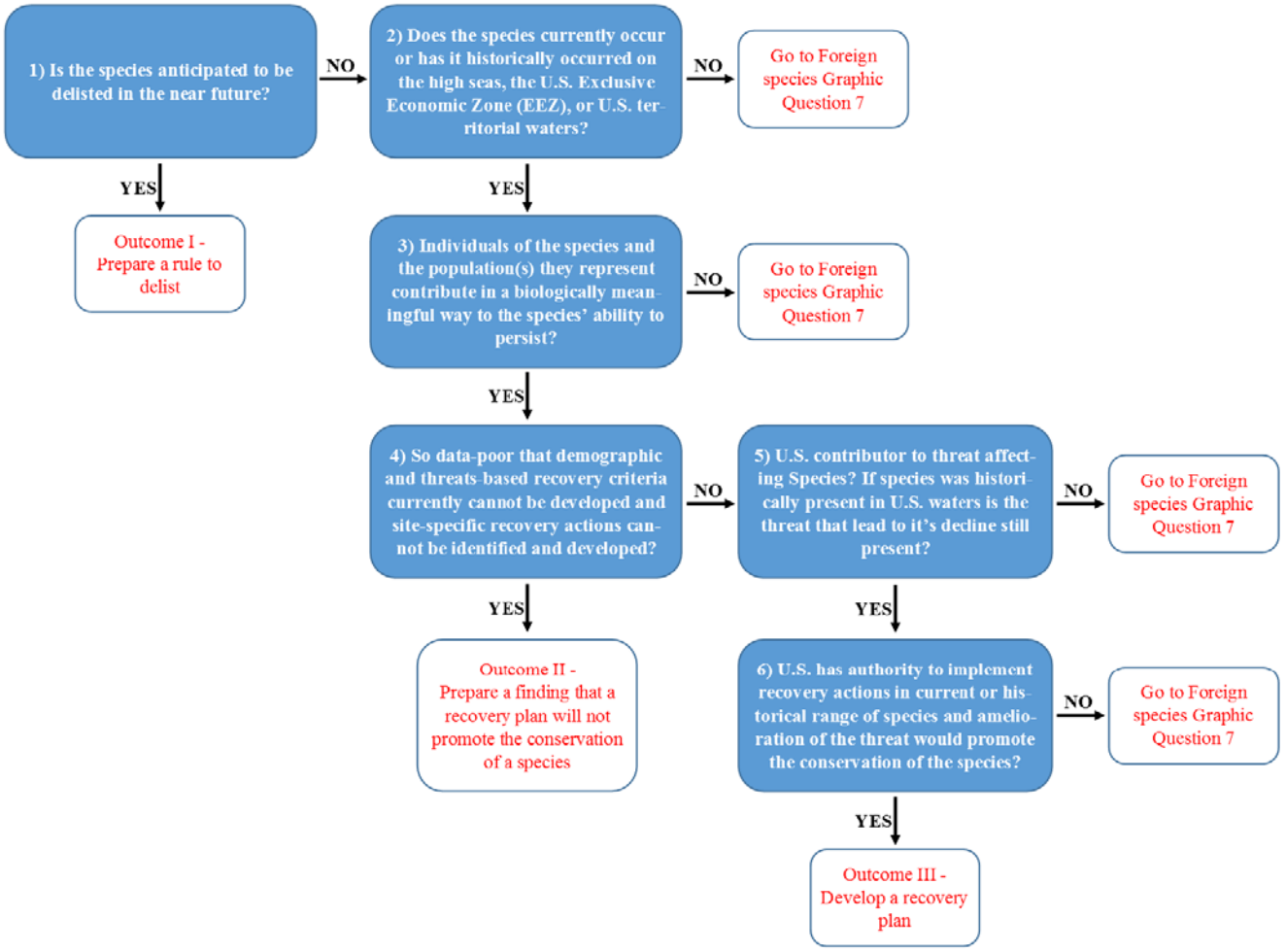
1. Is the species anticipated to be delisted in the near future?
    a. Yes—Go to Outcome I (Section C)
    b. No—Go to Question 2
2. Does the species currently occur or has it historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters?
    a. Yes—Go to Question 3
    b. No—Go to Question 7
3. Do or did individuals of the species and the population(s) they represent that currently occur or historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters contribute in a biologically meaningful way to the species' ability to persist?
    a. Yes—Go to Question 4
    b. No—Domestic species - go to Outcome II (Section C)
    Transnational or transboundary species - go to Question 7

4. Is the species so data-poor that demographic and threats-based recovery criteria currently cannot be developed and site-specific recovery actions cannot be identified and developed?
    a. Yes—Go to Outcome II (Section C)
    b. No—Go to Question 5
5. Is the United States contributing to a threat to the species? If the species is no longer found on the high seas, the U.S. EEZ, or U.S. territorial waters, is the threat that caused its decline in the U.S. historical portion of its range still present?
    a. Yes—Go to Question 6
    b. No—Domestic species - go to Outcome II (Section C)
    Transnational or transboundary species – go to Question 7
6. Does the United States have the authority to implement recovery actions addressing threats in that portion of the species' current range or historical range should the species reoccupy the high seas, the U.S. EEZ, or U.S. territorial waters such that U.S. amelioration of the threat could promote the conservation of the species?
    a. Yes—Go to Outcome III (Section C)
    b. No—Domestic species - go to Outcome II (Section C)
    Transnational or transboundary species - go to Question 7
7. Are there effective international instruments (e.g., multilateral agreements, conventions, treaties) or partnerships that the United States does or can participate in that would promote the conservation of the species and are there foreign nations interested in collaborating with the United States on a recovery plan?
    a. Yes—Go to Outcome III (Section C)
    b. No—Go to Question 8
8. Is the United States a *primary* source of the demand for the foreign species and mechanisms exist (e.g., Convention on International Trade in Endangered Species of Wild Fauna and Flora, Canada-Mexico-U.S. Trilateral Committee) to reduce, eliminate, or otherwise appropriately regulate such demand?
    a. Yes—Go to Question 9
    b. No—Go to Outcome II (Section C)
9. Could a recovery plan complement existing mechanisms and promote the conservation of the species by addressing the U.S. demand for the foreign species to reduce, eliminate, or otherwise appropriately regulate such demand?
    a. Yes—Go to Outcome III (Section C)
    b. No—Go to Outcome II (Section C)

Domestic


1) Is the species anticipated to be delisted in the near future?
NO
3) Individuals of the species and the population(s) they represent contribute in a biologically meaningful way to the species' ability to persist?
NO
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
Outcome I - Prepare a rule to delist
YES
4) So data-poor that demographic and threats-based recovery criteria currently cannot be developed and site-specific recovery actions cannot be identified and developed?
NO
5) U.S. contributor to threat affecting Species? If species was historically present in U.S. waters is the threat that lead to it's decline still present?
NO
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
6) U.S. has authority to implement recovery actions in current or historical range of species and amelioration of the threat would promote the conservation of the species?
NO
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
Outcome III - Develop a recovery plan

Transnational or Transboundary



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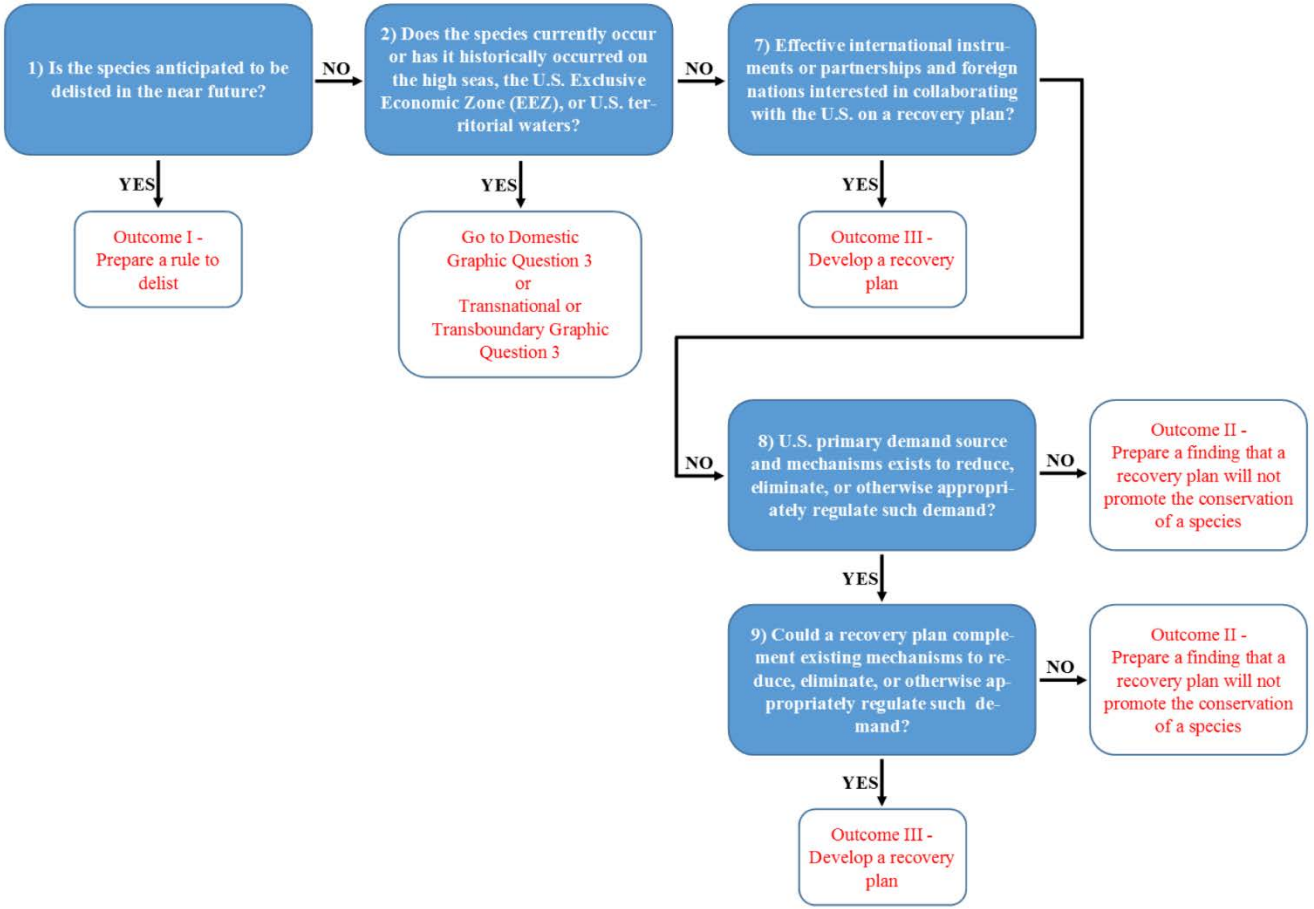
Foreign


1) Is the species anticipated to be delisted in the near future?
NO
2) Does the species currently occur or has it historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters?
NO
7) Effective international instruments or partnerships and foreign nations interested in collaborating with the U.S. on a recovery plan?
YES
Outcome I - Prepare a rule to delist
YES
Go to Domestic Graphic Question 3 or Transnational or Transboundary Graphic Question 3
YES
Outcome III - Develop a recovery plan
NO
8) U.S. primary demand source and mechanisms exists to reduce, eliminate, or otherwise appropriately regulate such demand?
NO
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
9) Could a recovery plan complement existing mechanisms to reduce, eliminate, or otherwise appropriately regulate such demand?
NO
Outcome II - Prepare a finding that a recovery plan will not promote the conservation of a species
YES
Outcome III - Develop a recovery plan

Section C. Outcomes based on the Decision Key

Outcome I: Prepare a proposed rule to delist. The rulemaking package will serve as the administrative record explaining that a recovery plan would not promote the conservation of the species. If the delisting proposed rule will not be published expeditiously, the responsible Region or the Office of Protected Resources should consider finalizing a Decision Memorandum under Outcome II, in advance of rulemaking, stating the rationale for not developing a recovery plan is delisting is anticipated in the near future because (1) the species is presumed to be extinct, (2) the species is determined to have been listed in error, possibly due to new taxonomic or status information, or (3) a species status review indicates the species no longer meets the definition of threatened or endangered such that listing is no longer warranted.

Outcome II: Prepare a Decision Memorandum for the Assistant Administrator's concurrence finding that a recovery plan will not promote the conservation of the species. The Decision Memorandum should provide a clear rationale for the finding. If applicable, the Decision Memorandum should also outline a strategy to encourage foreign nations to conserve the species pursuant to section 8(b) of the ESA (see Template I); or, for data-poor species, outline a research strategy to fill information gaps to support future recovery planning and implementation (Template II). Following the Assistant Administrator's concurrence with the Decision Memorandum, staff will work with appropriate offices and agencies depending on species needs—e.g., NMFS Office of International Affairs and Seafood Inspection, NOAA Office of International Affairs, and Department of State.

Outcome III: Develop a recovery plan as outlined in the Interim Guidance. The development and implementation of a recovery plan should be done consistent with the existing guidance.

Section D. Definitions for the Purposes of this Internal Guidance

Data Poor: Data for <u>all</u> demographic characteristics (productivity, spatial distribution, diversity, abundance, and trends) are non-existent or so inadequate, that demographic and threats-based recovery criteria cannot be developed and site-specific recovery actions cannot be identified and developed.

Domestic Species: Domestic species are those ESA-listed species under NMFS' jurisdiction with current or historical geographical ranges exclusively within territorial seas or the EEZ of the United States.

Foreign Species: Foreign species are those ESA-listed species under NMFS' jurisdiction with current and historical geographical ranges exclusively within territorial seas or the EEZ of foreign nations.

Transnational Species: Transnational species are those ESA-listed species with current and/or historical geographical ranges both within the United States and within one or more foreign countries.

Transboundary Species: Transboundary species are those transnational species that occur in waters of any two or three countries of Canada, Mexico and the United States. These countries are parties to the Memorandum of Understanding Establishing the Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management (Trilateral Agreement). Article III of the Trilateral Agreement states that the Trilateral Committee will... "develop, implement, review and coordinate specific cooperative conservation projects and programs; and integrate its projects and programs into the conservation priorities of the country in which those projects and programs take place." A similar agreement exists between Canada and the United States, entitled the Framework for Cooperation between the U.S. Department of the Interior and Environment Canada in the Protection and Recovery of Wild Species at Risk (Framework). The Framework aims to exchange information and technical expertise, evaluate the status of species, promote increased partnerships between the countries, identify species needing bilateral action, and "promote the development and implementation of joint or multinational recovery plans for species identified as endangered or threatened."

TEMPLATE I—JUSTIFICATION FOR NOT PREPARING A RECOVERY PLAN

MEMORANDUM FOR: [Official Name]
Assistant Administrator for Fisheries

FROM: [Official Name]
Appropriate Authority---Regional Administrators or Office Director if Headquarters

SUBJECT: DECISION MEMORANDUM—Justification for Not Preparing a Recovery Plan [Common Name: Species, Subspecies, or Distinct Population Segment]

Statutory and Guidance Background
[Standard Language]
The Endangered Species Act (ESA) directs the Secretary to develop and implement recovery plans for listed species "… unless he finds that such a plan will not promote the conservation of the species" (ESA Section 4(f)(1)). "The terms "conserve," "conserving," and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary" (ESA Section 3(3)). Recovery plans include "site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species; objective, measurable criteria which, when met, would result in a determination … that the species be removed from the [ESA] list; and estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal" (ESA Section 4(f)(1)(B)).

Justifications that support that a recovery plan would not promote the conservation of the species include: (a) Delisting is anticipated in the near future because (1) the species is presumed to be extinct, (2) the species is determined to have been listed in error, possibly due to new taxonomic or status information, or (3) a species status review indicates the species no longer meets the definition of threatened or endangered such that listing is no longer warranted; (b) the species' current and historic ranges occur entirely under the jurisdiction of other countries, i.e., it is a foreign species and effective international instruments and interested international partners do not exist or the United States is not a primary source of the demand of the species and cannot eliminate or otherwise appropriately regulate such demand; (c) the species currently or has historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters; *h*owever, the individuals and the population(s) they represent have never contributed, in a biologically meaningful way, to the species' ability to persist; (d) U.S. activities do not contribute to threats to the species or will not contribute to threats should the species reoccupy U.S. waters; and (e) other circumstances that are not easily foreseen, but in which the species would not benefit from a recovery plan, including data poor species.

Listing Determination

[Provide the background information on the listing: Include listing date, Federal Register Notice, and key threats]

Critical Habitat Determination

[Provide the key background information/rationale on critical habitat determination. *Note:* This usually should be a negative determination. If critical habitat is being considered or is designated, a clear argument must be made on why a recovery plan would not promote the conservation of the species through protection of physical and biological features found within the critical habitat.]

Recovery Plan Would not Promote the Conservation of [Common Name]

[Provide the rationale regarding why a recovery plan would not promote conservation by evaluating the species' range, threats, and all other considerations from the Decision Key. Elements to include, but are not limited to, are: (a) species current and historical range in relation to U.S. territorial waters, the U.S. EEZ, and the high seas, and the contribution to the species' ability to persist in these waters; (b) the degree to which threats impeding the species' recovery occur in waters where the U.S. conducts activities and/or has jurisdiction]; (c) the degree to which U.S. actions contribute threats to the species; (d) the degree to which international instruments or partnerships exist and foreign nations want to engage in joint recovery efforts; and (e) the degree to which the United States is a primary source of demand for a foreign species and mechanisms exist to reduce, eliminate, or otherwise regulate this demand.

Strategy: Efforts to Aid in Recovering the [Common Name]

[Section 8(b) states that in order to carry out the provisions (including conservation of endangered and threatened species) of the ESA, the Secretary, through the Secretary of State, shall encourage foreign countries to provide for the conservation of…species; enter into bilateral or multilateral agreements; and encourage foreign persons who import fish and wildlife or plants into the United States to develop conservation practices. Provide the key elements of a strategy to encourage foreign nations to promote the conservation of the species. Elements may include: (a) existing and potential international instruments such as multi-lateral agreements, conventions, treaties, memorandums of understanding/agreements, and management plans that would promote conservation; (b) mechanisms for building international partnerships and ways to encourage interest in international efforts to conserve the species. *Note*: Should be written in what the United States may be able to do and not commit the United States and other entities.]

Recommendation

[Standard Language]:

I recommend that you agree with the finding that a recovery plan for the [Common Name] will not promote the conservation of the species and concur in the determination not to prepare a recovery plan.

I concur._____ _____

Date

I do not concur. _____ _____

Date

TEMPLATE II— JUSTIFICATION FOR NOT PREPARING A RECOVERY PLAN FOR DATA-POOR SPECIES

MEMORANDUM FOR: [Official Name]
Assistant Administrator for Fisheries

FROM: [Official Name]
Appropriate Authority---Regional Administrators or Office Director if Headquarters

SUBJECT: DECISION MEMORANDUM—Justification for Not Preparing a Recovery Plan Due to Lack of Data [Common Name: Species, Subspecies, or Distinct Population Segment]

Statutory and Guidance Background

[Standard Language]

The Endangered Species Act (ESA) directs the Secretary to develop and implement recovery plans for listed species "… unless he finds that such a plan will not promote the conservation of the species" (ESA Section 4(f)(1)). "The terms "conserve," "conserving," and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary" (ESA Section 3(3)). Recovery plans include "site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species; objective, measurable criteria which, when met, would result in a determination … that the species be removed from the [ESA] list; and estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal" (ESA Section 4(f)(1)(B)).

Justifications that support that a recovery plan would not promote the conservation of the species include: (a) Delisting is anticipated in the near future because (1) the species is presumed to be extinct, (2) the species is determined to have been listed in error, possibly due to new taxonomic or status information, (3) a species status review indicates the species no longer meets the definition of threatened or endangered such that listing is no longer warranted; (b) The species' current and historic ranges occur entirely under the jurisdiction of other countries, i.e., it is a foreign species and effective international instruments and interested international partners do not exist or the United States is not a primary source of the demand of the species and cannot eliminate or otherwise appropriately regulate such demand; (c) the species currently or has historically occurred on the high seas, the U.S. Exclusive Economic Zone (EEZ), or U.S. territorial waters; *h*owever, the individuals and the population(s) they represent have never contributed, in a biologically meaningful way, to the species' ability to persist; (d) U.S. activities do not contribute to threats to the species or will not contribute to threats should the species

reoccupy U.S. waters and (e) Other circumstances that are not easily foreseen, but in which the species would not benefit from a recovery plan, including data poor species.

Listing Determination

[Background information on Listing: Include listing date, Federal Register Notice, and key threats]

Critical Habitat Determination

[Provide the key background information/rationale on critical habitat determination. *Note:* This usually should be a negative determination. If critical habitat is being considered or is designated, a clear argument must be made on why a recovery plan would not promote the conservation of the species through the protection of physical and biological features found within the critical habitat.]

Recovery Plan Would not Promote the Conservation of [Common Name]

[Provide the justification for why the data are so poor that recovery criteria and recovery actions cannot be identified and therefore why a recovery plan would not promote conservation of the species. Elements to include are lack of adequate data to inform demographic and threats-based recovery criteria and recovery actions.

Strategy: Research and Monitoring Plan for [Common Name]

[Summarize key elements of a strategy to fill data gaps needed to inform future demographic and threats-based recovery criteria and recovery actions. The strategy should clearly outline what data are needed and why and what steps should be taken to collect and analyze the data so that eventually a recovery plan can be developed and implemented that would promote the conservation of the species. For further details, refer to Appendix: Research and Monitoring Plan.]

Recommendation

[Standard Language]:

I recommend that you agree with the finding that a recovery plan for the [Common Name] will not promote the conservation of the species and concur in the determination not to prepare a recovery plan.

I concur._____ _____

Date

I do not concur. _____ _____

Date

Appendix: Research and Monitoring Plan [Common Name]

[This Research and Monitoring Plan should clearly outline the missing demographic information and tie specific research and monitoring activities to the missing information so that there is a clear path on what data are missing and how they will be obtained. It should specify an appropriate time horizon for completing the research and monitoring plan so that recovery plan development and implementation may be undertaken, as appropriate. The more specific the information, the greater ability to work with partners and receive grants to support research and monitoring needs. The outline below provides suggested contents for such a plan, but the actual contents should be adapted based on the specific species and situation.]

Abundance:

1. Summary statement of key information gaps and rationale for why recovery criteria and recovery actions cannot be developed.
2. Proposed research and monitoring to address abundance/threats assessment data gaps:
    a. Research needs and estimates of time to complete
    b. Threats assessment needs (i.e., identify source of adverse effect to species' abundance to a degree that threats-based recovery criteria and recovery actions can be developed) and estimates of time to complete
    c. Monitoring plan: Define metrics for sufficient abundance and threats data and describe how you will measure progress in achieving sufficient data to proceed with a recovery plan.

Population Growth Rate:

1. Summary statement of key information gaps and rationale for why recovery criteria and recovery actions cannot be developed.
2. Proposed research and monitoring to address population growth/threats assessment data gaps:
    a. Research needs and estimates of time to complete
    b. Threats assessment needs (i.e., identify source of adverse effect to species' population growth to a degree that threats-based recovery criteria and recovery actions can be developed) and estimates of time to complete
    c. Monitoring plan: Define metrics for sufficient population growth and threats data and describe how you will measure progress in achieving sufficient data to proceed with a recovery plan.

Spatial Structure/Distribution:

1. Summary statement of key information gaps and rationale for why recovery criteria and recovery actions cannot be developed.
2. Proposed research and monitoring to address spatial structure and distribution/threats assessment data gaps:
    a. Research needs and estimates of time to complete

b. Threats assessment needs (i.e., identify source of adverse effect to species' spatial structure/distribution to a degree that threats-based recovery criteria and recovery actions can be developed) and estimates of time to complete
c. Monitoring plan: Define metrics for sufficient spatial structure/distribution and threats data and describe how you will measure progress in achieving sufficient data to proceed with a recovery plan.

Diversity:

1. Summary statement of key information gaps and rationale for why recovery criteria and recovery actions cannot be developed.
2. Proposed research and monitoring to address diversity/threats assessment data gaps:
    a. Research needs and estimates of time to complete
    b. Threats assessment needs (i.e., identify source of adverse effect to species' diversity to a degree that threats-based recovery criteria and recovery actions can be developed) and estimates of time to complete
    c. Monitoring plan: Define metrics for sufficient diversity data and describe how you will measure progress in achieving sufficient data to proceed with a recovery plan.

Appendix C

- Sample Technical Consultant Invitation Letter
- Sample Recovery Team Appointment Letters
- Sample Letter Requesting Staff Support for Developing a Recovery Plan
- Sample Letter for Disbanding a Recovery Team
- Sample Implementation Team Appointment Letter

Sample Technical Consultant Invitation Letter

Note: When the prospective team consultant is employed by a public agency, the letter requesting the services of the employee should be addressed to either the head of the agency or the potential team consultant's supervisor. Minor wording changes will be necessary. Verbal concurrences from the prospective team consultant should be obtained before the letter is sent. Discussion of travel expenses should be tailored to the specific situation.

Dear _____:

As you know, the [common name, followed by scientific name] was recently listed by the National Marine Fisheries Service as [threatened or endangered] under the Endangered Species Act of 1973, as amended. This [Regional Administrator's Office/OPR Headquarters Office] has the responsibility for developing the recovery plan for this species. To accomplish this task, we are forming a recovery team comprised of persons who have expertise regarding this or similar species, the threats it faces, and habitat management [refer to the final listing rule to specifically identify the type of expertise needed to address the threats].

We are also inviting individuals to be consultants to the recovery team. Consultants may attend recovery team meetings to provide information regarding their specific areas of expertise. You have expressed and interest in participating in the recovery process in an advisory capacity. You may participate as much, or as little, as you have the time and inclination to do so. However, only recovery team members appointed by the [Regional Administrator/OPR Director] may exercise voting rights for the purposes of the tasks at hand.

I would like to invite you to be a consultant to the [name of recovery team]. We are also inviting [list the individuals, and their affiliations, if any] to participate as consultants to the team.

Prospective recovery team members are: [list the individuals, and their affiliations]

The recovery team is expected to complete the draft recovery plan, which will be available for public review and comment, by [state date]; the preliminary initial recovery plan will be completed by approximately [state date]. I anticipate that [state estimated number of meeting needed during the 2 1⁄2 year period) and duration (usually 2-3 days)] team meetings will be necessary to prepare the plan during preparation 2 1⁄2 year period. The time and location of such meetings will be decided by the team. Once the recovery plan has been approved, the team may be asked to advise me on various matters regarding the recovery of the [name of species] until it can be removed from the list of Endangered and Threatened Species.

The first meeting of the recovery team will be [provide date (month/year)]. The Service's recovery team liaison is [state name of liaison and telephone number], who will contact you about the meeting. Please call [name of liaison] or me if you have any questions.

Please confirm your acceptance as a consultant to the [name of the recovery team] to [name of liaison] via telephone, or e-mail to [provide liaison's e-mail address]. I hope you will be able to make this contribution to the preservation of our Nation's biological heritage.

Sincerely,

[RegionalAdministrator/OPR Director]

United States Department of Commerce
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East West Highway
Silver Spring, Maryland 20910

United States Department of Interior
U.S. FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

Dr. Alan Bolten
Archie Carr Center for Sea Turtle Research
P.O. Box 118525
University of Florida
Gainesville, Florida 32611

Dear Dr. Bolten:

The loggerhead sea turtle (*Caretta caretta*) was listed by the Fish and Wildlife Service and National Marine Fisheries Service (Services) as a threatened species on July 28, 1978, under the Endangered Species Act of 1973, as amended. A recovery plan for five species of Atlantic sea turtles was approved on September 19, 1984. A revised recovery plan specifically for the Atlantic population of the loggerhead was prepared and subsequently approved on December 26, 1991. Since approval of the revised plan, significant research has been accomplished and important conservation and recovery activities have been undertaken. As a result, we have a greater knowledge of the species and its status. These advances in our understanding of the loggerhead sea turtle make a second revision to the recovery plan necessary.

The National Marine Fisheries Service and the Fish and Wildlife Service's Southeast Regional Office have joint responsibility for revising the Atlantic loggerhead recovery plan. To accomplish this task, we are forming a new recovery team to undertake the plan revision. Members of a recovery team serve at the invitation of the National Marine Fisheries Service's Assistant Administrator and the Fish and Wildlife Service's Southeast Regional Director, who have responsibility for recovering listed species. Although the role of a recovery team member is strictly advisory in nature, the team's recommendations normally guide the Services, other Federal agencies, State governments, and other parties in recovery activities.

We would like to appoint you as a member of the Atlantic loggerhead recovery team. Your expertise would be invaluable in the development of a revised recovery plan. Participation on a recovery team requires members to regularly attend meetings, gather and assess species information, identify recovery units, develop recovery tasks, and write appropriate portions of the recovery plan. We anticipate that the recovery team will complete a first draft of the plan

within the next 12-18 months and that 3-4 team meetings will be necessary during preparation of the plan. The team will have some latitude in setting the time and location of these meetings. The Services will assist with travel expenses of team members, if necessary. We hope to schedule the first meeting of the recovery team within the next few months.

The National Marine Fisheries Service and Fish and Wildlife Service liaisons to the team are team members Barbara Schroeder (301-713-1401) and Sandy MacPherson (904-232-2580, extension 110). One of them will be contacting you shortly. Please feel free to call either of them if you have any questions. I hope you will be able to make this contribution to the preservation of our nation's biological heritage.

Sincerely yours,

William T. Hogarth, Ph.D.
Acting Assistant Administrator for Fisheries
National Marine Fisheries Service

H. Dale Hall
Acting Southeast Regional Director
U.S. Fish and Wildlife Service

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1845 Wasp Blvd., Bldg 176
Honolulu, Hawaii 96818
(808) 725-5000 ● Fax (808) 973-2941

[Name]
[Address 1]
[Address 2]
[City, State, Zip]

Dear [Name]:

I am pleased to appoint you to serve as a member of the Hawaiian Monk Seal Recovery Team (HMSRT). Your expertise will be invaluable, as this Team advises the National Marine Fisheries Service (NMFS) Pacific Islands Regional Office (PIRO) on implementing conservation, research, and management efforts to recover the Hawaiian monk seal. The team's Terms of Reference, which describe the roles and expectations of team members and officers, is enclosed for your review.

The Hawaiian monk seal, *Monachus schauinslandi*, was listed by NMFS as an endangered species on November 23, 1976, pursuant to the Endangered Species Act of 1973, as amended. The first recovery plan for the Hawaiian monk seal was published in 1983 and revised by the recovery team and NMFS in 2007. Since then, significant research has been accomplished, and important conservation and recovery activities have been undertaken. A new research and enhancement permit, recently issued in June 2014, will allow for an even more effective and adaptive recovery program. The recovery team's recommendations will help guide NMFS as we implement a variety of important recovery actions, including those specified in the new permit and those related to managing monk seals in the main Hawaiian Islands in particular.

We have scheduled the first in-person meeting of the newly established HMSRT for August 27-28, 2014. The NMFS liaison to the recovery team is Dr. Rachel Sprague, Hawaiian Monk Seal Recovery Coordinator for the NMFS Pacific Islands Regional Office. Dr. Sprague will be in contact with you soon regarding meeting logistics and other details. In the meantime, please feel free to contact her, at (808) 725-5163 or rachel.sprague@noaa.gov, if there are any questions. We look forward to your service on the HMSRT as a significant contribution to the preservation of our nation's biological heritage.

Sincerely,

Michael D. Tosatto
Regional Administrator

Enclosure
cc: Samuel G. Pooley, Pacific Islands Fisheries Science Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

NOV - 1 2018

Guy Davenport, Director
NOAA Southeast Fisheries Science Center
Panama City Laboratory
3500 Delwood Beach, Road
Panama City, Florida 32408

Dear Mr. Davenport,

NOAA's National Marine Fisheries Service (NOAA Fisheries) is developing a recovery plan for the oceanic whitetip shark (*Carcharhinus longimanus*) following the issuance of a final rule to list the species as threatened under the Endangered Species Act (ESA) on January 30, 2018 (83 FR 4153). Because this species is globally distributed, the Office of Protected Resources has the lead for recovery planning.

The ESA generally requires that recovery plans be developed for the conservation and survival of listed species. To accomplish this task, we are requesting Dr. John Carlson to assist in developing the recovery plan. We are soliciting Dr. Carlson's participation because of his expertise in the listed species and knowledge of the recovery planning process. His participation would include working closely with the Recovery Coordinator for the oceanic whitetip shark, Chelsey Young, on my staff. Together, they would set up and participate in stakeholder workshops and expert elicitation to seek diverse expertise on the species' endangerment and input in the planning and implementation of actions necessary to recover and sustain the listed species. Based on information gathered, Dr. Carlson will help Ms. Young write the draft and final recovery plan. We anticipate at least two stakeholder workshops and numerous expert elicitation conferences. Dr. Carlson would regularly attend meetings, and gather and assess species information to draft the recovery plan. The Office of Protected Resources will provide funding for any travel associated with this. We anticipate completion of a first draft of the plan within the next 18-24 months.

We hope you will consider Dr. Carlson's participation in this important effort for recovering the oceanic whitetip shark. If you have questions or concerns, please contact me.

Sincerely,

Donna S. Wieting

Donna S. Wieting, Director
Office of Protected Resources

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaii 96814-4700
(808) 944-2200 • Fax: (808) 973-2941

[Name]
[Address 1]
[Address 2]
[City, State, Zip]

Dear [Name]:

The Pacific Islands Regional Office (PIRO) of the National Marine Fisheries Service (NMFS) would like to thank you for your service to the Hawaiian Monk Seal Recovery Team. The Team's recommendations guide NMFS, other Federal agencies, State governments, and other stakeholders in recovery activities. During your service, the Team developed the revised Recovery Plan for the Hawaiian Monk Seal, which will serve to the further research and conservation efforts for the foreseeable future. As your term has come to an end, we acknowledge your invaluable contributions to the recovery of the Hawaiian monk seal.

Sincerely,

Chris E. Yates
Assistant Regional Administrator
For Protected Resources

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

F/SER32:BJZ

MAY 13 2013

Ms. Becky Shortland
NOAA/NOA/ONMS/NMS Grays Reef
10 Ocean Science Circle
Savannah, GA 31411

Dear Ms. Shortland:

I invite you to participate as a member of the NOAA Fisheries Southeast Region (SERO) North Atlantic Right Whale Recovery Plan Southeast U.S. Implementation Team (SEIT). As you know, the revised Recovery Plan for the North Atlantic Right Whale (*Eubalaena glacialis*) was published in August 2004. It serves as a basis for recovery efforts by prioritizing of research to ensure new information contributes toward the greatest management needs, and by ensuring effective monitoring to allow SERO to track the status of North Atlantic right whales and the factors that may affect them. To accomplish these tasks, SERO reformed the SEIT in 2010 and appointed new members. The SEIT consists of appropriate public and private agencies and institutions, and other qualified persons. Our intention was to bring together the diversity of expertise most appropriate to understanding this species' continued endangerment and for implementing effective recovery actions.

The objectives of the SEIT are to (1) coordinate and effect recovery plan implementation in the Southeast U.S. while making efficient use of available resources via recommendations to SERO, (2) involve stakeholders in the implementation of the recovery plan, (3) promote creative solutions, (4) monitor effectiveness of the recovery plan implementation and adapt accordingly, and (5) identify and prioritize information needs that can be best addressed through enhanced partnerships. Your participation as a member of the SEIT will be invaluable to this endeavor.

Although the role of a recovery team member is strictly advisory in nature, the team's recommendations normally guide recovery activities. Active member participation in meetings, working groups, and conference calls is critical. I anticipate that one to four conference calls per year may be necessary to discuss specific matters of importance and that the recovery team will meet one to two times annually (spring and/or fall). Team members will agree upon meeting location and times and we will make every attempt to schedule meetings at times convenient to all.

Length of service for team members shall be for two years, but the SERO may re-appoint an individual to serve subsequent terms. Enclosed are the Terms of Reference, which the team reviewed and adopted in 2010. Thank you in advance for your willingness to participate on the SEIT and your commitment to recovering endangered North Atlantic right whales. The SEIT liaison is Barb Zoodsma. Please feel free to call her at (904) 321-2806 if you have questions.

I hope you will be able to make this contribution to the preservation of our nation's biological heritage.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

cc: G. Sedberry

File: 1514-09.a

Appendix D

Hawaiian Monk Seal Recovery Team Terms of Reference

Hawaiian Monk Seal Recovery Team
Terms of Reference

Pacific Islands Regional Office
National Marine Fisheries Service
National Oceanic and Atmospheric Administration

1.0 Introduction

From 1976 to the present, the Hawaiian monk seal has been designated as "depleted" under the Marine Mammal Protection Act (MMPA) and "endangered" under the Endangered Species Act (ESA). As the species' natural range (the Hawaiian archipelago and Johnston Atoll) occurs entirely within the U.S. Pacific Islands Region, the Pacific Islands Regional Office (PIRO) of NOAA's National Marine Fisheries Service (NMFS) has the lead responsibility for Hawaiian monk seal recovery. In carrying out this responsibility, PIRO coordinates closely with NMFS Office of Protected Resources (OPR) and Pacific Islands Fisheries Science Center (PIFSC), as well as with several other federal and state government agencies.

Pursuant to the ESA, the first recovery plan for the Hawaiian monk seal was completed in 1983. A revised recovery plan was completed in 2007. Two Hawaiian monk seal recovery teams (HMSRT's), convened by NMFS in 1980 and 2001, respectively, played key roles in developing the original and revised versions of the recovery plan. After the revised recovery plan was completed, the HMSRT in place at the time was re-convened with an expanded membership to advise PIRO as it began implementation of the new revised recovery plan.

Since 2007, substantial developments have occurred within the Hawaiian monk seal recovery and research programs at PIRO and PIFSC, respectively. New staff members dedicated to Hawaiian monk seal research and recovery have been hired, and new research and management efforts have been undertaken. In particular, NMFS has initiated significant new recovery actions specified in the revised recovery plan, including new juvenile survival enhancement actions and main Hawaiian Islands management planning. In addition to actions undertaken by NMFS, partner agencies and organizations have initiated or modified actions supporting Hawaiian monk seal recovery. Additionally, various underlying social and ecological conditions related to Hawaiian monk seal recovery have changed. In response to these and other developments, PIRO has determined that a new HMSRT should be convened with an updated organizational structure and membership. The terms of reference in this document have been developed with the following objectives in mind: 1) to define the roles and responsibilities of the HMSRT; 2) to specify the composition, functions and operations of the HMSRT; and 3) to gain the active commitment of all team members to work towards the goal of achieving Hawaiian monk seal recovery.

2.0 National Policy Guidance

In convening and administering the HMSRT, NMFS will follow the latest applicable national policy guidance. Below are some important NMFS policy statements pertaining to ESA recovery teams that will help the organization and administration of the HMSRT. These statements are drawn from: *Interim Endangered and Threatened Species Recovery Planning Guidance, Version 1.3; updated June 2010.*

2.1 Statutory Authority for the Recovery Team

"The Secretary, in developing and implementing recovery plans, may procure the services of appropriate public and private agencies and institutions and other qualified persons. Recovery teams appointed pursuant to this subsection shall not be subject to the Federal Advisory Committee Act." ESA Sec 4(f)(2).

2.2 Recovery Team Role

- The recovery team serves in an advisory capacity to NMFS.
- Recovery teams may be convened to assist and advise NMFS on a variety of aspects of the development and implementation of an endangered species recovery plan.
- The team's policy analysis or recommendations represent the team's views, not necessarily the views of NMFS or any other agency.

2.3 Recovery Team Composition

- Although diversity of membership is encouraged, recovery team membership should be based on relevant expertise, not affiliation.
- Team members should be selected for their knowledge and/or experience.
- Teams are to be composed of recognized experts in their fields.
- Stakeholder membership on recovery teams usually should be limited to those who bring a relevant expertise or experience to the recovery planning process. Stakeholders who only represent particular affiliations should be involved in other ways.

2.4 Recovery Team Management

- Recovery team management is the responsibility of the Secretary of Commerce, through NMFS.
- Recovery teams are convened at the discretion, and work under the authorization, of the Assistant Administrator for Fisheries.
- The process for decision-making should be clear and agreed upon by all members in the first meeting of the team. It is preferable for team decisions to be made by consensus. However, when addressing particularly contentious issues, teams may choose alternate methods, such as voting.

3.0 Terms of Reference

3.1 Goal, Purpose and Objectives

The overarching goal of the HMSRT is to assist PIRO with successful Hawaiian monk seal recovery plan implementation, in compliance with the ESA and NMFS policies and procedures, to promote long-term viability of Hawaiian monk seals in the wild.

The purpose of the HMSRT is to provide a group with diverse expertise to assist PIRO in successful implementation of the *Recovery Plan for the Hawaiian Monk Seal* (2007) and provide advice on issues related to the status, conservation, and recovery of the Hawaiian monk seal.

The objectives of the HMSRT are to provide PIRO with recommendations on 1) implementation of the recovery plan, while making the most efficient use of available resources and facilitating partnerships, 2) involvement of stakeholders in implementation of the recovery plan, 3) monitoring the effectiveness of the Hawaiian monk seal recovery plan implementation, and 4) prioritization of implementation needs.

3.2 Roles and Responsibilities of the HMSRT

For many important aspects of Hawaiian monk seal recovery, the HMSRT will serve as a primary source of advice to NMFS. The role of the HMSRT will be to advise PIRO on the conservation and recovery of the endangered Hawaiian monk seal. The HMSRT will focus on implementation of the revised Hawaiian monk seal recovery plan (2007) and any plans that arise from its implementation, such as the main Hawaiian Islands monk seal management plan. HMSRT advice may be related to evaluating research and management programs, assessing the efficacy of achieving recovery criteria, and recommending new or emergency actions that enhance the recovery of the species. HMSRT advice will represent the views of the team members and will not necessarily reflect the views and polices of NMFS or any other agency or organization.

However, in addition to the HMSRT, PIRO will use other sources of advice regarding Hawaiian monk seal recovery. For instance, separate scientific review panels may be convened to review specific research projects. PIRO may also receive advice regarding Hawaiian monk seal recovery from within NOAA or from other government agencies (USFWS, USCG, DLNR, etc.) or organizations (US Marine Mammal Commission, etc.) when appropriate, that will not generally be routed through the HMSRT.

3.3 Roles and Responsibilities of PIRO

PIRO will provide staffing, funding and other resources necessary for the HMSRT to effectively fulfill the team's roles and responsibilities. The general roles and responsibilities of PIRO will include:

- Convening and, if appropriate, restructuring the HMSRT, including appointing and replacing team members.
- Approving team meeting schedules, agendas and timelines for completing team products.
- Providing logistical support for team meetings and other necessary actions.
- Identifying questions and issues that need the team's consideration.
- Transmitting team recommendations to other agencies and organizations, as appropriate.
- Approving recovery plan updates, revisions, or any other official recovery documents.

3.3.1 Team Liaison

PIRO will appoint a liaison between PIRO and the HMSRT. The liaison will coordinate HMSRT activities, and be responsible for the following tasks:

- Managing team functions and establishing schedules for completing products, pursuant to the terms of reference and with team input and discussion.
- Coordinating and communicating closely with the HMSRT chairperson.
- Organizing and scheduling team meetings.
- Overseeing team logistics and meeting and travel requests.
- Keeping the RA, PIFSC and NMFS headquarters apprised of the advice of the HMSRT, as well as relaying guidance and requests from PIRO via the RA back to the HMSRT.
- Transmitting team recommendations to other agencies and organizations, as appropriate.

3.3.2 Funding and Administrative Support

PIRO will provide funds for non-governmental HMSRT member travel expenses for meetings and other administrative costs as appropriate and available. However, PIRO will not pay salaries or stipends to members or other advisors. PIRO will provide administrative support, such as photocopying, procurement of supplies, and expenses related to printing and distributing materials. In addition, PIRO may contract for services to facilitate team meetings, take meeting minutes, and/or to help the team compile and present its recommendations or other products.

3.4 HMSRT Composition

PIRO recognizes that achieving successful Hawaiian monk seal conservation and implementation of the Hawaiian monk seal recovery plan will be facilitated by considering a wide range of perspectives and knowledge held by a diverse group of people from Hawai'i and elsewhere. HMSRT members will be selected to provide PIRO with this knowledge, expertise, and experience that are otherwise not available within NMFS. Accordingly, NMFS employees and contractors will not serve as HMSRT members. Once appointed, HMSRT members will serve a renewable 6-year term, unless they resign or are otherwise removed by PIRO.

3.4.1 Government Agency Staff

Mechanisms for communication and coordination between NMFS and other government agencies regarding Hawaiian monk seal recovery policy and actions have already been established via various statutory authorities and inter-agency agreements, including authorities specified under ESA Sections 6 and 7, and the inter-agency agreement for co-management of Papahanaumokuakea Marine National Monument. Members from government agencies will be asked to serve on the HMSRT for their individual knowledge and experience, rather than the government agency for which they work. Essentially, government members will serve in an individual capacity. PIRO will seek the support of the appropriate agency leadership for their staff's participation on the team and will coordinate on policy and other aspects when implementing recovery actions through existing mechanisms.

3.4.2 Non-Government Members

The HMSRT will include members of the public who are not employees of government agencies. In accordance with national policy, recovery team membership will be based on relevant expertise and experience, not affiliation. Accordingly, private individual HMSRT will also be selected based on their expertise and experience. PIRO will invite individuals to serve as non-government HMSRT members who are widely recognized as possessing one or more types of expertise and/or experience that NMFS deems appropriate to draw on for effective Hawaiian monk seal conservation and recovery plan implementation. These types of expertise and/or experience may include, but not be limited to: pinniped biology, marine mammal health and disease, population biology, conservation biology, wildlife management, animal behavior, fishing and fisheries management, marine mammal response, Native Hawaiian cultural practices, traditional natural resources management, traditional ecological knowledge, visitor industry management, commercial and non-commercial ocean recreation, ocean safety, communications, public relations, and public education and outreach.

3.4.3 HMSRT Chairperson and Vice-Chairperson

The HMSRT chairperson will serve as the team leader and is responsible for guiding team discussions to reach consensus if possible, or to facilitate equal opportunities for all positions to be heard and documented when consensus cannot be reached. The chairperson must be well-respected, fair and

unbiased, and have proven group facilitation and meeting management skills. The chairperson is specifically responsible for: 1) establishing priorities for the team efforts in close coordination with PIRO; 2) guiding preparation of comments and documents to be provided to PIRO and ensuring timely submission; 3) coordinating with PIRO on deadlines; 4) reviewing and approving the agenda for team meetings; 5) coordinating any subcommittee activities. A vice-chairperson will serve in place of the chairperson if meetings or other team activities are conducted when the chairperson is not available. The chairperson and vice-chairperson will be selected by PIRO. The chairperson and vice-chairperson will each serve for terms of three years, and may serve two consecutive terms.

3.4.4 HMSRT Committees

As deemed necessary by the HMSRT, and with the concurrence of PIRO, HMSRT committees may be established to develop advice on specific issues (such as main Hawaiian Islands management planning). Committees may include additional advisors who are not members of the core recovery team, and these advisors would serve the committee under the same terms as members of the team. HMSRT committees may meet and develop advice for PIRO separately from the team as a whole, and will follow the procedures for providing advice described in Section 3.5. HMSRT members wishing to have input on topics covered by a committee are encouraged to join and participate actively on the committee. Advice generated by a committee may be further reviewed and approved by the team as a whole prior to submitting the advice to PIRO. A member of the HMSRT will be selected by the team to lead each committee, following guidance of the chairperson.

3.5 Procedures for Providing Advice

As indicated in Section 3.2, the role of the HMSRT is to advise PIRO on the conservation and recovery of the endangered Hawaiian monk seal. In fulfilling this advisory role, the team will use the following steps and procedures:

Meeting Agenda - Prior to HMSRT meetings, the team liaison will communicate with the HMSRT chairperson to determine topics for which the HMSRT will consider and provide advice. After this discussion with the chairperson, the liaison will draft a meeting agenda prior to the HMSRT meeting. Any topic that an individual HMSRT member wishes the HMSRT to consider must first be brought to the HMSRT chairperson or the team liaison so that the topic can be incorporated, as appropriate, into the meeting agenda.

Decision Making - Decisions regarding the nature and content of the advice that the HMSRT provides to PIRO will usually be reached by consensus, under the leadership and facilitation of the chairperson. It is very important that all members are given an adequate opportunity to express their views. If consensus cannot be reached, the chairperson will ensure that an alternative decision-making process is utilized, such as voting, however, in this case, the opinions of all members will be reflected in the advice provided to PIRO.

Finalizing Advice - In some cases, the wording of the team's advice may need to be finalized after a team meeting. In this case, the chairperson or team liaison will send all team members a follow up email message stating the exact wording of the advice being proposed for transmittal and soliciting each team member's comments and approval. Once all team members have had a reasonable opportunity to comment via email, the chairperson or the team liaison will compile all the comments, finalize, and route to PIRO, with a copy provided to the HMSRT.

Transmitting Advice - HMSRT advice will be provided as written recommendations presented in letters or meeting minutes. HMSRT advice will be directed to PIRO, routed from the chairperson to the RA, with a copy provided to the team liaison and all team members.

Advice to Other Parties - The purpose of the HMSRT is to advise PIRO on Hawaiian monk seal conservation and recovery. Sometimes, the team may provide advice intended for consideration by other parties. When PIRO determines the advice may constructively contribute to Hawaiian monk seal conservation and recovery, PIRO will transmit the advice to the other party, with a copy provided to the chairperson and the team liaison. The RA's approval for advice to be transmitted to other parties does not necessarily mean that the RA is in agreement or concurrence with the advice.

Disclaimer - The following disclaimer shall be placed in all documents containing advice originating from the HMSRT: "The HMSRT is an advisory body to NOAA's National Marine Fisheries Service, Pacific Islands Regional Office. The opinions and findings presented in this document do not necessarily reflect the positions or policies of NMFS."

3.5.1 Conduct of HMSRT Members

HMSRT members are advised to avoid actual or apparent conflicts of interest and other ethical problems in accordance with the following guidelines:

- Members should disqualify themselves from advising on any matter that has direct and predictable effect on their personal financial matters, those of a client, or those of a company or organization by which they are employed.
- Members should not solicit business for themselves or their firms or seek an economic advantage based on their position on the HMSRT.
- Members shall hold any non-public information obtained as a result of their services on the HMSRT in confidence and ensure that it is used exclusively for official HMSRT purposes. Members should not use or permit the use of such information for their own private or professional gain, the gain of another person, or the gain of any organization.
- Members should not use the resources available to the HMSRT for the purposes of assisting a political campaign, or for any campaign business.
- Members should not represent themselves as speaking for NMFS under any circumstances.
- Members should not represent themselves as speaking for the HMSRT to act through the news media, conservation organizations, state or federal legislatures, or other parties to influence NMFS or any other government agency decision.
- Members should not represent themselves as speaking for the HMSRT to interject themselves in litigation or regulatory actions.
- Members should not represent themselves as speaking for the HMSRT to communicate with any party regarding regulatory requirements or conservation needs.

When speaking to the public or writing about any matter regarding Hawaiian monk seal conservation or recovery in a document for distribution beyond the HMSRT membership or NMFS staff, an HMSRT member shall clearly distinguish those recommendations, opinions, or positions officially adopted by the HMSRT as a body from those he or she may have as an individual. In no case shall a member represent individual opinions as those of the HMSRT or NMFS.

3.6 HMSRT Meetings

While in-person meetings are the preferred mechanism for meeting, discussing and generating advice, the team will use internet-based video conferencing, telephone conference calls, and email discussions to conduct team business when in-person meeting attendance is not possible due to funding, logistical and/or other constraints. HMSRT in-person meetings will be generally open to the public when facilities allow; however, private working sessions of the HMSRT or its committees may occur at the discretion of the chairperson and concurrence of PIRO.

As funding and other constraints allow, the team as a whole will meet at least once every three years to conduct a general review of the Hawaiian monk seal recovery program, including research and management aspects of the program. HMSRT committees will generally meet more frequently than the team as a whole to generate timely advice specific to a particular topic (such as development and review of the main Hawaiian Islands monk seal management plan.) Participation in committee meetings by HMSRT members not based in Hawaii may be accomplished by video conferencing or telephone conferencing.

3.7 Acceptance and Revision of the Terms of Reference

Revisions to the terms of reference may be made as necessary by PIRO with input from the HMSRT. This document will be distributed to all team members prior to their first meeting, and it will be reviewed at HMSRT meetings as needed. Agreeing to serve on the team will be construed as a willingness to accept and abide by all conditions set forth in the terms of reference.

3.8 Duration of the HMSRT and Terms of Reference

The RA may review team membership and these terms of reference to evaluate changes that need to be made. These terms of reference and the HMSRT (and its committees) described herein shall remain in effect for a period of six years from the date of signature below. At least six months prior to the expiration this document, these terms of reference will be evaluated by PIRO, in consultation with staff and government partners, and with input from HMSRT members.

3.9 Approval

This terms of reference document will become effective on the date it is signed below.

DEC 1 9 2013

Michael D. Tosatto
Regional Administrator, NOAA NMFS PIRO

Date

Appendix E

White Abalone Recovery Plan Implementation Schedule

IMPLEMENTATION SCHEDULE
White Abalone (*Haliotis sorenseni*)

Recovery Action Number	Action Description	Priority Number	Action Duration	Responsible Parties	Estimated Fiscal Year Costs $ K					Comments
					FY1	FY2	FY3	FY4	FY5	
1.1	Develop an assessment and monitoring program to identify current status of and track changes in wild subpopulations		and beyond	NMFS, CDFG, NPS, CINMS,	See breakdown of costs below 1.1.1-1.1.2					
1.1.1	Assess extant subpopulations in the wild (ROV and SCUBA)	1 FY1-FY5	FY1-FY5 and beyond		250	250	250	250	250	Federal and State program funds and private sources if available
1.1.2	Monitor extant subpopulations in the wild (ROV and SCUBA)	1	FY2-FY5 and beyond			150	150	150	150	
1.2	Tag extant individuals belonging to multiple subpopulations	2	FY1-FY5	NMFS, CDFG, NPS	10	5	5	6	6	
1.3	Determine value of translocation to establish viable populations	3	FY1-FY5		5	5	6	6	7	
1.4	Conduct genetic analyses of wild population structure		FY1-FY5	UCSD	See breakdown of costs below 1.4.1-1.4.2					
1.4.1	Determine extent of genetic differentiation among wild subpopulations to provide insight into structure	1	FY1-FY5	UCSD	25	25	25	25	25	Provide support via contract
1.4.2	Determine the best captive propagation, field planting and translocation design that serves to maintain the current genetic structure of	1	FY1-FY5	UCSD, NMFS, CIMRI	10	10	10	10	10	Provide support for best captive propagation, field planting

IMPLEMENTATION SCHEDULE White Abalone (*Haliotis sorenseni*)										
Recovery Action Number	**Action Description**	**Priority Number**	**Action Duration**	**Responsible Parties**	**Estimated Fiscal Year Costs $ K**					**Comments**
					FY1	**FY2**	**FY3**	**FY4**	**FY5**	
	the wild population									and translocation design
1.5	Develop population data and demographic PVA models		and beyond	NMFS, CDFG, NPS, CIMRI, BBML, MSU	See breakdown of costs below 1.5.1-1.5.4					
1.5.1	Evaluate and improve estimates of abundance, reproduction, survival, and growth for use in PVA models	2 FY3-FY5	FY3-FY5 and beyond	NMFS, CDFG, NPS, CIMRI						No additional costs. Information gathered as part of 1.1-1.4
1.5.2	Develop population models to assess threats and identify key life history stages or demographic processes	2	FY3-FY5	BBML, NMFS			45	45	45	Contract with researcher at BBML
1.5.3	Conduct a PVA to determine time to extinction probabilities, trends to forecast the impact of threats, and the prospects for recovery	2	FY3-FY5	MSU			45	45	45	Contract with researcher at MSU
1.5.4	Expand PVAs to incorporate demographic and environmental stochasticity	2	FY3-FY5 and beyond	BBML			45	45	45	Contract with researcher at BBML
1.6	Maintain and enhance		FY1-FY5	NMFS, INP	See breakdown of costs below 1.6.1-1.6.3					

IMPLEMENTATION SCHEDULE White Abalone (*Haliotis sorenseni*)										
Recovery Action Number	**Action Description**	**Priority Number**	**Action Duration**	**Responsible Parties**	**Estimated Fiscal Year Costs $ K**					**Comments**
					FY1	**FY2**	**FY3**	**FY4**	**FY5**	
	communications with the Mexican government		and beyond							
1.6.1	Establish a technical advisory team through the INP and invite them to participate in workshops and meetings	2	FY1-FY5 and beyond							No additional costs
1.6.2	Participate in international conferences	2	FY1-FY5 and beyond		5	5	6	6	6	Federal program funds
1.6.3	Collaborate with Mexico to help improve our understanding of the status of extant subpopulations throughout the range and to help conserve and protect them	2	FY1-FY5 and beyond							No additional costs. Part of assessment and monitoring program.
1.7	Development of Post-Delisting Monitoring Plan	3	Beyond FY1-FY5	NMFS, INP, CDFG						No additional costs for development, but will require funds for implementing
TOTALS FOR RECOVERY ACTION 1					305	450	587	588	589	2519
2.1	Identify existing and potential habitat using multibeam sonar	1	FY1-FY5	NMFS						No additional costs. Part of

IMPLEMENTATION SCHEDULE White Abalone (*Haliotis sorenseni*)										
Recovery Action Number	**Action Description**	**Priority Number**	**Action Duration**	**Responsible Parties**	**Estimated Fiscal Year Costs $ K**					**Comments**
					FY1	**FY2**	**FY3**	**FY4**	**FY5**	
	generated bathymetry data and quantify and revise estimates of habitat availability in California									assessment and monitoring program.
2.2	Generate ROV transect data to assess biological and physical attributes of habitat	1	FY1-FY5 and beyond	NMFS						
2.3	Determine the level of risk associated with habitat degradation/destruction that existing and potential viable populations (will) face	2	FY1-FY5 and beyond	NMFS, CDFG						
2.4	Collaborate with Mexican researchers in assessing and monitoring white abalone habitat in Mexico	2	FY1-FY5 and beyond	NMFS						
TOTALS FOR RECOVERY ACTION 2					0	0	0	0	0	0
3.1	Enforce State of California protections	2	FY1-FY5 and beyond	CDFG						No additional costs. Carried out by in-state regulatory agencies.
3.2	Enforce Federal ESA protections	1	FY1-FY5 and beyond	NMFS						No additional costs; Current range of abalone in Federal

IMPLEMENTATION SCHEDULE
White Abalone (*Haliotis sorenseni*)

Recovery Action Number	Action Description	Priority Number	Action Duration	Responsible Parties	Estimated Fiscal Year Costs $ K					Comments
					FY1	FY2	FY3	FY4	FY5	
										waters
3.3	Protect white abalone populations and habitat as they are discovered or established through enhancement		and beyond	NMFS, CDFG, NPS, CINMS	See breakdown of costs below 3.3.1-3.3.3					
3.3.1	Continue state and federal review of permitted activities to minimize impacts in the wild	1 FY1-FY5	FY1-FY5 and beyond							No additional costs. Carried out by in-country regulatory agencies.
3.3.2	Evaluate current conservation measures (e.g., fishing restrictions, conservation areas, etc.) to afford viable wild populations appropriate protection from habitat destruction and illegal take	FY1-FY5	and beyond							
3.3.2.1	Support establishment of Marine Protected Areas in the northern Channel Islands	2	FY1-FY5 and beyond							
3.3.2.2	Support maintenance of rockfish conservation areas	2	FY1-FY5 and beyond							
3.3.2.3	Uphold objectives of the CDFG Abalone Recovery Management	2	FY1-FY5 and beyond							

IMPLEMENTATION SCHEDULE
White Abalone (*Haliotis sorenseni*)

Recovery Action Number	Action Description	Priority Number	Action Duration	Responsible Parties	Estimated Fiscal Year Costs $ K					Comments
					FY1	FY2	FY3	FY4	FY5	
	Plan									
3.3.3	Establish an interagency (state/federal) enforcement task force that can monitor areas containing viable populations on a semi-regular basis	1	FY1-FY5 and beyond	NMFS, CDFG	10	10	15	15	20	Provide support for in-country law enforcement efforts
3.4	Enhance degraded habitat through restoration or mollifying anthropogenic impacts through mitigation, as necessary	3	Beyond FY1-FY5	NMFS						Costs To Be Determined.
TOTALS FOR RECOVERY ACTION 3					10	10	15	15	20	70
4.1	Identify factors that may reduce the risk of mortality associated with the removal, handling and transport of wild white abalone to rearing facilities	1	FY1-FY3	NMFS, CIMRI, UW	20	20	20			Support research through private contracts
4.2	Determine the number of rearing facilities and broodstock animals needed to meet the goals of NMFS global management plans	1	FY1-FY5	NMFS, CDFG						No additional costs.
4.3	Establish a standard for security measures at facilities housing broodstock and captive-reared animals	1	FY1-FY3	NMFS, CIMRI	5	5	5			Support for installation of appropriate security

IMPLEMENTATION SCHEDULE
White Abalone (*Haliotis sorenseni*)

Recovery Action Number	Action Description	Priority Number	Action Duration	Responsible Parties	Estimated Fiscal Year Costs $ K					Comments
					FY1	FY2	FY3	FY4	FY5	
4.4	Comply with and periodically update NMFS global management plans for a captive propagations and enhancement program		FY1-FY5 and beyond	NMFS, UCSD, CIMRI, UW, BBML, CDFG, NPS	See breakdown of costs below 4.4.1-4.4.4					
4.4.1	Comply with updated genetics management plan	1	FY1-FY5	NMFS, UCSD, CIMRI						No additional costs. See 1.4
4.4.2	Comply with updated disease management plan	1	FY1-FY5 and beyond	NMFS, CIMRI, UW, BBML	43	43	43	43	43	Support via contract
4.4.3	Comply with updated management plan for the disposition of excess white abalone	2	FY1-FY5 and beyond	NMFS, CDFG, NPS, CIMRI, CINMS, BBML, LBAOP, CA, SBMNH	180	180	180	180	180	NMFS ESA Program Funds and private sources if available
4.4.4	Comply with updated field planting management plan	1	FY1-FY5 and beyond	NMFS, CDFG, NPS, CINMS, CIMRI	50	50	50	50	50	Federal and State Program funds and private sources if available
4.5	Encourage partnerships with potential permit applicants who	2	FY1-FY5	NMFS, LBAOP	15	15	15	15	15	Support for submission of

IMPLEMENTATION SCHEDULE
White Abalone (*Haliotis sorenseni*)

Recovery Action Number	Action Description	Priority Number	Action Duration	Responsible Parties	Estimated Fiscal Year Costs $ K					Comments
					FY1	FY2	FY3	FY4	FY5	
	may be interested in participating in furthering the goals of the captive propagation program									permit, upkeep on captive animals
4.6	Enhance wild populations by outplanting captive-bred white abalone in selected sites throughout the range of the species	1	FY1-FY5 and beyond	NMFS, CIMRI, CDFG, NPS, CINMS						Federal and State Program funds and private sources if available
TOTALS FOR RECOVERY ACTION 4					463	468	473	453	458	2315
5.1	Reduce likelihood of poaching by raising public awareness through outreach to regional fisheries management councils, industry groups, dive clubs/shops, and public media	2	FY1-FY5 and beyond	NMFS, CDFG, LBAOP, CA, SBNHM						No additional costs. See 4.4.3
5.2	Develop educational displays and materials by cooperating with NGOs, aquaria, secondary schools, and universities	2	FY1-FY5 and beyond	NMFS, CDFG, LBAOP, CA, SBNHM						No additional costs. See 4.4.3
5.3	Establish relationships with volunteer-based programs that can take part in various aspects of the captive propagation program (e.g., maintenance at	3	FY1-FY5 and beyond	NMFS, LBAOP, CA, SBNHM	10	10	10	10	10	Support via contract

IMPLEMENTATION SCHEDULE White Abalone (*Haliotis sorenseni*)										
Recovery Action Number	**Action Description**	**Priority Number**	**Action Duration**	**Responsible Parties**	**Estimated Fiscal Year Costs $ K**					**Comments**
					FY1	**FY2**	**FY3**	**FY4**	**FY5**	
	hatcheries, research assistance, monitoring of captive-reared animals placed in the field etc.)									
TOTALS FOR RECOVERY ACTION 5					10	10	10	10	10	50
6.1	Seek out and apply for federal and private grants	1	FY1-FY5 and beyond	NMFS, CDFG, NPS, CINMS, UW, BBML, UW, CIMRI, UCSD, MSU, LBAOP, CA, SBNHM						No cost
6.2	Form cooperative funding agreements among state, federal and private entities	1	FY1-FY5 and beyond	NMFS, CDFG, NPS, CINMS, UW, BBML, UW, CIMRI, UCSD, MSU, LBAOP, CA, SBNHM						No cost
TOTALS FOR RECOVERY ACTION 6					0	0	0	0	0	0
TOTAL FOR IMPLEMENTATION DURING THE FIRST FIVE YEARS					**788**	**938**	**1085**	**1066**	**1077**	**4954**

Appendix F

- Linking Threats to Recovery Actions (Example Table and Tips Sheet)
- Draft Recovery Action Outline for the Blue Whale

Linking Threats to Recovery Actions (Example Table and Tip sheet).

LISTING FACTOR	THREAT	RECOVERY CRITERIA	RECOVERY ACTION NUMBERS
A	Agricultural development and associated hydrologic alterations	1, 3	Identify and control threats, discourage conversion of habitat, protect and restore floodplain hydrology, conduct research, secure funding for recovery actions (see Actions 1.6, 1.6.4, 1.6.5, 3, 6)
A	Road construction and maintenance	1,3	Identify and control threats, manage herbicide use, conduct research (see Actions 1.6, 1.6.6, 3)
C	Livestock grazing	1,3	Manage livestock grazing , fence livestock areas, conduct research, secure funding for recovery actions (see Actions 1.6.1, 1.6.2, 3)
D	State ESA does not provide protection for plants on private lands and all thelypody populations are found on private lands	2, 3, 4	Survey and prioritize sites for protection, protect sites in the interim, and secure permanent protection through easements and acquisition, identify and protect unoccupied habitat sites, conduct research, secure funding for recovery actions (see Actions 1.1, 1.2, 1.3, 1.4, 1.5, 2, 3, 3.1, 3.3, 4, 5, 6)
E	Herbicide use	1,3	Identify and control threats, manage herbicide use conduct research, secure funding for recovery actions (see Actions 1.6, 1.6.6, 3)
E	Competition form non-native plants species	1,3,4	Identify and control threats, control non-native species invasion, conduct research, secure funding for recovery actions (see Actions 1.6, 1.6.3, 3, 3.4, 6)
E	Naturally occurring events (drought/fire)	1,4	Conduct research, see Action 3

Listing Factors:

A. The Present or Threatened Destruction, Modification, or Curtailment Of Its Habitat or Range
B. Overutilization for Commercial, Recreational, Scientific, Educational Purposes (not a factor)
C. Disease or Predation
D. The Inadequacy of Existing Regulatory Mechanisms
E. Other Natural or Manmade Factors Affecting Its Continued Existence

Recovery Criteria:

1. At least five stable or increasing thelypody populations are distributed throughout its extant or historic range. Populations must be naturally reproducing with stable or increasing trends for 10 years.
2. All five populations are located on permanently protected sites. Permanently protected sites are either owned by a State or Federal agency or a private conservation organization, or protected by a permanent conservation easement that commits present and future landowners to the conservation of the species.
3. Management plans have been developed and implemented for each site that specifically provide for the protection of the thelypody and its habitat. A post-delisting monitoring plan is in place that will monitor the status of the thelypody for at least 5 years at each site.

Draft Recovery Action Outline for the Blue Whale

Recovery actions in this outline are not in order of priority. More detail about each recovery action appears in the Recovery Action Narrative. Unless otherwise indicated, the relevant "site" for each recovery action is throughout all nine management units.

1. **Coordinate State, Federal, and International Measures to Maintain International Regulation of Whaling for Blue Whales**
2. **Determine Blue Whale Taxonomy, Population Structure, Occurrence, Distribution, and Range**
   - *2.1.* Conduct studies to investigate population discreteness and population structure of blue whales.
   - *2.2.* Conduct studies to assess blue whale occurrence, daily and seasonal movements, and inter-area exchange.
   - *2.3.* Support the development of models to yield robust predictions of blue whale distribution.
3. **Estimate Population Size and Monitor Trends in Abundance**
   - *3.1.* Establish collaborative agreements with relevant national governmental bodies and scientific institutions to develop plans for estimating abundance and monitoring trends in abundance.
   - *3.2.* Conduct surveys to estimate blue whale abundance and monitor trends in abundance worldwide.
   - *3.3.* To the extent possible, work with appropriate government agencies in other countries to develop and maintain blue whale photo-identification programs, and educate the public about contributing information about dead, entangled, or ship-struck whales, to continue to support or establish international databases.
4. **Identify, Characterize, Protect, and Monitor Habitat Important to Blue Whale Populations**
   - *4.1.* Characterize blue whale habitat.
   - *4.2.* Monitor important habitat features and blue whale use patterns to assess potentially detrimental shifts in habitat features that might reflect disturbance or degradation of habitat.
   - *4.3.* Promote measures to identify and protect important habitat throughout the species' range.
5. **Investigate Potential Human-Caused Threats and, Should They Be Determined to Be Limiting Blue Whale Recovery, Take Steps to Minimize Their Occurrence and Severity**
   - 5.1. Anthropogenic noise

Appendix G

- FRN NOA of Puget Sound Steelhead Recovery Plan
- Low Interest Roll-out Plan for Issuance of the Eulachon Final Recovery Plan
- Combined High Interest Rollout

report which compiles and evaluates potential datasets and recommends which datasets are appropriate for assessment analyses, and describes the fisheries, evaluates the status of the stock, estimates biological benchmarks, projects future population conditions, and recommends research and monitoring needs. Participants for SEDAR Workshops are appointed by the Gulf of Mexico, South Atlantic, and Caribbean Fishery Management Councils and NOAA Fisheries Southeast Regional Office, Highly Migratory Species Management Division, and Southeast Fisheries Science Center. Participants include: Data collectors and database managers; stock assessment scientists, biologists, and researchers; constituency representatives including fishermen, environmentalists, and non-governmental organizations (NGOs); international experts; and staff of Councils, Commissions, and state and federal agencies.

The items of discussion in the Assessment Scoping webinar are as follows:

Participants will review data and discuss data issues, as necessary, and initial modeling issues.

Although non-emergency issues not contained in this agenda may come before this group for discussion, those issues may not be the subject of formal action during this meeting. Action will be restricted to those issues specifically identified in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the intent to take final action to address the emergency.

Special Accommodations

This meeting is accessible to people with disabilities. Requests for auxiliary aids should be directed to the SAFMC office (see **ADDRESSES**) at least 5 business days prior to the meeting.

Note: The times and sequence specified in this agenda are subject to change.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: December 10, 2018.

Tracey L. Thompson,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2018–26979 Filed 12–12–18; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG648

Pacific Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; public meeting.

SUMMARY: The Pacific Fishery Management Council's (Pacific Council) Groundfish Management Team (GMT) will hold a week-long work session that is open to the public.

DATES: The GMT meeting will be held Monday, January 14, 2019 through Friday, January 18, 2019. The GMT meeting will begin on Monday, January 14, from 1 p.m. until business for the day is completed. The meeting will reconvene Tuesday, January 15 through Friday, January 18, from 8:30 a.m. until business for each day has been completed.

ADDRESSES: The meeting will be held at the Pacific Council Office, Large Conference Room, 7700 NE Ambassador Place, Suite 101, Portland, OR 97220–1384.

FOR FURTHER INFORMATION CONTACT: Mr. Todd Phillips, Pacific Council; phone: (503) 820–2426.

SUPPLEMENTARY INFORMATION: The primary purpose of this week-long work session is for the GMT to prepare for 2019 Pacific Council meetings. Specific agenda items will include: A detailed review of 2019/20 harvest specifications and management measure process, planning for the 2021/22 harvest specifications and management measure process, meeting with representatives from the Pacific Council's Ecosystem Workgroup; consideration of the groundfish workload prioritization process and Council Operating Procedure 9, Endangered Species Act salmon mitigation measures, and GMT chair/vice chair elections. The GMT may also address work assigned by the Pacific Council that relates to groundfish management, such as: A methodology overview of Sablefish Management and Trawl Allocation Attainment Committee analysis needs and impact analysis of proposed changes to the directed Pacific halibut fishery on groundfish. A detailed agenda will be available on the Pacific Council's website prior to the meeting.

Although nonemergency issues not contained in the meeting agenda may be discussed, those issues may not be the subject of formal action during these meetings. Action will be restricted to those issues specifically listed in this document and any issues arising after publication of this document that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the intent to take final action to address the emergency.

Special Accommodations

The meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Mr. Kris Kleinschmidt at (503) 820–2411, at least 10 business days prior to the meeting date.

Dated: December 10, 2018.

Tracey L. Thompson,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2018–26982 Filed 12–12–18; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG573

Endangered and Threatened Species; Recovery Plans

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of availability; request for comments.

SUMMARY: We, NMFS, announce that the Proposed Endangered Species Act (ESA) Recovery Plan for Puget Sound Steelhead (Proposed Plan) is available for public review and comment. The Proposed Plan addresses the Puget Sound Steelhead (*Onchorhynchus mykiss*) Distinct Population Segment (DPS), which was listed as threatened under the ESA on May 11, 2007. As required under the ESA, the Proposed Plan contains objective, measurable delisting criteria, site-specific management actions necessary to achieve the Proposed Plan's goals, and estimates of the time and cost required to implement recovery actions. We are soliciting review and comment from the public and all interested parties on the Proposed Plan.

DATES: Comments on the Proposed Plan must be received by February 11, 2019.

ADDRESSES: You may submit comments on the Proposed Plan, identified by

NOAA–NMFS–2018–0125, by either of the following methods:

• *Electronic Submission:* Submit all electronic public comments on the Proposed Plan via the Federal eRulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D= NOAA-NMFS-2018-0125.* Click the "Comment Now!" icon, complete the required fields, and enter or attach your comments.

• *Mail:* Submit written comments on the Proposed Plan to David Price, National Marine Fisheries Service, 510 Desmond Dr. SE, Lacey, WA 98503.

Instructions: Comments or information sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments and information received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous.

The Proposed Plan is available online at *www.regulations.gov/#!docketDetail;D= NOAA-NMFS-2018-0125* or upon request from the NMFS West Coast Region, Protected Resources Division (see **ADDRESSES** or **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: David Price, (360) 753–9598, *david.price@noaa.gov;* or Elizabeth Babcock, (206) 526–4505, *elizabeth.babcock@noaa.gov.*

SUPPLEMENTARY INFORMATION:

Background

We are responsible for developing and implementing recovery plans for Pacific salmon and steelhead listed under the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*). Section 4(f)(1) of the ESA requires that recovery plans include, to the extent practicable: (1) Objective, measurable criteria which, when met, would result in a determination that the species is no longer threatened or endangered; (2) site-specific management actions necessary to achieve the plan's goals; and (3) estimates of the time required and costs to implement recovery actions. The ESA requires the development of recovery plans for each listed species unless such a plan would not promote its recovery.

We believe it is essential to have local support of recovery plans by those whose activities directly affect the listed species and whose continued commitment and leadership will be needed to implement the necessary recovery actions. We therefore support and participate in collaborative efforts to develop recovery plans that involve state, tribal, and Federal entities, local communities, and other stakeholders. For this Proposed Plan for threatened Puget Sound Steelhead, we worked collaboratively with local, state, tribal, and Federal partners to produce a recovery plan that satisfies the ESA requirements. We have determined that this Proposed ESA Recovery Plan for Puget Sound Steelhead meets the statutory requirements for a recovery plan and are proposing to adopt it as the ESA recovery plan for this threatened species. Section 4(f) of the ESA, as amended in 1988, requires that public notice and an opportunity for public review and comment be provided prior to final approval of a recovery plan. This notice solicits comments on this Proposed Plan.

Development of the Proposed Plan

The geographic area covered by the Proposed Plan is the Puget Sound basin, from the Elwha River (inclusive) eastward, including rivers in Hood Canal, South Sound, and North Sound, including steelhead from six artificial propagation programs: The Green River Natural Program; White River Winter Steelhead Supplementation Program; Hood Canal Steelhead Supplementation Off-station Projects in the Dewatto, Skokomish, and Duckabush Rivers; and the Lower Elwha Fish Hatchery Wild Steelhead Recovery Program.

For the purpose of recovery planning for the ESA-listed species of Pacific salmon and steelhead in Idaho, Oregon, and Washington, NMFS designated five geographically based "recovery domains." The Puget Sound Steelhead DPS spawning range is in the Puget Sound domain. For each domain, NMFS appointed a team of scientists, nominated for their geographic and species expertise, to provide a solid scientific foundation for recovery plans. The Puget Sound Steelhead Technical Recovery Team included biologists from NMFS, other Federal agencies, state agencies, tribes, and academic institutions.

A primary task for the Puget Sound Steelhead Technical Recovery Team was to recommend criteria for determining when each component population within a DPS or Evolutionarily Significant Unit (ESU) should be considered viable (*i.e.,* when they are have a low risk of extinction over a 100-year period) and when ESUs or DPSs have a risk of extinction consistent with no longer needing the protections of the ESA. All NMFS' Technical Recovery Teams used the same biological principles for developing their recommendations; these principles are described in the NOAA technical memorandum Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units (McElhany *et al.* 2000). Viable salmonid populations (VSP) are defined in terms of four parameters: Abundance, productivity or growth rate, spatial structure, and diversity.

We also collaborated with the state of Washington, tribes, other Federal agencies, local governments, representatives of industry and environmental groups, other stakeholders, and the public to develop the Proposed Plan. The Plan for the Puget Sound steelhead DPS was developed by NMFS in cooperation with a Recovery Team made up of experts from the Washington Department of Fish and Wildlife, Northwest Indian Fisheries Commission, Nooksack Tribe, Seattle Light, Long Live the Kings, Puget Sound Partnership, and NMFS Northwest Fisheries Science Center. These groups provided vital input during the planning process, and their continued involvement during recovery plan implementation is critical to the success of our joint efforts to recover Puget Sound steelhead.

Contents of Proposed Plan

The Proposed Plan contains biological background and contextual information that includes description of the DPS, the planning area, and the context of the plan's development. It presents relevant information on DPS structure and guidelines for assessing salmonid population and DPS status. It provides background on the natural history of steelhead, population status, and threats to their sustainability.

The Puget Sound steelhead DPS consists of three Major Population Groups (MPGs) and 32 Demographically Independent Populations (DIPs). NMFS based its decision to list the species in 2007 on findings by the Puget Sound Steelhead Biological Review Team (Hard *et al.* 2007). This team considered the major risk factors facing Puget Sound steelhead to be widespread declines in abundance and productivity for most natural steelhead populations in the DPS, including those in Skagit and Snohomish Rivers, previously considered strongholds for steelhead in the DPS; the low abundance of several summer-run populations; and the sharply diminishing abundance of some

steelhead populations, especially in south Puget Sound, Hood Canal, and the Strait of Juan de Fuca. Continued releases of out-of-DPS hatchery fish from Skamania-derived summer run were a major concern for diversity in the DPS. In 2011, eight years after the ESA-listing decision, a status assessment of the DPS by NMFS' Biological Review Team found that the status of Puget Sound steelhead regarding risk of extinction had not changed (NMFS 2016; 81 FR 33468; May 26, 2016). Scientists on the Biological Review Team identified degradation and fragmentation of freshwater habitat, with consequential effects on connectivity, as the primary limiting factors and threats facing the Puget Sound steelhead DPS. They determined that most of the steelhead populations within the DPS continued to show downward trends in estimated abundance, with a few sharp declines (Ford 2011). Most recently, a NMFS species status review (NMFS 2016) concluded that "The biological risks faced by the Puget Sound steelhead DPS have not substantively changed since the listing in 2007, or since the 2011 status review." The NMFS review team concluded that the DPS was at very low viability, as were all three of its constituent MPGs, and many of its 32 DIPs (Hard *et al.* 2015).

The Proposed Plan presents NMFS' proposed recovery goals and the viability criteria and listing factor criteria for making a delisting decision. The proposed viability criteria for the Puget Sound steelhead DPS are designed to improve the DPS so it "has a negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame" based on the status of the MPGs and DIPs, and supporting ecosystems (McElhany *et al.* 2000). A self-sustaining viable population has a negligible risk of extinction due to reasonably foreseeable changes in circumstances affecting its abundance, productivity, spatial structure, and diversity characteristics and achieves these characteristics without dependence upon artificial propagation. The proposed viability criteria for Puget Sound steelhead require that all three MPGs be viable because the three MPGs differ substantially in key biological and habitat characteristics that contribute in distinct ways to the overall viability, diversity and spatial structure of the DPS.

The proposed listing factor criteria are based on the five listing factors found in the ESA section 4(a)(1). Before NMFS can remove the DPS from protection under the ESA, the factors that led to ESA listing need to have been reduced or eliminated to the point where Federal protection under the ESA is no longer needed, and there is reasonable certainty that the relevant regulatory mechanisms are adequate to protect Puget Sound steelhead viability. NMFS listing factor criteria for Puget Sound steelhead address pressures from freshwater habitat degradation, hatcheries, and other factors that led to the species listing and continue to affect its viability.

The Proposed Plan also describes specific information on the following: Current status of Puget Sound steelhead; pressures (limiting factors) and threats throughout the life cycle that have contributed to the species decline; recovery strategies to address the threats based on the best available science; site-specific actions with timelines; and a proposed adaptive management framework for focusing needed research and evaluations and revising our recovery strategies and actions. The Proposed Plan also summarizes time and costs required to implement recovery actions.

How NMFS and Others Expect To Use the Plan

With approval of the final Puget Sound Steelhead recovery plan, we will implement the actions in the plan for which we have authority and funding; encourage other Federal, state and local agencies and tribal governments to implement recovery actions for which they have responsibility, authority, and funding; and work cooperatively with tribes, the public and local stakeholders on implementation of other actions. We expect the recovery plan to guide us and other Federal agencies in evaluating Federal actions under ESA section 7, as well as in implementing other provisions of the ESA and other statutes. For example, the plan will provide greater biological context for evaluating the effects that a proposed action may have on the species by providing delisting criteria, information on priority areas for addressing specific limiting factors, and information on how the DPS can tolerate varying levels of risk.

When we are considering a species for delisting, the agency will examine whether the section 4(a)(1) listing factors have been addressed. To assist in this examination, we will use the delisting criteria described in Chapter 4 of the Proposed Plan, which include both viability criteria and listing factor criteria addressing each of the ESA section 4(a)(1) listing factors, as well as any other relevant data and policy considerations.

Public Comments Solicited

We are soliciting written comments on the Proposed Plan. All substantive comments received by the date specified above will be considered and incorporated, as appropriate, prior to our decision whether to approve the plan. While we invite comments on all aspects of the Proposed Plan, we are particularly interested in comments on the proposed strategies and actions, comments on the cost of recovery actions, and comments on establishing an appropriate implementation forum for the plan. We will issue a news release announcing the adoption and availability of the final plan. We will post on the NMFS West Coast Region website (*www.wcr.noaa.gov*) a summary of, and responses to, the comments received, along with electronic copies of the final plan and its appendices.

Literature Cited

The complete citations for the references used in this document can be obtained by contacting NMFS (see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

Authority: 16 U.S.C. 1531 *et seq.*

Dated: December 6, 2018.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2018–27003 Filed 12–12–18; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG668

Fisheries of the Gulf of Mexico and South Atlantic; Southeast Data, Assessment, and Review (SEDAR); Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of SEDAR 64 Data webinar for Gulf of Mexico and South Atlantic yellowtail snapper.

SUMMARY: The SEDAR 64 assessment process of Gulf of Mexico and South Atlantic yellowtail snapper will consist of a Data Workshop, and a series of assessment webinars, and a Review Workshop. See **SUPPLEMENTARY INFORMATION.**

September 2017

Low Interest Roll-out Plan for Issuance of the Eulachon Final Recovery Plan

Action: Final Recovery Plan for the Southern Distinct Population Segment of Eulachon

Date: Anticipated September 2017

Roll out lead: Katherine Cheney, NOAA Fisheries, West Coast Region (WCR), Communications and External Affairs 503-231-6730

Roll out team:

- NOAA Fisheries, WCR, Communications and External Affairs – Michael Milstein, 503-231-6268; Tribal Coordinator Amilee Wilson 360-753-5820
- NOAA Fisheries Protected Resources Division, WCR – Robert Anderson 503-231-2226
- NOAA Fisheries WCR Clearance Coordinator – Laura Hoberecht 206-526-4453
- NOAA Fisheries Rollout Coordinator – Sam Guidon 301-427-8022
- NOAA Legislative Affairs – Becky Lizama, 202-482-0809
- NOAA Fisheries Office of Communications – Kate Naughten 240-687-9811
- NOAA Program Coordination Office – Lindsey Kraatz 202-482-1172; (240) 678-7958

NOAA Spokespeople:

- Chris Yates, Assistant Regional Administrator, Protected Resources Division, WCR –562-980-4007
- Robert Anderson, Eulachon Recovery Coordinator– 503 -231-2226

Audiences:

- Cowlitz Tribe; Yurok Tribe; Confederated Tribes of the Warms Springs Reservation; Columbia River Inter-Tribal Fish Commission; Confederated Tribes and Bands of the Yakama Nation; Confederated Tribes of Grand Ronde
- State agencies Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, California Department of Fish and Wildlife
- Federal agencies (Bonneville Power Administration, Northwest Power and Conservation Council, National Park Service, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers
- General Public
- Oregon Trawl Commission

Materials:

- Executive Summary
- Press Release
- Talking Points (see below)

Key Messages:

- NOAA Fisheries is releasing the final recovery plan for the southern Distinct Population Segment (DPS) of eulachon, listed as threatened under the Endangered Species Act

(ESA). The recovery plan provides a blueprint for the protection and recovery of this important fish.

- The recovery plan links threats and management actions to an active research program to fill data gaps, and a monitoring program to assess these actions' effectiveness. Research and monitoring results will provide information to refine ongoing actions and prioritize new actions to achieve the Plan's goal: to restore the listed species to the point where it no longer requires the protections of the ESA.
- State and federal agencies; regional stakeholders, West Coast Tribes, First Nations in Canada, the Department of Fisheries and Oceans, Canada; and the public have collaborated with NOAA Fisheries to develop this final plan. The process has involved multiple stakeholder meetings and feedback sessions.
- Recovery actions are most efficient and effective when implemented jointly by Federal and state agencies and stakeholders.
- Eulachon recovery not only fulfills goals of the ESA and benefits the ecosystem; it also provides potential for new or enhanced economic opportunities and social benefits for present and future generations.

Communication Activities and Schedule:

Day Prior to Release

1. Tribal notifications (Wilson)

Rollout Day – FRN publish date

9:00am PT

2. Send WCR website live (Smith)

11:00 am PT

3. West Coast Region internal announcement (Milstein/Cheney)
4. Notifications to stakeholders (Anderson)
5. Issue press release and web story with links to web page (Milstein)
6. Social media announcements (Rahi)

Additional Talking Points

NOAA Fisheries is releasing the final recovery plan for the southern Distinct Population Segment (DPS) of eulachon, listed as threatened under the Endangered Species Act (ESA). The recovery plan proposes a blueprint for the protection and recovery of this important fish.

- The southern DPS of eulachon is comprised of fish that spawn in rivers south of the Nass River in British Columbia to, and including, the Mad River in California.

- The Biological Review Team (BRT) concluded that, starting in 1994, the southern DPS of eulachon experienced an abrupt decline in abundance throughout its range (Gustafson et al. 2010). Although eulachon abundance in monitored rivers improved in the 2013–2015 return years, recent conditions in the North East Pacific Ocean are likely linked to

the sharp declines in eulachon abundance observed in 2016 and 2017. The likelihood that these poor ocean conditions will persist into the near future suggest that population declines may again be widespread in the upcoming return years.

- The Recovery Plan depends on an adaptive management framework that outlines a collaborative approach to implementing the Recovery Plan's actions using best available science, monitoring actions to improve our scientific knowledge, and updating activities based on new information.

Recovery actions are most efficient and effective when implemented jointly by Federal and state agencies and stakeholders.

- NOAA Fisheries estimates that recovery of eulachon could take 25 to 100 years. Based on recovery actions for which we have cost estimates, the cost of implementation in the U.S. jurisdiction over the first 5 fiscal years is $12,205,000. A gross estimate for the total cost of recovery actions to be implemented in the U.S jurisdiction is between $21,358,750 (25 years) to $32,038,125 (100 years).

- The costs include research to better understand the status of eulachon subpopulations and their habitat needs. Many habitat restoration activities for salmon and steelhead in California, Oregon and Washington are also likely to benefit eulachon.

- After the first 5 years, we will reevaluate the status of eulachon based on the information gathered over this period. It should be possible to make better informed projections about the time for and expense of recovery as more information is obtained.

Combined High Interest Rollout
ROLL OUT PLAN FOR
Release of Two Final Endangered Species Act Recovery Plans for Snake River Fall Chinook Salmon and Snake River Spring/Summer Chinook Salmon and Snake River Basin Steelhead

Action: Combined release of two NOAA Fisheries' Final Recovery Plans for Snake River salmon and steelhead, given that they have overlapping audiences.

Date: December 2017

Roll out lead: NOAA Fisheries, West Coast Region (WCR), Communications and External Affairs – *Hannah Mellman,* 206-526-6148

Roll out team:

- NOAA Fisheries WCR Interior Columbia Basin Area Office Recovery Coordinators – *Patty Dornbusch,* 503-230-5430; *Rosemary Furfey,* 503-231-2149
- NOAA Fisheries, WCR Communications and External Affairs – *Michael Milstein,* Public Affairs, 503-231-6268; *Amilee Wilson,* WCR Tribal Coordinator, 360-753-5820; *Alix Smith,* Communications Specialist, 503-231-2119; *Alan Rahi,* Communications Specialist, 503-230-5403
- WCR Clearance – *Jennifer Ise,* 562-980-4046, nmfs.wcr.clearance.taskers@noaa.gov
- NOAA Fisheries Roll Out Coordinator – *Sam Guidon,* 301-427-8022
- NOAA PCO – *Lindsey Kraatz,* 202-482-1172
- NOAA Legislative Affairs – *Becky Lizama,* 202-482-0809
- NOAA Fisheries Office of Communications & External Affairs – *Kate Naughten,* 240-687-9811
- NOAA Office of Communications, Fisheries Public Affairs – Jennie Lyons, (301) 427-8013; John Ewald, (202) 482-3978; Kate Brogan (301) 427-8030

NOAA Spokespeople:

- NOAA Fisheries, WCR, Assistant Regional Administrator for Interior Columbia Basin Area Office – *Michael Tehan,* 503-231-2224

Subject Matter Experts:

- NOAA Fisheries, WCR, Recovery Coordinator - *Patty Dornbusch,* 503-230-5430
- NOAA Fisheries, WCR, Recovery Coordinator - *Rosemary Furfey,* 503-231-2149

Audiences:

- State agencies: Idaho Department of Fish and Game; Idaho Office of Species Conservation; Idaho Water Resources Department; Washington Department of Fish and Wildlife; Oregon Department of Fish and Wildlife; Oregon Watershed Enhancement Board; Alaska Department of Fish and Game
- Federal agencies: Bonneville Power Administration (BPA), U.S. Army Corps of Engineers (Corps), Environmental Protection Agency, U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation (USBR)

- Tribes and Tribal Organizations: Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Yakama Nation, Confederated Tribes of Warm Springs, Shoshone-Bannock Tribes, Columbia River Intertribal Fish Commission, Upper Snake River Tribes Foundation, Burns Paiute Tribe, Shoshone Paiute Tribe
- Key stakeholders, non-governmental organizations, local watershed groups and commenters on proposed Recovery Plans (see stakeholder notification list)
- Snake River fall Chinook delisting petitioners: Chinook Futures Coalition
- Media
- Columbia basin Congressional delegation

Key Messages:

- NOAA Fisheries is adopting two final recovery plans based on the best available scientific information to guide the recovery of threatened Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, and Snake River Basin steelhead across the Snake River basin of Idaho, Oregon, and Washington. The recovery plans are based on best available science and identify the recovery strategies and actions necessary to achieve delisting of the species.
- The status of Snake River fall Chinook salmon has improved significantly since listing, thanks in large part to efforts by federal, state, tribal, and private partners. The progress demonstrates that we, and our partners, have the knowledge and capacity to rebuild salmon numbers and puts recovery within reach.
- While the improvements are encouraging, uncertainty remains regarding the species' productivity and diversity, whether recent increases will continue, and whether Snake River fall Chinook salmon can sustain themselves naturally over the long term. The plan identifies actions to address these uncertainties and strengthen the species to the point it can be delisted.
- Currently, both Snake River Spring/Summer Chinook Salmon and Snake River Basin Steelhead remain at risk of becoming endangered in the next 100 years (they are currently listed as threatened). While the status of some individual populations has improved, all spring/summer Chinook salmon populations but one remain at high risk. Many threats across their life cycles contribute to their weakened status.
- The plan includes strategies to address threats to these species throughout their life cycles. This includes operating the hydropower system to improve juvenile and adult survival on the Columbia and Snake Rivers, as well as continued improvements in spawning, rearing, and migration habitat. The plan also discusses the potential effects of increased spill for juvenile fish passage now under evaluation for the 2018 migration season.

Plan Summary and Schedule:

<u>December 12, 2017 – Day of release (in succession):</u>

- Congressional notifications (Lizama)
- Tribal notifications (Tehan/Furfey)
- Notifications to the Columbia Basin Federal Caucus Policy, Tribal and Communications Teams (Furfey/Tehan)
- WCR & HQ websites live (J. Shannon; G. Schroeder – Recovery Plans; A. Smith – Web story & Fact sheet)

- Press call (Milstein)
- West Coast Region internal announcement (Rumsey)
- Stakeholder and Commenters Notifications:
    - Snake River Coordination Group (Furfey)
    - Commenters on proposed Snake River fall Chinook Salmon Recovery Plan (Dornbusch)
    - Commenters on proposed Spring/Summer Chinook Salmon and Snake River Basin Steelhead Recovery Plan (Furfey**)**
- Regional press release and social media (Milstein, Rahi)

Materials:

- Additional Talking Points (see below)
- WCR Website Feature Story
- Questions and Answers

Key Messages and Talking Points:

NOAA Fisheries is adopting two final recovery plans based on the best available scientific information to guide the recovery of threatened Snake River fall Chinook salmon, Snake River spring/summer Chinook salmon, and Snake River Basin steelhead across the Snake River basin of Idaho, Oregon, and Washington. The recovery plans are based on best available science and identify the recovery strategies and actions necessary to achieve delisting of the species.

- The recovery plans identify the recovery strategies and actions necessary to achieve delisting of these species. These final plans complete the recovery plans for all listed salmon and steelhead species in the Snake River Basin and the larger Columbia River Basin.
- Recovery of these and other listed salmon and steelhead species in the Columbia River Basin not only fulfills goals of the ESA and benefits the ecosystem; it also provides potential for new or enhanced economic opportunities and social and cultural benefits for future generations, including renewed opportunities for tribal, commercial, and recreational fisheries.
- While recovery plans are voluntary, species recovery efforts are most efficient and effective when implemented jointly by federal, state, and tribal agencies and stakeholders. This collaboration ensures broad support and buy-in for effective implementation of recovery strategies. NOAA Fisheries worked closely with states, tribes, federal land managers, recovery boards, and local watershed groups to develop the recovery plans and ensure that they implement recovery actions that will improve species survival and population viability.
- Salmon and steelhead returns will always vary with environmental conditions, especially in the ocean where they spend much of their lives. While we cannot change the influence of the ocean, we can support salmon in the freshwater stages of their life cycle so they can take greatest advantage of favorable ocean conditions when they occur.
- The recovery plans discuss existing science on breaching of the four lower Snake River dams, but do not take a position on breaching. Other federal agencies are developing an Environmental Impact Statement (EIS) that will assess the question of breaching. NOAA Fisheries is tracking this EIS process, which we expect will identify opportunities for additional species survival improvements.

The status of Snake River fall Chinook salmon has improved significantly since listing, thanks in large part to efforts by federal, state, tribal, and private partners. The progress demonstrates that we, and our partners, have the knowledge and capacity to rebuild salmon numbers and puts recovery within reach.

- Snake River fall Chinook salmon once numbered close to a half million fish but declined to dangerously low levels (e.g., only about 78 natural-origin adult fish returned in 1990). In 1992, NOAA Fisheries listed the species as threatened under the ESA. Numbers have climbed in recent years, with at least 50,000 hatchery and natural-origin adult fall Chinook salmon passing over Lower Granite Dam into the Snake River Basin in recent years. Recent natural-origin returns have routinely been above 8,000 fish.
- Federal, state, tribal, and private partners have been implementing important actions for decades through biological opinions and with funding from programs such as NOAA

Fisheries' Pacific Coastal Salmon Recovery Fund to support recovery of Snake River fall Chinook salmon. Flow management at the Hells Canyon Complex and FCRPS dams, hydrosystem passage improvements, changes in hatchery management practices, habitat restoration efforts, and reductions in harvest have all helped improve the status of the species.

While the improvements are encouraging, uncertainty remains regarding the species' productivity and diversity, whether recent increases will continue, and whether Snake River fall Chinook salmon can sustain themselves naturally over the long term. The plan identifies actions to address these uncertainties and strengthen the species to the point it can be delisted.

- The recovery plan will provide focus and direction for continuing recovery efforts that includes research to resolve remaining uncertainties and identify additional recovery opportunities. That will ensure that continuing actions are focused on meeting recovery goals.
- The Plan includes recovery goals, objectives, and delisting criteria (including three potential pathways to ESA recovery); an evaluation of limiting factors and threats; site-specific management actions; estimates of the time and cost required to achieve recovery; and a research and monitoring plan.
- The overall approach aims to: (1) continue those actions that have contributed to the recent improvements in the species; (2) use research, monitoring and evaluation to confirm the factors driving the recent improvements and to evaluate other critical uncertainties regarding the species' status; and (3) identify and implement additional actions to achieve recovery.
- The Plan also calls for implementing a robust research, monitoring, and evaluation program to explore critical uncertainties and respond adaptively to new information.
- The plan addresses threats throughout the salmon life cycle. The plan calls for continued implementation of actions related to hydropower, habitat, predation, hatchery operations, and harvest that have contributed to improvements in the species status since listing. It also takes an adaptive management approach of tailoring actions to the latest research as biologists learn more.
- A key component of the recovery strategy is additional hatchery actions to test and inform key questions about the species productivity and to improve diversity.

Currently, both Snake River Spring/Summer Chinook Salmon and Snake River Basin Steelhead remain at risk of becoming endangered in the next 100 years (they are currently listed as threatened). While the status of some individual populations has improved, all spring/summer Chinook salmon populations but one remain at high risk. Many threats across their life cycles contribute to their weakened status.

- The decline of Snake River spring/summer Chinook salmon and Snake River Basin steelhead resulted from widespread habitat degradation, impaired mainstream and tributary passage, historic commercial fisheries, and poor ocean conditions. These combined factors reduced many populations, and drove several to extinction. It will take time, and collaborative effort, to recover from those impacts. A NOAA Fisheries 2016 Status Review found both species remain at risk and should retain their threatened status.

The plan includes strategies to address threats to these species throughout their life cycles. This includes operating the hydropower system to improve juvenile and adult survival on the Columbia and Snake Rivers, as well as continued improvements in spawning, rearing, and migration habitat. The plan also discusses the potential effects of increased spill for juvenile fish passage now under evaluation for the 2018 migration season.

- Key aspects of the recovery plan includes strategies for:
    - A recovery scenario for each species' major population groups that describes the biological goals for each population so that each population group will achieve its viability goals, and eventual delisting.
    - protecting, enhancing, and conserving existing habitat conditions and natural ecological processes;
    - continuing to implement Columbia River and Snake River hydropower system and fish passage improvements;
    - implementing harvest and hatchery actions and improvements; and
    - researching critical uncertainties and promote adaptive management.
- The plan's goal for these two species is to have tribal, state, federal, local, and private partners across the Snake River basin work together to establish self-sustaining, naturally spawning populations that are sufficiently abundant, productive, well distributed, and diverse enough to no longer require protection under the Endangered Species Act.
- The recovery plan builds upon current salmon and steelhead recovery actions across the Snake River basin, especially those advanced by the Snake River Salmon Recovery Board in Dayton, WA; Clearwater Tech Team in Moscow, ID; Grande Ronde Model Watershed in La Grande, OR; Upper Salmon Basin Watershed Program in Salmon, ID; Nez Perce Tribe's, the Shoshone Bannock Tribes', and the Confederated Tribes of the Umatilla Indian Reservation's restoration actions in OR, WA, and ID; as well as numerous other organizations and local watershed groups.
- The plan depends on an adaptive management framework that implements recovery actions based on the best available science and then monitors the results of those actions to further inform the science and future actions. Restoration practitioners can then use their new knowledge to improve and update future actions to be as effective as possible.
- Habitat restoration will be especially important to reopen and repair degraded spawning and rearing habitat that is essential to the survival and recovery of both species but which has been lost to development and other impacts.

Questions and Answers:

Q. Does the recovery plan call for breaching the lower Snake River dams? Why or why not?

A. No, the plan does not advocate either for or against dam breaching to recover Snake River salmon and steelhead. The plan describes the Columbia River System Operations Environmental Impact Statement (CRSO EIS) process that is currently underway by BPA, the Corps, and the USBR (the "co-lead agencies" for the CRSO EIS) which will evaluate the alternatives of breaching one or more dams. This plan does not prejudge this process. The recovery plan recognizes that this EIS process is underway and discusses the potential effects of dam breaching based on earlier studies with respect to salmon survival, but does not take a position on breaching given that the CRSO EIS process is still underway. We do expect that process to identify opportunities for additional improvements in survival that will be necessary to achieve recovery of Snake River spring/summer Chinook salmon and Snake River Basin steelhead.

Q. The Snake River spring/summer Chinook and Snake River Basin steelhead recovery plan recognizes that improved survival will be necessary to achieve recovery. Where will the survival improvements come from?

A. Snake River salmon and steelhead declined over many decades, and reversing that decline will also take time. The survival improvements necessary to achieve recovery will come from a combination of identified strategies and actions across the full life cycle, further actions yet to be identified through the CRSO EIS, results of research on key critical uncertainties, and the adaptive management process. The identified actions include continuing fish passage improvements at Columbia and Snake River dams and improvements in tributary and estuary habitat, both of which will further improve survival. Additional spill planned at dams during the 2018 spring migration season will test spill as a means of improving survival. In addition, the recovery plan calls for research to identify further actions to boost survival through adaptive management. For instance, a large proportion of salmon and steelhead smolts are lost in the Salmon River system before they reach the first dam on the Snake River. The cause of those losses remain a mystery, but the recovery plan targets that question for further research, which should help identify options to ameliorate the losses and improve survival.

Draft Web Story:
New plans chart recovery path for Snake River Chinook salmon and steelhead
December 2017

NOAA Fisheries today released two final recovery plans for Snake River salmon and steelhead listed under the Endangered Species Act (ESA), charting a path for recovery of three species that historically represented more than half of all Chinook salmon and steelhead returns to the Columbia River system.

The recovery plans for Snake River fall Chinook salmon, spring/summer Chinook salmon and steelhead complete the blueprint for recovery of all ESA-listed salmon and steelhead in the Columbia Basin.

"The plans tell us what we need to do to recover these fish that carry so much importance and meaning for the tribes and other communities of the Pacific Northwest," said Barry Thom, Regional Administrator for NOAA Fisheries' West Coast Region. "The next step is to deliver on the goal of recovery, which will take help and support from across the region. I'm confident that's now within our reach."

The three species each traverse hundreds of miles and up to eight major dams to return to different parts of the Snake River system at different times of year. Spring/summer chinook return in the spring and summer to spawn in the high reaches of the Snake's tributaries; fall Chinook salmon return in the fall to spawn in the river's main stem and largest tributaries; and steelhead return throughout the summer and fall to spawn in the farthest reaches of the Snake's smallest tributaries.

Snake River fall Chinook salmon have rebounded strongly from a low of only 78 natural-origin fish returning in 1990, with an average of more than 10,000 returning to spawn in recent years. The new plan estimates that the species now stands within decades of full recovery. Snake River spring/summer Chinook and steelhead have also returned in rising numbers in many areas, but many populations remain at high risk, the plans estimate.

The recovery plans outline comprehensive strategies to boost survival throughout each species' life cycle, from reduced predation on juvenile fish to repair of degraded habitat and updated hatchery practices. They also specify strategies to address the impacts of climate change. For example, habitat improvements can help cool streams and keep them safe for fish, while dam operations help control river temperatures as fish migrate. Federal agencies are also planning to increase the spill of water over dams in 2018 to evaluate potential improvements in juvenile fish survival, as directed in a court order.

The recovery plans describe the ongoing development by federal agencies of an Environmental Impact Statement (EIS) evaluating alternatives for operation of federal dams on the Columbia and Snake rivers, including the possibility of breaching one or more dams on the lower Snake River. The plans summarize earlier scientific analyses of dam breaching and increased spill but defer any recommendations to the EIS process, which is expected to conclude in 2021 with a decision on actions that may improve fish survival.

“Many people are focused on dam breaching, but the recovery plans look beyond that for recovery opportunities at all stages of the salmon and steelhead life cycle,” said Michael Tehan, Assistant Regional Administrator NOAA Fisheries’ Interior Columbia Basin Office. “Right now we know the ocean is not favorable for salmon, but that’s largely beyond our control. We’re focused on improving survival at those stages where we know we can make a difference.”

The ESA requires recovery plans for listed species, and NOAA Fisheries developed the two final plans with wide input from other federal agencies, tribes, states, local watershed groups and many more of those contributing to salmon and steelhead recovery. The plans are voluntary, not regulatory, and rely on cooperation and support from across the region to advance recovery.

For more details and to read the final recovery plans, visit http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/snake_river/current_snake_river_recovery_plan_documents.html