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Executive Summary

Drawing on over 30 years of experiences, remarkable successes, and valuable lessons learned, the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (hereafter “Services”) are pleased to share with you this revised Habitat Conservation Planning (HCP) Handbook (Handbook). The revised Handbook is the culmination of hard work and dedication by Services staff. It reflects our common commitment to actively advance the congressional findings, purpose, and policies of the Endangered Species Act (ESA), including providing a means to foster relationships with public and private partners; reduce conflicts between listed species and economic activities; and promote long-term conservation of listed species and the ecosystems on which they depend.

Since the original HCP Handbook was published in 1996 (61 FR 63854), over 1,000 HCPs covering more than 46 million acres of land have been approved nationwide. During that time, the development and implementation of HCPs has evolved in response to advances in science and technology, changing public expectations, and feedback from our partners. For example, advances in computer technology and geospatial sciences have dramatically improved the way we view and understand species, habitat, and their connection to the larger landscape. In addition, the human dimension of the HCP process has become more complex with changes in public perceptions and expectations. Our experiences and input from our partners has highlighted concerns about the complexity, cost, and time commitment required to develop HCPs.

We addressed these opportunities and concerns by establishing process standards and best practices, and also through new and refined policy guidance and procedures. These changes are meant to streamline the HCP process and increase the overall effectiveness of the program. The revised Handbook is designed to be more user-friendly and applicable in both print and web media. We reorganized the Handbook’s contents to reflect each phase of the HCP process and include tools and templates to facilitate completion of each phase. We clarified important concepts like maximum extent practicable, adaptive management, and changed and unforeseen circumstances and refined our guidance on compliance with other Federal laws and regulations. We also established guidance for addressing climate change, effective communication and coordination with stakeholders, and reaffirmed our commitment to integrity, respect, and teamwork in our HCP partnerships.

Finally, while the purpose of the revised Handbook remains to serve as an instructional aid for Services staff, we think it will be equally helpful to other HCP practitioners, such as applicants, consultants, and partners. The knowledge gained from experiences and lessons learned are essential to making the HCP process more efficient and manageable in the future.

List of Acronyms

AA	Assistant Administrator
ABPP	Avian and Bat Protection Plan
ACHP	Advisory Council on Historic Preservation
APA	Administrative Procedures Act
APE	Area of Potential Effect
APPS	Authorizations and Permits for Protected Species
BGPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
BO	Biological Opinion
CatEx	Categorical Exclusion
CCA	Candidate Conservation Agreement
CCAA	Candidate Conservation Agreement with Assurances
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DOI	Department of the Interior
DOC	Department of Commerce
DM	Decision Memorandum (NMFS)
DM	Department Manual (FWS)
DRD	Deputy Regional Director
DTS	Data Tracking System
EA	Environmental Assessment
EAS	Environmental Action Statement
ECOS	Environmental Conservation Online System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
EPM	Effect Pathway Manager
ESA	Endangered Species Act
FACA	Federal Advisory Committee Act
FDMS	Federal Docket Management Systems
FERC	Federal Energy Regulatory Commission
RD	Regional Director
ROD	Record of Decision
FOIA	Freedom of Information Act
FONSI	Finding of No Significant Impact
F/PR	Deputy Assistant Administrator for Regulatory Programs/Protect Resources
FWS	U.S. Fish and Wildlife Service
GCP	General Conservation Plan
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HEA	Habitat Equivalency Analysis

IA	Issues Advisories (NMFS)
IA	Implementing Agreement (FWS and NMFS)
IHA	Incidental Harassment Authorization
IPaC	Information for Planning and Conservation
LCC	Landscape Conservation Cooperative
LOA	Letter of Authorization
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSA	Magnuson Stevenson Act
NCTC	National Conservation Training Center
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanographic and Atmospheric Administration
NPS	National Park Service
OFR	Office of the Federal Register
PR	Protected Resources
PROD	Protected Resources Office of the Director
PVA	Population Viability Analysis
REA	Resource Equivalency Analysis
RFP	Request for Proposals
RHPO	Regional Historic Preservation Officer
RIN	Regulatory Identifier Number
ROD	Record of Decision
RTS	Regulatory Tracking System
SHA	Safe Harbor Agreement
SHC	Strategic Habitat Conservation
SHPO	State Historic Preservation Officer
SMART	Specific, Measurable, Achievable, Results-oriented, Time-fixed
SPITS	Service Permit Issuance and Tracking System
SUP	Special Use Permit
TAILS	Tracking and Integrated Logging System
THPO	Tribal Historic Preservation Office
TM	Transmittal Memorandum
TOC	Table of Contents
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
XRIN	Regulatory Identifier Numbers (NMFS)

Glossary

Origin: When a term's definition is identical in multiple documents the document with the highest authority is cited. Authority ranking is as follows: statute, regulations, policy, guidance, working definition. If a word or phrase is not a defined term in statutory, regulatory, policy, or guidance documents, the glossary's definition or explanation is noted as a "working definition". In these cases the compiler composed a working definition by drawing contextual quotes and information from the statutes and regulations or by using various non-statutory and non-regulatory sources (e.g. dictionaries, Service websites, etc.) to construct a commonly held meaning for the phrase or word.

NEPA definitions are noted by "(NEPA definition)", where applicable, to distinguish between NEPA and ESA definitions.

action - All discretionary activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. Examples include, but are not limited to: (a) actions intended to conserve listed species or their habitat; (b) the promulgation of regulations; (c) the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or (d) actions directly or indirectly causing modifications to the land, water, or air.

Origin: 50 CFR 402.02, FWS and NMFS

action area - All areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

Origin: 50 CFR 402.02, FWS and NMFS

adaptive management - A method for examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation management actions according to what is learned.

Origin: 65 FR 35252, Five-Point Policy

adequately covered - With respect to ESA-listed species, a proposed conservation plan has satisfied the permit issuance criteria under section 10(a)(2)(B) of the ESA for the species covered by the plan, and, with respect to unlisted species, that a proposed conservation plan has satisfied the permit issuance criteria under section 10(a)(2)(B) of the ESA that would otherwise apply if the unlisted species covered by the plan were actually listed. For the Services to list a species on the section 10(a)(1)(B) permit, it must be addressed in the conservation plan.

Origin: 50 CFR 17.3, FWS; 50 CFR 222.102, NMFS

administrative record - The records assembled for a court action that a judge reviews to determine if a final agency decision is legally sufficient and supportable. Also referred to as the agency record or decision file.

Origin: Working definition

affecting - (NEPA definition) - Will or may have an effect on.

Origin: 50 CFR 1508.3, CEQ

affected environment - (NEPA definition) - The NEPA analysis document shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of a NEPA analysis document.

Origin: 40 CFR 1502.15, CEQ

alternatives including the proposed action – (NEPA definition) - Refers to alternatives, including the no action alternative and the proposed action, that are considered in detail and described within a NEPA document (EA or EIS). The alternatives section of the NEPA document shall devote substantial and objective treatment to each of these alternatives so that reviewers may evaluate their comparative merits.

Origin: 40 CFR 1502.14, CEQ

alternative courses of action – Within the context of ESA section 7, all alternatives not limited to original project objectives and agency jurisdiction.

Origin: ESA section 3(1); ESA section 7

alternatives to the taking - A required portion of an HCP which describes “what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized.” This discussion should address any other actions that the applicant could have chosen that would have *avoided*, and thus, avoid the need for an incidental take permit, *or significantly reduced* the impact of the taking of the listed entity (e.g., species, distinct population segment, etc.).

Origin: ESA §10(a)(2)(A)(iii); FWS 2012

amendment – Where circumstances have changed so that a permittee desires to have any condition of his permit modified, such permittee must submit a full written justification and supporting information (50 CFR 13.23, FWS; 50 CFR 222.203, NMFS). The Service reserves the right to amend any permit for just cause at any time during its term, upon written finding of necessity (50 CFR 13.23, FWS; 50 CFR 222.203, NMFS).

Origin: 50 CFR 13.23, FWS; 50 CFR 222.203, NMFS

Additional information: See also administrative amendment and formal amendment.

analysis area - (NEPA definition) - The geographic area within which impacts to particular resource are analyzed. The analysis area or geographic area analyzed will be different for different resources. For example the species range and the particular recovery unit where the project is located may be the most appropriate analysis areas for a listed species; a watershed may be the hydrologic analysis area; and a county may be the socioeconomic analysis area. Sometimes the analysis boundary for a particular resource will change with different alternatives. While analysis requirements differ, the “analysis area” term can apply equally well to analyses conducted under section 7 and section 10 of ESA as well as NEPA.

Origin: Working definition adapted from NPS Director's Order 12 (NEPA guidance) found at http://www.nature.nps.gov/protectingrestoring/do12site/02_Ovrvu/028_affected_env.htm accessed 11/10/14.

anticipated/allowable/authorized – In incidental take statements, the Services determine the amount or extent of incidental take "anticipated" (expected) due to the proposed action or an action modified by reasonable and prudent alternatives. When writing incidental take statements, use only the phrase "anticipated" rather than "allowable" or "authorized," as the Services do not allow or authorize (formally permit) incidental take under Section 7.

Origin: FWS and NMFS 1998

Additional Information: See FWS and NMFS 1998 pp. 4-45 to 4-49.

applicant - Refers to any person, as defined in section 3(13) of the ESA, who requires formal approval or authorization from a Federal agency as a prerequisite to conducting an action.

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: See also qualified applicant.

application - A complete section 10 application consists of at least the following: the application form, fee (if required), conservation plan or agreement, and NEPA compliance document.

Origin: working definition

assurances - With the 1982 Amendments to the ESA, Congress envisioned and allowed the Federal government to provide regulatory assurances to non-Federal property owners through the section 10 incidental take permit process. The Services believed that non-Federal property owners should be provided economic and regulatory certainty regarding the overall cost of species conservation and mitigation, provided that the affected species were adequately covered, and the permittee was properly implementing the HCP and complying with the terms and conditions of the HCP, permit, and Implementing Agreement (IA), if used.

Origin: FWS and NMFS 2000

authorized take - Take that is formally permitted under section 10 of the ESA.

Origin: Working definition

Avian and Bat Protection Plan (ABPP) or Bird and Bat Conservation Strategy (BBCC) – A document that describes a program to reduce risks to birds and bats from electric utility equipment and facilities.

Origin: Working definition

Additional information: Most often associated with wind energy.

baseline conditions - Within the context of HCPs or SHAs, these are population estimates and distribution and/or habitat characteristics and determined area of the enrolled property that sustain seasonal or permanent use by the covered species at the time an agreement is executed between the Services and the property owner.

Origin: FWS 2013

Additional information: See environmental baseline, which is a different definition within the context of ESA section 7.

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.

Origin: FWS 2011

best available scientific and commercial data - This phrase is not defined, but the Services have a joint policy on its use and consideration. "...to assure the quality of the biological, ecological, and other information used in the implementation of the Act, it is the policy of the Services to: (1) evaluate all scientific and other information used to ensure that it is reliable, credible, and represents the best scientific and commercial data available; (2) gather and impartially evaluate biological, ecological, and other information disputing official positions, decisions, and actions proposed or taken by the Services; (3) document their evaluation of comprehensive, technical information regarding the status and habitat requirements for a species throughout its range, whether it supports or does not support a position being proposed as an official agency position; (4) use primary and original sources of information as the basis for recommendations; (5) retain these sources referenced in the official document as part of the administrative record supporting an action; (6) collect, evaluate, and complete all reviews of biological, ecological, and other relevant information within the schedules established by the Act, appropriate regulations, and applicable policies; and (7) require 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."

Origin: 1994 Federal Register notice July 1, 1994 (Volume 59, No. 126) p. 34271.

Additional Information: This phrase does not appear in this form in the ESA. The ESA structures the phrase "best scientific and commercial data available". ESA, Section 4(b).

best management practices - Recommended measures that, if implemented as part of a proposed action, would, to the extent practicable, avoid, minimize, and mitigate for adverse effects of that proposed action on the relevant species.

Origin: FWS 2011b

biological assessment - In the context of section 7, "...information prepared by, or under the direction of, a Federal agency concerning listed and proposed species and designated and proposed critical habitat that may be present in the action area and the evaluation [of] potential effects of the action on such species and habitat."

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: The phrase first appears in the ESA, but is defined in the regulations. Biological assessments must be prepared for "major construction activities." See 50 CFR 402.02. The outcome of this biological assessment determines whether formal consultation or a conference is necessary. 50 CFR 402.02 and 402.12. Biological Assessments are required for projects seeking exemption from 7(a)(2) of the ESA through the Endangered Species Committee ESA, Section 7(c)(2).

biological goal – Habitat and wildlife are closely intertwined. Managing wildlife may include habitat manipulation and direct manipulation of populations. Thus, where possible, biological goals should include both habitat and wildlife elements. Each biological goal should contain four

elements: (1) a key subject of concern (e.g., a particular species or guild, a biotic community, or a habitat type); (2) the attribute of interest for that subject (e.g., population size, physical area covered, species composition); (3) a conceptual target or condition for the attribute (e.g., a number, period of time, natural); and (4) an action or effort (e.g., restore, provide) that we will make relative to the target.

Origin: FWS 1997

Additional Information: See also goal.

biological objective – A concise statement of what we want to achieve, how much we want to achieve, when and where we want to achieve it, and who is responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring refuge accomplishments, and evaluating the success of strategies.

Origin: FWS 1997

Additional information: See also objective.

Biological Opinion – The document that states the opinion of the Service as to whether or not the Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: The biological opinion shall include: (1) a summary of the information on which the opinion is based; (2) a detailed discussion of the effects of the action on listed species or designated critical habitat; and the Service's opinion on whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a “no jeopardy” biological opinion). A “jeopardy” biological opinion shall include reasonable and prudent alternatives, if any. If the Service is unable to develop such alternatives, it will indicate that the best of its knowledge there are no reasonable and prudent alternatives. 50 CFR 402.14(h).

Bird and Bat Conservation Strategy (BBCS) or Avian and Bat Protection Plan (ABPP) – A document that describes a program to reduce risks to birds and bats from electric utility equipment and facilities.

Origin: Working definition

Additional information: Most often associated with wind energy. See also definition for Avian and Bat Protection Plan (above).

Candidate Conservation Agreement (CCA) – An Agreement signed by either Service, or both Services jointly, and other Federal or State agencies, local governments, Tribes, businesses, organizations, or non-Federal citizens, that identifies specific conservation measures that the participants will voluntarily undertake to conserve the covered species.

Origin: Working definition

Additional Information: Quote taken from policy on Candidate Conservation Agreements with Assurances published in the Federal Register, June 17, 1999 (Volume 64, No. 116) p. 32734.

Candidate Conservation Agreement with Assurances (CCAA) – Candidate Conservation Agreements with Assurances are voluntary conservation agreements between the Service and one or more public or private parties. The Service works with its partners to identify threats to candidate species, plan the measures needed to address the threats and conserve these species,

identify willing landowners, develop agreements, and design and implement conservation measures and monitor their effectiveness. Assurances provided to a non-Federal property owner in a Candidate Conservation Agreement with assurances that conservation measures and land, water, or resource use restrictions in addition to the measures and restrictions described in the Agreement will not be imposed should the covered species become listed in the future. Candidate Conservation Assurances will be authorized by an Enhancement of Survival Permit. Such assurances may apply to a whole parcel of land, or a portion, as identified in the Agreement.

Origin: Working definition

Additional Information: Quote taken from policy on Candidate Conservation Agreements with Assurances published in the Federal Register, June 17, 199 (Volume 64, No. 116) p. 32734. The assurances included in these agreements provide greater certainty (and most include a 10(a)(1)(A) permit for incidental take) if the species becomes listed. Assurances cannot be extended to federal agencies.

candidate species - For those species under the jurisdiction of FWS, "...those species for which the Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to the list them as endangered or threatened species. Proposal rules have not yet been issued because this action is precluded..." For those species under the jurisdiction of NMFS, candidate species are any species that are undergoing a status review that NMFS has announced in a Federal Register notice, whether or not they are the subject of a petition.

Origin: 61 FR 7598, FWS; 71 FR 61022, NMFS

categorical exclusion (CatEx; NEPA definition) – A category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedure adopted by a Federal agency in implementations of these regulations (Sec. 1507.3 and for which, therefore, neither an environmental assessment nor an environmental impact statement is required).

Origin: 40 CFR 1508.4, CEQ

certificate of inclusion - Certificates of inclusion are template instruments created under an HCP for the purpose of conveying take authority to enrollees. Additionally, specific to NMFS, any individual who wishes to conduct an activity covered by a NMFS general incidental take permit must apply to the Assistant Administrator for a Certificate of Inclusion. 50 CFR 222.307(f), NMFS.

Origin: Working definition and 50 CFR 222.307(f), NMFS

changed circumstances - Changes in circumstances affecting a species or geographic area covered by a conservation plan or conservation agreement that can reasonably be anticipated by plan or agreement developers and the Service(s) and that can be planned for (*e.g.*, the listing of new species, or a fire or other natural catastrophic event in areas prone to such events).

Origin: Working definition

conference and conference opinion- Noun form of the word confer from Section 7(a)(4) of the ESA. Defined in the regulations as "a process which involves informal discussions between a Federal agency and the Service under Section 7(a)(4) of the ESA regarding the impact of an action on proposed species or proposed critical habitat and recommendations to minimize or

avoid the adverse effects.” 50 CFR 402.02. Discussed further in the regulations at 50 CFR 402.10 “Federal agencies shall confer with the Service on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. The conference is designed to assist the Federal agency and any applicant in identifying and resolving potential conflicts at an early stage in the planning process.” Conferences are concluded with either a Conference Report or (if requested) a Conference Opinion. Conference Opinions may be adopted as a biological opinion after listing, under certain conditions (402.10). Many agencies voluntarily request to conference on projects that they determine “may affect” (as opposed to the likely to jeopardize) proposed species, critical habitat (402.10) or candidate species. Adoption of the conference opinion should be requested in writing. Because of the wide variety of actions taken by the Service and action agency relative to a “voluntary” conference, the process and terminology can become confusing.

Origin: 50 CFR 402.02 and 402.10, FWS and NMFS

Additional information: A conference opinion uses the same format as a biological opinion and may be adopted as a biological opinion after listing, under certain conditions (402.10). An incidental take statement may be included, but is not in effect until the species is listed. Adoption of the conference opinion should be requested in writing. See discussion in Chapter 6 of FWS and NMFS 1998.

conserve – “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] Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.”

Origin: ESA, Section 3

Additional information: Also codified as 50 CFR 424.02

conservation banking - A method used to offset impacts occurring elsewhere to the same listed species (FWS 2005). A “bank” consists of non-Federal land containing natural resource values conserved and managed in perpetuity (FWS 2005). Conservation banking is a tool for federal agencies, project applicants, and other entities to address the adverse effects of proposed actions on listed and other federally-managed species, and to support the recovery of listed species and their habitats (NMFS 2015). A conservation bank is a parcel of land containing natural resource values the banker has conserved, restored, created and managed in perpetuity for federal or state protected species.

Origin: USFWS 2005, NMFS 2015

conservation measures – 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.

Origin: Section 7 Handbook, p. xii

conservation plan – The plan required by section 10(a)(2)(B) of the ESA that an applicant must submit when applying for an incidental take permit. Conservation plans also are known as “habitat conservation plans” or “HCPs.” Incidental take is authorized through 10(a)(1)(B) permit.

Origin: 50 CFR 17.3, FWS, and 50 CFR 222.102, NMFS

Additional information: First mentioned, but not defined, in the ESA (Section 10).

conservation program – An operating conservation program includes an operating conservation plan, the aim of which is to avoid, minimize, and compensate for impacts on covered species that result from authorized activities, and to protect and conserve habitats that support these species.

Origin: Working definition

Additional information: See also operating conservation program.

conservation priority areas – Specific areas identified in a species conservation strategy as a priority for that particular species.

Origin: working definition

conservation strategy [also conservation framework] - An established, consistent approach for guiding conservation actions. Should be founded on recovery plan actions if available, or other formal intra-Service planning, agreements, or procedures. Ideally, these take the form of directives issued by appropriate management level governing the affected Service field stations. For example, targeting conservation projects to reduce species habitat fragmentation.

Origin: Working definition

conserved habitat areas - Areas explicitly designated for habitat restoration, acquisition, protection, or other conservation purposes under a conservation plan.

Origin: 50 CFR 17.3, FWS; 50 CFR 222.102, NMFS

consultation - The process required of a Federal agency under section 7 of the ESA when any activity authorized, carried out, or conducted by that agency may affect a listed species or designated critical habitat; consultation is with FWS or NMFS and may be either informal or formal. See Section 7(a)(1) and 7(a)(2) of the ESA.

Origin: FWS and NMFS 1998 and working definition from FWS and NMFS 1998.

covered activities – Activities that a permittee will conduct for which take is authorized in an ESA section 10 permit.

Origin: Working definition

covered species – Species for which incidental take is authorized in an incidental take permit and is adequately covered in a habitat conservation plan. Could also include unlisted species that have been adequately addressed in an HCP as though they were listed, and are therefore included on the permit.

Origin: Working definition

critical habitat – (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the ESA, on which are found those physical or biological features and (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.” In some cases not all areas occupied by a species are designated as critical habitat.

Origin: ESA section 3

cumulative effects – (ESA Section 7 definition) Those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation.

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: This definition applies only to Section 7 analyses and should not be confused with the use of the term Cumulative Impact in the National Environmental Policy Act or other environmental laws.

cumulative impact – (NEPA definition) - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Origin: 40 CFR 1508.7, CEQ

Additional information: This definition applies only to NEPA analyses and should not be confused with the use of the term Cumulative Effects in the ESA.

deconstructing the action: The process of identifying sub-activities and their consequences. This process breaks larger action into component activities. Each sub-activity can cause different effects.

Origin: FWS 2011b; Cole 2013

destruction or adverse modification – A determination made by the Services in a Biological Opinion regarding a project’s effects to proposed or designated critical habitat. The phrase is used in the ESA (Section 7) but not defined there. Currently there is no regulatory definition. In 1986 the Service promulgated a definition (50 CFR 402.02) but that definition was found invalid by circuit courts in 2001 and 2004. The Service now relies on the statutory context of the ESA to complete the analysis. Specific explanation and guidance is contained in the December 9, 2004 memorandum to the Regional Directors from Marshall Jones, then Acting Director of the FWS. (“Application of ‘Destruction and adverse Modification’ Standard under Section 7(a)(2) of the Endangered Species Act”)

Origin: Working definition; 79 FR 27060 (proposed rule as of May 12, 2014)

Additional Information: This phrase and similar phrases such as Adversely Modify and Adverse Modification can create confusion if used by action agencies or the Service to describe situations where critical habitat is destroyed or modified by a project, resulting in an adverse effect determination. That situation is at an action area scale and is rarely the same scale at which the determination of Destruction or Adverse Modification is made by the Services. Simplistically

and broadly, Destruction or Adverse Modification can be thought of as parallel in scale to a Jeopardy Analysis.

development or land use area - Those portions of the conservation plan area that are proposed for development or land use or are anticipated to be developed or utilized.

Origin: USFWS 1996

direct effects, ESA - Related to the ESA, the direct or immediate effects of the project on the species or its habitats.

Origin: FWS and NMFS 1998, p. 4-25

direct effects, NEPA - Related to NEPA, are effects caused by the action and occur at the same time and place.

Origin: 40 CFR 1508.8, FWS and NMFS

early consultation – A process requested by a Federal agency on behalf of a prospective applicant under Section 7(a)(3) of the Act.

Origin: 50 CFR 402.02 and 402.11, FWS and NMFS

Additional information: First mentioned in the ESA, but not defined there. The resulting consultation document is referred to as a Preliminary Biological Opinion. It can be confirmed as a final opinion by written request. See details at 7(a)(3) of the Act, 50 CFR 402.11, and chapter 7 of FWS and NMFS 1998 for specific process.

effects of the action - Related to section 7 of the ESA, “...the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action that will be added to the environmental baseline.”

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: Discussion on pp. 4-25 through 4-29 of FWS and NMFS 1998.

endangered species – Any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

Origin: ESA section 3(6); 50 CFR 424.10(e), FWS and NMFS

ESA (or Act) - the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1543; 87 Stat 884) (50 CFR 17.3).

enhancement of survival permit – A permit issued under section 10(a)(1)(A) of the ESA that authorizes the permittee to incidentally take species covered in a Candidate Conservation Agreement with Assurances or a Safe Harbor Agreement or to take listed species for research or recovery-related activities.

Origin: Working definition

Additional Information: Quote taken from policy on Candidate Conservation Agreements with Assurances published in the Federal Register, June 17, 1999 (Volume 64, No. 116) p. 32734.

enrolled lands (or enrolled properties, enrolled area) - Specific lands within the agreement area or plan area that have gone through the process of becoming enrolled under a CCAA, SHA, or HCP and associated EOS/ITP. This term often used for large programmatic or expanding HCPs where the properties are being enrolled over a period of time and there is a need to distinguish between the parts of the plan area that are enrolled and those parts that are not yet enrolled. ECOS does use this term for HCPs as well as CCAs and SHAs.

Origin: Working definition and FWS 2003

Environmental Action Memorandum Statement (EAMS) or Environmental Action Statement (EAS) - A FWS document prepared to explain the Service's reasoning in finalizing an action that is categorically excluded from NEPA.

Origin: FWS 2001, FWS 1996

environmental assessment (EA; NEPA definition) - A concise public document, prepared in compliance with NEPA, that briefly discusses the purpose and need for an action, alternatives to such action, and provides sufficient evidence and analysis of impacts to determine whether to prepare an Environmental Impact Statement or Finding of No Significant Impact.

Origin: 40 CFR 1508.9, CEQ; FWS 2001, FWS 2003, FWS 1996

environmental baseline - Within the context of section 7, it is a term explained within the regulatory definition of "Effects of the Action" as "... the past and present impacts of all Federal, State, or private actions and other human activities in an action area, the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early Section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process."

Origin: 50 CFR 402.02, FWS and NMFS

Additional Information: See also baseline, which is a different definition within the context of HCPs and other agreements, such as SHAs.

environmental consequences (NEPA definition) - A section of a NEPA Environmental Impact Statement including environmental impacts of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources.

Origin: NEPA section 102(2)(C); 40 CFR 1502.16, CEQ

environmental document (NEPA definition) - Environmental document includes the documents specified in § 1508.9 (environmental assessment), § 1508.11 (environmental impact statement), § 1508.13 (finding of no significant impact), and § 1508.22 (notice of intent).

Origin: 40 CFR 1508.9, 1508.11, 1508.13, 1508.22, CEQ

environmental impact statement (EIS; NEPA definition) - A detailed written statement required by section 102(2)(C) of NEPA containing, among other things, an analyses of environmental impacts of a proposed action and alternative considered, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources.

Origin: NEPA section 102(2)(C); 40 CFR 1508.11 and 40 CFR 1502, CEQ; FWS 2001, FWS 2003, FWS 1996

extinction – No longer in existence, *i.e.*, no individuals of the species exist.

Origin: FWS 2011

extirpated – Locally extinct; other populations of the species exist elsewhere.

Origin: FWS 2011; FWS 2005

federal agency - any department, agency, or instrumentality of the United States.

Origin: ESA section 3(7); FWS and NMFS 1998

Federal Register (FR) – The official journal of the federal government that contains most routine publications and public notices of government agencies. The Federal Register is compiled by the Office of the Federal Register (within the National Archives and Records Administration) and is printed by the Government Printing Office. Section 10(c) of the ESA requires we publish notices in the Federal Register.

Origin: Working definition

federal regulations - When a law is passed by Congress and signed by the President, its language authorizes the relevant members of the President’s Cabinet (*e.g.*, the Secretaries of the Interior and Commerce) to enact Federal regulations to instruct Federal agencies on how to implement the statute they execute. Found in the Code of Federal Regulations (CFR), all Federal agencies must comply with the requirements of these regulations. The regulations that most pertain to HCPs are found at 50 CFR Parts 13 and 17 for the FWS and 50 CFR Part 222 for NMFS. Also note that the regulations that pertain to section 7 of the ESA are found at 50 CFR Part 202.

Field Office - Offices of each Service with specific areas of responsibilities, or sub-offices reporting to the Regional Office.

finding of no significant impact (FONSI; NEPA definition) - A document prepared in compliance with NEPA, supported by an EA, that briefly presents why a Federal action will not have a significant effect on the human environment and for which an EIS, therefore, will not be prepared.

Origin: 40 CFR 1508.13, CEQ; FWS 2001, FWS 2003, FWS 1996

findings - See set of findings.

Origin: FWS 2012

fish and/or wildlife – Any member of the animal kingdom, including without limitation any mammal, fish, bird (including any migratory, nonmigratory, or endangered bird for which protection is also afforded by treaty or other international agreement), amphibian, reptile, mollusk, crustacean, arthropod or other invertebrate, and includes any part, product, egg, or offspring thereof, or the dead body or parts thereof.

Origin: ESA Section 3(8); 50 CFR 424.02

Additional Information: Definition was created in 1984 to interpret and implement those portions of the Endangered Species Act that pertain to the listing of species and the determination of critical habitats.

Freedom of Information Act (FOIA) - A federal statute that applies to the Executive Branch of Government. Anyone can submit a request to see agency records for any reason. Requirements: 1) The records are reasonably described, and 2) The request is made according to published regulations. The request must be for copies of "Agency Records": 1) Existing and created or obtained by the Agency, and 2) Under the control of the Agency.

Origin: 5 USC 552; FWS 2012

funding assurances - It is incumbent upon the applicant to produce an itemized list of all financial obligations necessary to implement all components of the conservation program including all minimization and mitigation measures; adaptive management and monitoring programs; maintenance of preserve lands; all measures to address changed circumstances; and any other aspects of the HCP deemed necessary to meet the issuance criteria throughout the duration of the permit. To this end, it is vitally important that the applicant develop a robust and very detailed economic analysis which not only addresses current costs, but also includes a factor for addressing inflation, changing land values and any other changing costs for the duration of the agreed upon time frame. Additionally, the applicant must identify the financial/legal instruments that will be used to ensure that funding will be available in appropriate amounts at appropriate times throughout the duration of the obligation.

Origin: FWS 2012 and working definition

general conservation plan (GCP) - Consists of a completed landscape level conservation plan and NEPA compliance document produced either by the Services, or by another entity in cooperation with the Services; however, no permit is issued at the time the conservation plan is approved. This approach is recommended in situations where a large-scale HCP covering many similar actions is needed, but where no applicant is capable to serve as a master permittee. In this type of HCP, the Services define the geographic scope of the GCP, the conservation plan and associated mitigation requirements. In this process, the Services complete a single Findings document, a single section 7 biological opinion, and a single NEPA document for all actions covered under the GCP. The GCP is made available for adoption and use by numerous applicants who will receive individual ITPs when they can demonstrate compliance with the conservation plan and mitigation requirements of the GCP.

Origin: October 5, 2007 U.S. Fish and Wildlife Service Policy Memo; Cole 2013

goal – Habitat and wildlife are closely intertwined. Managing wildlife may include habitat manipulation and direct manipulation of populations. Thus, where possible, biological goals should include both habitat and wildlife elements. Each biological goal should contain four elements: (1) a key subject of concern (e.g., a particular species or guild, a biotic community, or a habitat type); (2) the attribute of interest for that subject (e.g., population size, physical area covered, species composition); (3) a conceptual target or condition for the attribute (e.g., a number, period of time, natural); and (4) an action or effort (e.g., restore, provide) that we will make relative to the target.

Origin: FWS 1997

Additional Information: See also biological goal.

habitat - The location where a particular taxon of plant or animal lives and its surroundings, both living and non-living; the term includes the presence of a group of particular environmental conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography.

Origin: FWS 2013, FWS 2005, FWS 2003, FWS 1996

harass (FWS) – Is defined by the FWS as “... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.”

Origin: 50 CFR 17.3

Additional information: Federal Register, September 26, 1975 (Volume 40, No. 188) p. 544413. In 1998 additional language was added for circumstances involving captive wildlife. “...This definition, when applied to captive wildlife, does not include generally accepted: (1) Animal husbandry practices that meet or exceed the minimum standards for facilities and care under the Animal Welfare Act, (2) Breeding procedures, or (3) Provisions of veterinary care for confining, tranquilizing, or anesthetizing, when such practices, procedures, or provisions are not likely to result in injury to the wildlife.” Federal Register September 11, 1998, Volume 63, No. 176 (p. 48639).

harass (NMFS) – The National Marine Fisheries Service has never promulgated a definition for Harass under the ESA. Harass (when used in a NMFS Biological Opinion for ESA listed species) is commonly described as an intentional or unintentional human act or omission that creates the probability of injury to an individual animal by disrupting one or more behavioral patterns that are essential to the animal’s life history or its contribution to the population the animal represents.

Origin: Working definition

Additional information: NMFS has promulgated a definition for Harass under the Marine Mammal Protection Act). See that Act (and 1994 amendments) for that definition.

harm (FWS) – Is defined by FWS to mean “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering.”

Origin: 50 CFR 17.3

Additional information: See 1981 Final Rule, Federal Register November 4, 1981 (Volume 46, number 213) p. 54750.

harm (NMFS) – NMFS promulgated its own definition of Harm under the ESA. It is very similar to the FWS definition. “Harm in the definition of “take” in the ESA means an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.”

Origin: 50 CFR 222.102

Additional information: See also Federal Register, November 8, 1999, Vol. 64, No. 215 (pp. 60727-60731).

HCP (or SHA or CCA) Area - A term to express the specific geographic area where the plan or agreement can be implemented.

Origin: working definition

HCP (or SHA or CCA) Boundary - The boundary of the specific geographic area where the plan or agreement can be implemented.

Origin: working definition

historic property - Under the National Historic Preservation Act (NHPA), any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register, including artifacts, records, and material remains relating to the district, site, building, structure, or object.

Origin: NHPA section 106; 36 CFR 800.16(l)(1)

impacts (NEPA definition) - Synonymous with effects and used interchangeably.

Origin: 40 CFR 1508.8, CEQ

implementation agreement or implementing agreement - Section 10(a)(2)(B) of the ESA-- which describes issuance criteria for incidental take permits--authorizes the Services to obtain "such other assurances as [they] may require that the plan will be implemented." This provision allows the Services broad latitude to require measures as necessary to accommodate the wide variety of circumstances often encountered in HCPs. Implementing Agreements can help assure the government that the applicant will implement the mitigation program and other conditions of the HCP, while assuring the applicant that agreed upon procedures will be followed for any changes in the conditions of the permit or the conservation measures for species addressed in the HCP. An Implementing Agreement includes one or more of the following elements: (1) defines the obligations, benefits, rights, authorities, liabilities, and privileges of all signatories and other parties to the HCP; (2) assigns responsibility for planning, approving, and implementing specific HCP measures; (3) specifies the responsibilities of the FWS, NMFS, or other state and Federal agencies in implementing or monitoring the HCP's conservation program; (4) provides for specific measures when habitat acquisition, transfer, or other protections are part of the HCP's mitigation program; (5) establishes a process for amendment of the HCP, where necessary; and (6) provides for enforcement of HCP measures and for remedies should any party fail to perform on its obligations under the HCP.

Origin: FWS and NMFS 1996

incidental take - Take of listed fish or wildlife species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a Federal agency or applicant.

Origin: 50 CFR 402.02, FWS and NMFS; FWS and NMFS 1998

Additional information: Incidental take can be exempted through section 7 or authorized by section 10 of the Act.

incidental take permit (ITP) - A permit issued under section 10(a)(1)(B) of the ESA to a non-Federal party undertaking an otherwise lawful project that might result in the take of an endangered or threatened species. Application for an incidental take permit is subject to certain

requirements, including preparation by the permit applicant of a conservation plan, generally known as a "Habitat Conservation Plan" or "HCP."

Origin: ESA section 10(a)(1)(B); FWS 2005

incidental take statement – A section after the conclusion of a Biological Opinion that “...(i) specifies the impact of such incidental taking on the species, (ii) specifies those reasonable and prudent measures that the Secretary considers necessary or appropriate to minimize such impact, (iii) in the case of marine mammals, specifies those measures that are necessary to comply with section 1371(a)(5) of this title with regard to such taking, and (iv) sets forth the terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency or applicant (if any), or both, to implement the measures specified under clauses (ii) and (iii).”

Origin: Working definition

Additional information: Quote in text above taken from the ESA Section 7(b)(4)(C). The 1986 regulations describe it this way “...(i) Specifies the impact, i.e., the amount or extent, of such incidental taking of the species; (ii) Specifies those reasonable and prudent measures that the Director considers necessary or appropriate to minimize such impact; (iii) Sets forth the terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency or any applicant to implement the measures specified under (ii) above; and (iv) Specifies the procedures to be used to handle or dispose of any individuals of a species actually taken.” [50 CFR 402.14(i-iv)] See also page 4-42 through 4-53 of FWS and NMFS 1998.

indirect effects (ESA definition) - Those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur.

Origin: 50 CFR 402.02, FWS and NMFS; USFWS and NMFS 1998

indirect effects (NEPA definition) - Are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Origin: 40 CFR 1508.8, CEQ

interdependent actions (ESA definition) - Are those that have no independent utility apart from the action under consideration.

Origin: 50 CFR 402.02, FWS and NMFS

interrelated actions (ESA definition) - Are those that are part of a larger action and depend on the larger action for their justification.

Origin: 50 CFR 402.02, FWS and NMFS

IPaC (Information, Planning and Conservation system) – This is an internet-based system designed for easy, public access to the natural resources information for which the U.S. Fish and Wildlife Service has trust or regulatory responsibility. One of the primary goals of the system is to provide information that assists people in planning activities within the context of natural resource conservation. The IPaC system also assists people through the various regulatory

consultation, permitting and approval processes administered by the Fish and Wildlife Service, helping achieve more effective and efficient results for both the project proponents and natural resources.

Origin: Working definition

Additional information: <http://www.fws.gov/ipac/>

jeopardy, jeopardize, jeopardize the continued existence of – A phrase used in the ESA, but only defined in the regulations. “...to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”

Origin: 50 CFR 402.02, FWS and NMFS

Additional information: “The determination of jeopardy or adverse modification is based on the effects of the action on the continued existence of the entire population of the listed species or on a listed population...” (Section 7 Handbook, pp. 4-33 and 4-34).

land use area or development area - A term to identify the area within the HCP boundary and permit area where the majority of the land use project activities and most direct impacts will occur.

Origin: FWS 1996

listed species - Any species of fish, wildlife or plant which has been determined to be endangered or threatened under section 4 of the Act. FWS listed species are found in 50 CFR 17.11-17.12. NMFS listed species are found in 50 CFR 223.102 and 224.101.

Origin: 50 CFR 402.02

low effect HCPs - Those HCPs involving minor or negligible effects on federally listed, proposed, or candidate species and their habitats covered under the HCP and minor or negligible effects on other environmental values or resources. Effects can be mitigated, such as buying conservation bank credits, so that the HCP can be considered “low effect.”

Origin: FWS 2011

master permit holder - A permit holder implementing a programmatic conservation plan who can enroll other participants and convey incidental authority under their master incidental take permit. See also certificate of inclusion.

Origin: Working definition

maximum extent practicable - In the context of issuance criteria (2) for 10(a)(2)(B) permits, a major point of concern for applicants is knowing how much conservation they will be responsible for achieving. They should develop HCPs to provide conservation that is commensurate with the amount and significance (i.e. impacts) of the taking and we should help applicants understand and navigate how to develop a plan that does this. One HCP permit issuance criterion provides particularly helpful guidance: “the applicant will, to the maximum extent practicable, minimize and mitigate the impact of the taking.” To meet this issuance criterion and receive a permit, the applicant must:

1. define the amount of take expected from covered activities and the impacts of the taking in the HCP

2. determine from a biological perspective how far the minimization and mitigation measures in the HCP will go in offsetting the impacts of the taking, and
3. determine the net effects of the impacts vs. the minimization and mitigation.

Based on steps 1-3 above, the HCP will either:

- fully offset the impacts of the taking (based on biological criteria)
- OR
- if the impacts of the taking cannot be *fully* offset, the applicant will provide the “maximum extent practicable” (e.g. the most they can practically do) to minimize and mitigate the impacts of the taking

Origin: Working definition

minimization measures - Within the context of the HCP, minimization is related to the impacts of the proposed covered activities on the species to be covered. In other words, minimization measures comprise actions that will reduce the impacts of the taking that have been identified during the development of the HCP.

Origin: Working definition

mitigation - (NEPA definition) - Under NEPA regulations, to moderate, reduce or alleviate the impacts of a proposed activity, including: a) avoiding the impact by not taking a certain action or parts of an action; b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; e) compensating for the impact by replacing or providing substitute resources or environments.

Origin: 40 CFR 1508.20, CEQ; FWS 1996

monitoring - Conservation plans require monitoring in some capacity dependent upon the type of plan and permit holder(s). An ideal monitoring requirement would consist of three separate components:

- Compliance monitoring
- Effects monitoring
- Effectiveness monitoring.

Origin: FWS 2011b

National Environmental Policy Act (NEPA) - A federal statute that requires Federal agencies to consider the environmental impacts of their discretionary proposed actions, and for significant environmental actions seeking public input on decisions and implementation of federal actions.

negligible (and minor) - (NEPA definition) - Regarding effects under NEPA, these are non significant actions.

Origin: Derived from 40 CFR 1508.7, CEQ

NEPA (analysis) document - NEPA screening document, environmental assessment, or environmental impact statement

Origin: Working definition

no surprises assurances - The No Surprises policy, originally announced in 1994, provides regulatory assurances to the holder of a Habitat Conservation Plan (HCP) incidental take permit issued under section 10(a) of the ESA that no additional land use restrictions or financial compensation will be required of the permit holder with respect to species covered by the permit, even if unforeseen circumstances arise after the permit is issued indicating that additional mitigation is needed for a given species covered by a permit.

Origin: 50 CFR 17, FWS; 50 CFR 222, NMFS

non-federal property owner - Property owners, including, but not limited to private individuals, states, tribes, non-governmental organizations, industries, etc. that can apply for incidental take permits under ESA section 10(a)(1)(B) and participate in corresponding conservation plans.

Origin: Working definition

notice of intent (Federal Register)- A notice, usually published in the Federal Register, that an environmental impact statement will be prepared and considered.

Origin: 40 CFR 1508.22, CEQ

objective – A concise statement of what we want to achieve, how much we want to achieve, when and where we want to achieve it, and who is responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring accomplishments, and evaluating the success of strategies.

Origin: FWS 1997

Additional Information: See also biological objective.

operating conservation program - An operating conservation program includes an operating conservation plan, HCP, the aim of which is to avoid, minimize, and compensate for impacts on covered species that result from authorized activities, and to protect and conserve habitats that support these species.

Origin: Working definition

Additional Information: See also conservation program.

permit - A document signed by an authorized official of the Services that authorizes, limits, or describes take of ESA listed species. . ESA section 10(a)(1)(B) incidental take permits authorize take that occurs incidental to and not the purpose of otherwise lawful activities in accordance within HCP; ESA section 10(a)(1)(A) authorizes incidental take in accordance with an SHA or CCAA.

Origin: Working definition and ESA section 10(a)(1)(A) and 10(a)(1)(B).

permit area – The geographic area where the incidental take permit applies. It includes the area under the control of the applicant/permittee(s) where covered activities will occur. The permit area must be delineated in the permit and be included within the plan area of the HCP.

Origin: Working definition modified from HCP Training NCTC Course notebook.

plan area – The specific geographic area where covered activities described in the HCP, including mitigation, may occur. The plan area must be identified in the HCP. Depending on the nature of the HCP, the plan area could for example: a) be all or some of the property of a single

landowner; b) may encompass a large area to allow for future acquisition or expansion of control of a large company; or c) encompass a whole county, state, or other area under a programmatic HCP that would allow enrollment by multiple landowners over time. Plan areas must include at least the permit area but often include lands outside of the permit area.

Origin: Working definition modified from HCP Training, National Conservation Training Center Course notebook.

programmatic plan or agreement – A large-scale plan with a central, or master, permit holder and participants enrolled by the permittee’s regulatory authorities, or signed up through certificates of inclusion.

Origin: Working definition

properly implemented conservation plan – Any conservation plan, Implementing Agreement and permit whose commitments and provisions have been or are being satisfactorily implemented by the permittee.

Origin: 50 CFR 17.3, FWS; 50 CFR 222.102, NMFS

property owner – A person with a fee simple, leasehold, or other property interest (including owners of water rights or other natural resources), or any other entity that may have property interest, sufficient to carry out the proposed management actions, subject to applicable state law, on non-federal land.

Origin: 50 CFR 17.22(c), 17.22(d), 17.32(c), and 17.32(d), FWS; FWS 2013

proposed action (NEPA definition) – Under NEPA regulations, a plan that has a goal which contains sufficient details about the intended actions to be taken or that will result, to allow alternatives to be developed and its environmental impacts to be analyzed.

Origin: 40 CFR 1508.23, CEQ; FWS 2013, FWS 2003, FWS 2001, FWS 1996

proposed species – Any species of fish, wildlife or plant that is proposed in the Federal Register to be listed under section 4 of the ESA.

Origin: 50 CFR 402.02, FWS and NMFS; FWS and NMFS 1998

qualified applicant – For FWS, a qualified applicant is one that has the legal authority to execute their proposed project on the lands that are proposed for coverage under an HCP and sufficient legal control to implement the HCP, such as ownership of property in fee simple, a lease agreement that grants authority for the proposed project, or similar type of legal authority to conduct the proposed activities. For NMFS, a qualified applicant is so determined by the Administrator.

Origin: 50 CFR 17.22(b)(2)(F), FWS; 50 CFR 17.32(b)(2)(F), FWS; 50 CFR 222.303(e)(1)(v), NMFS

ROD (Record of Decision) – The ROD is the final step for agencies in the EIS process. The ROD is a document that states what the decision is; identifies the alternatives considered, including the environmentally preferred alternative; and discusses mitigation plans, including any enforcement and monitoring commitments.

Origin: Working definition

Additional information: A Citizen's Guide to NEPA, Having Your Voice Heard, Council on Environmental Quality, 2007, 49 p.

recovery – 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 Act.

Origin: 50 CFR 402.02, FWS and NMFS

recovery unit – Management subsets of the listed species that are created to establish recovery goals or carrying out management actions. To lessen confusion in the context of Section 7 and other Endangered Species Act activities, a subset of an animal or plant species that needs to be identified for recovery management purposes will be called a "recovery unit" instead of a "population." May help in delineating permit and planning areas.

Origin: FWS 2011; NMFS 2010

requested take - The amount or extent of take requested by the applicant in a permit application and conservation plan.

Origin: Working definition

resource - The habitats, circumstances, and other physical or biological features or conditions required by a species for breeding, feeding and/or sheltering (reproduction, nutrition, habitat for plants). Examples include: grassland, forest, natural ambient light, habitat structure, ability to roost undisturbed, host species, prey species, pollinators, aspect of slope, etc.

Origin: FWS 2015

safe harbor agreement (SHA) – A voluntary agreement (under 10(A)(1)(a) involving private or other non-Federal property owners whose actions contribute to the recovery of species listed as threatened or endangered under the Endangered Species Act. The agreement is between cooperating non-Federal property owners and the U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Administration.

Origin: Working definition

Additional information: See Federal Register, June 17, 1999, Vol. 64, No. 116, (pp. 32771 – 32726) for Safe Harbor policy.

safe harbor assurances - Assurances provided by the Services to a non-Federal property owner in the Agreement and authorized in the enhancement of survival permit for covered species. These assurances allow the property owner to alter or modify enrolled property, even if such alteration or modification results in the incidental take of a listed species to such an extent that it returned the species back to the originally agreed upon baseline conditions. Such assurances may apply to whole parcels or portions of the owner's property as designated in the Agreement. These assurances depend on the property owner complying with obligations in the Agreement and in the enhancement of survival permit.

Origin: FWS 2013; 64 FR 1999

Science Advisory Committees/Teams - The purpose of the Science Advisory Committee is to make recommendations to the Applicant on what species should be considered in the HCP; help to determine the effects of the Covered Activities on the potential covered species; and assist in development of the minimization and mitigation package for the proposed HCP. Some advisory

committees may be established to guide adaptive measures during permit implementation. The basis for any HCP planning effort is the scientific understanding behind the species and their habitats that are likely to be included in the HCP. The scientific advisory committee usually consists of recognized species experts from academia, State agencies, Federal agencies, and FWS. The Applicant should also be represented on the committee and the lead biologist working on the planning effort. The size of the Scientific Advisory Committee should be proportional to the number of potential covered species and complexity of the issues being addressed in the HCP. If there is potentially a large number of covered species, it may not be practical to have experts on all the species on the Science Advisory Committee. In this instance, it may be advisable to have representatives of the potential applicant, FWS, States, and other federal agencies comprise the committee, which then would coordinate with the species experts to make recommendations to the applicant.

Origin: FWS 2012

section 4 – The section of the Endangered Species Act of 1973, as amended, outlining procedures and criteria for: (1) identifying and listing threatened and endangered species; (2) identifying, designating, and revising critical habitat; (3) developing and revising recovery plans; and (4) monitoring species removed from the list of threatened or endangered species [ESA §4]”.

Origin: Working definition and section 4, ESA

section 4(d) – That section of section 4 (of the ESA) that relates to protective regulations the Secretary deems necessary and advisable to provide for the conservation of such [threatened] species.

Origin: Working definition and section 4(d) of the ESA.

section 6 – The section of the ESA that sets out the manner in which the Services cooperate with the individual states to conserve endangered or threatened species e.g. management agreements, cooperative agreements, allocation of funds, etc.

Origin: Working definition and section 6 of the ESA.

section 7 – The section of the ESA outlining the mandate for Federal agencies to use their authorities to conserve listed species and habitat designated as critical (7(a)(1)); establish the requirement to conduct conferences on proposed species, allow applicants to initiate early consultation, require FWS and NMFS to prepare biological opinions, and issue incidental take statements (7(a)(2)). Section 7 also establishes procedures for seeking exemptions from the requirements of Section 7(a)(2) from the Endangered Species Committee.

Origin: Working definition and section 7 of the ESA.

section 9 – The section of the Endangered Species Act of 1973, as amended, that prohibits the taking of endangered species of fish and wildlife. Additional prohibitions include: (1) import or export of endangered species or products made from endangered species; (2) interstate or foreign commerce in listed species or their products; and (3) possession of unlawfully taken endangered species. ESA §9.

Origin: Working definition and section 9 of the ESA.

section 10 – The section of the ESA that provides exceptions to section 9 prohibitions. The exceptions relevant to HCPs are takings allowed by two kinds of permits issued by the Services:

scientific take permits [10 (a)(1)(A)] and incidental take permits [10 (a)(1)(B)]. The Services can issue permits to take listed species for scientific purposes, or to enhance the propagation or survival of listed species. The Services can also issue permits to take listed species incidental to otherwise legal activity. ESA §10.

Origin: Working definition and section 10 of the ESA.

section 10(a)(1)(A) - That portion of section 10 of the ESA that allows for permits for the taking of threatened or endangered species for scientific purposes or for purposes of enhancement of propagation or survival.

Origin: ESA section 10(a)(1)(A); FWS 2013, FWS 2003, FWS 2001, FWS 1996

section 10(a)(1)(B) - That portion of section 10 of the ESA that allows for permits for incidental taking of threatened or endangered species.

Origin: ESA section 10(a)(1)(B); FWS 2013, FWS 2003, FWS 2001, FWS 1996

Service(s) - The U.S. Fish and Wildlife Service or the National Marine Fisheries Service (or both). **Origin:** FWS and NMFS 1998

set of findings - Document prepared for the administrative record to memorialize a permit decision. Often executed as a recommended action by staff or middle management for concurrence by permit signatory at time of permit decision. It may incorporate NEPA functions, such as the finding of no significant impact or environmental action statement.

Origin: FWS 1996, 50 CFR Parts 13 and 17, FWS, 50 CFR 222, NMFS

species – ...includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.”

Origin: ESA, section 3

stakeholders – Anyone with an interest or stake. Includes Federal, State, and local agencies, Tribes, non-governmental organizations, industries, other groups, or individuals with an interest in recovery, or who may be affected by recovery planning or implementation.

Origin: FWS 2011

stay ahead provisions- the specifics are laid out in each HCP, but generally stay ahead provision require the conservation to be implemented before impacts can occur.

steering committee – Group or panel of individuals representing affected interests or stakeholders in a conservation planning program, the private sector, and the interested public, which may be formed by the applicant to guide development of the HCP, recommend appropriate development, land use, and mitigation strategies, and to communicate progress to their larger constituencies. FWS and NMFS representatives may participate to provide information on procedures, statutory requirements, and other technical information (but Service representatives should not request a recommendation to comply with the Federal Advisory Committee Act).

Origin: FWS and NMFS 1996

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. 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.

Origin: FWS and NMFS 1998, p. xviii

Additional Information: Mentioned several times in the ESA, but not defined there.

take - "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct."

Origin: Act, Section 3

Additional information: See also harass and harm. Plants are treated differently regarding take - see ESA section 9.

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.

Origin: FWS 2011

threatened species - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Origin: ESA section 3(20); 50 CFR 424.10(m), FWS and NMFS

unforeseen circumstances - Means changes in circumstances affecting a species or geographic area covered by a conservation plan or agreement that could not reasonably have been anticipated by plan or agreement developers and the Service at the time of the conservation plan's or agreement's negotiation and development, and that result in a substantial and adverse change in the status of the covered species.

Origin: 50 CFR 17.3, FWS; 50 CFR 222.103, NMFS

viability - The ability of a species to persist over the long term, and conversely, to avoid extinction over some time period. So we can think of a viable species as having a high degree of redundancy (multiple, strategically situated populations), resilience (self-sustaining populations), and representation (ability to adapt and evolve).

Origin: FWS 2013b

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1.1 Purpose of the HCP Program

The purpose of the Endangered Species Act of 1973, as amended (ESA), is to protect and recover threatened and endangered species and the ecosystems upon which they depend. The U.S. Congress found that some species of fish, wildlife, and plants are now extinct “as a consequence of economic growth and development untempered by adequate concern and conservation” (ESA, section 2(a)(1)). They also found that other species are in danger of extinction. Additionally, Congress held that species have aesthetic, ecological, educational, historical, recreational, and scientific value and pledged to conserve species facing extinction. Consequently, Congress passed the ESA to “...provide a means whereby the ecosystems upon which [endangered and threatened] species depend may be conserved, to provide a program for the conservation of such...species” (ESA, section 2(b)). The ESA specifically defines conservation as “...to use and the use of all methods and procedures which are necessary to bring any [listed] species to the point at which the measures provided pursuant to this Act are no longer necessary” (ESA, section 3(3)).

Section 9 of the ESA prohibits take of any fish or wildlife species listed as endangered. Take is defined in Section 3 as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The U.S. Fish and Wildlife Service (FWS) determined that all of the prohibitions that apply to endangered species would also apply to threatened species, unless otherwise provided for through a special rule under section 4(d) of the

ESA (42 FR 4656; 50 CFR 17.31(a)). The National Marine Fisheries Service (NMFS) does not have such a regulation, so it issues separate protective regulations specifying prohibitions of take for each threatened species under its jurisdiction. (We refer to these two agencies collectively as “the Services” in the rest of this Handbook. We use the appropriate acronym when the discussion is applicable only to the specific agency.)

Before 1982, the ESA had a mechanism for exempting take prohibitions from Federal actions (section 7), but it did not have one for non-Federal activities, except for permits to authorize take from scientific research or certain other conservation actions. Because of this, non-Federal parties engaging in activities that resulted in take of listed species risked violating ESA section 9 take prohibitions. Congress recognized the need for a process to reduce conflicts between listed species and economic development, so it amended the ESA in 1982 to add an exemption for incidental take of listed species that would result from non-Federal activities (section 10(a)(1)(B)). Incidental take is that which is incidental to, and not the purpose of, carrying out an otherwise lawful activity.

To obtain a permit for such take under this provision, applicants must develop a conservation plan that meets specific requirements identified in section 10 and its regulations (50 CFR 17.22 and 17.32; 50 CFR 222.25, 222.27, and 222.31). Among other requirements, the plan must specify the impacts that are likely to result from the taking and the measures the permit applicant will undertake to minimize and mitigate such impacts. Conservation plans under section 10(a)(1)(B) have come to be known as "habitat conservation plans" or "HCPs" for short. Although “HCPs” is most commonly used in this Handbook, we may use these terms interchangeably on occasion. Section 10(a)(2)(B) of the ESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

Congress intended the HCP program to address at-risk species in an ecosystem context, generate long-term commitments to conservation of species, and deliver regulatory assurances to project proponents. Congress also envisioned the HCP program as an opportunity to establish “creative partnerships” between the public and private sectors and State, municipal, and Federal agencies in the interests of endangered and threatened species and habitat conservation (H.R. Rep. No. 97-835 (1982)). Congress’ purpose for this program was not merely to issue take permits, but to use the process to integrate non-Federal development and land-use activities with conservation goals, resolve conflicts between endangered species protection and economic activities on non-Federal lands, and create a climate of partnership and cooperation.

When first establishing relationships with applicants and partners, the Services should encourage everyone to use Congress’ intent as the foundation for working together to develop an HCP. Collaboration, flexibility, ingenuity, innovation, and thoughtful planning are key in resolving complex and controversial issues that may arise for some HCPs.

Congress also intended for HCPs to include, when possible, conservation measures for candidate species, proposed species, and other species not listed under the ESA at the time an HCP is completed. Covering species likely to be listed within the permit duration can benefit the permittee by ensuring the terms of an HCP will not change over time with subsequent species listings. It can also provide early protection for many species and, ideally, prevent subsequent declines and in some cases the need to list such species.

1.2 Evolution of the HCP Program

After the 1982 section 10 amendment, momentum for developing HCPs took a few years to build, partly due to inevitable initial difficulties as the Services, applicants, and the public explored the new program's potential. The first 10 years produced only 10 HCPs, but from 1992 to 1997 the program exploded with 225 completed plans. By 2009, more than 500 HCPs covered approximately 46 million acres of non-Federal lands. As of this writing (2016), the Services have approved approximately 1,100 HCPs nationwide, and many more HCPs are in different stages of development.

Besides growing in number, the nature and quality of the HCP program continues to evolve. Early HCPs tended to cover only one species, involve single applicants, and address small projects. The program later ventured into multi-species and regional plans that covered a variety of activities related to development. We learned that some plans can become too ambitious in scope and size, and that we need to weigh the benefits against the difficulties of developing HCPs covering many species, activities, and acres. However, we strongly support a landscape-scale approach for some HCPs because it can provide more opportunities for strategically placing appropriate conservation in an ecosystem context. Today, countywide, Statewide, and even multi-State HCPs are showing conservation and economic successes.

1.2.1 Added Regulations and Policies

The Services continued to improve the HCP program by establishing additional policies and regulations to promote efficiency, effectiveness, and consistency to protect at-risk species and enhance conservation. These initiatives were based on lessons learned, as well as input from applicants, permittees, conservation organizations, and our own staff.

On February 23, 1998, the Services codified a final rule (63 FR 8859) to provide certain regulatory assurances to permittees under section 10(a)(1)(B). These assurances are called "No Surprises" assurances and, essentially, mean that "a deal is a deal." As long as the permittee is properly implementing the HCP, the Services will not impose additional requirements or restrictions. If an unforeseen circumstance occurs, unless the permittee consents, the Services will not require him/her to commit additional land, water, or financial compensation or impose additional restrictions on the use of land, water, or other natural resources beyond the level agreed to in the HCP. The Services will honor these assurances as long as a permittee is implementing the requirements of the HCP, permit, and other associated documents in good faith and their permitted activities will not jeopardize the species.

On June 1, 2000, the Services published the Five-Point Policy (65 FR 35242) as an addendum to the 1996 HCP Handbook. The policy focuses on the expanded use and integration of five components of the HCP program, namely (1) biological goals and objectives, (2) adaptive management, (3) monitoring, (4) permit duration, and (5) public participation. The principles and specifics of this policy have been integrated into this revised Handbook, which supersedes the policy.

On October 5, 2007, the FWS Director issued a General Conservation Plan Policy to allow FWS staff to prepare general conservation plans (GCP) to streamline the permitting process for project proponents and ensure strategic conservation for covered species. The FWS staff also prepares all other required environmental compliance documents for GCPs. As a result of the policy, interested landowners can now coordinate with FWS to determine if the completed GCP is appropriate for their activities and, if so, apply for individual permits without having to prepare their own HCPs.

On May 10, 2011, the FWS Director issued a policy providing guidance related to 50 CFR 22.11 that allows section 10(a)(1)(A) and 10(a)(1)(B) permits to cover take of bald or golden eagles resulting from activities that also result in take of listed species. The key stipulation is that the eagle take authorization on these permits must meet the standards and requirements of the Bald and Golden Eagle Protection Act. Under the regulations and this policy, project proponents do not need to go through two different permit processes to obtain incidental take coverage for eagles and listed species.

1.2.2 Successes of the HCP Program

Over the years, HCPs have addressed a wide diversity of sustainable uses (e.g., forestry, water uses, rangeland management, fisheries harvest, renewable energy), development (e.g., residential, commercial, industrial, infrastructure), resource extraction (e.g., surface mining, oil and gas), and many other types of activities, even small residential projects with homeowners. As a result, the HCP program has reduced conflicts between listed species and economic development and other activities while gaining significant conservation for covered species. Partnerships created to develop and implement HCPs have helped generate community support for species conservation at multiple scales. HCPs that have established broad conservation strategies have leveraged funds for additional habitat protection outside the requirements of the HCPs. Monitoring, adaptive management, and research programs in HCPs have produced an extensive amount of scientific information and data that are invaluable for a better understanding of how to conserve at-risk species and their habitats. Through HCP conservation measures and leveraged contributions for protection, and restoration and enhancement of habitat, the HCP program has produced conservation benefits to covered species across millions of acres.

Following are just a few examples highlighting the many successes in the HCP program.

Balcones Canyonlands Conservation Plan

The Balcones Canyonlands Conservation Plan was developed as an HCP to establish a 30,000-acre reserve for the golden-cheeked warbler, black-capped vireo, and 33 other species, while allowing residential, commercial, and industrial development in Travis County, Texas. The City of Austin, Travis County, the Lower Colorado River Authority, The Nature Conservancy, the Travis Audubon Society, and others partnered to develop the HCP and establish and manage the

reserve. As a result, the species received large conservation benefits, the local economy could continue to grow, property values increased, and residents enjoy an increased quality of life.

Wisconsin Statewide Karner Blue Butterfly HCP

A diverse partnership of over 40 partners developed this HCP in the late 1990s and continue to work together to successfully implement it to this day. Their efforts are ensuring the continued existence of the butterfly on more than 260,000 acres in Wisconsin. The partners use innovative approaches to put conservation on the ground and allow a variety of economic activities, such as forest management, transportation, and utilities. The HCP also streamlines coverage for small-landowner and low-impact land uses.

North Carolina Department of Environment and Natural Resources HCP for Inshore Gillnet Fisheries

Some HCPs enjoy success due to the strong collaboration between the involved parties from start to finish. From the beginning stages, NMFS worked very closely with the State to develop a high-quality HCP to cover bycatch of Atlantic sturgeon from their inshore gillnet fisheries. Frequent and open communication kept all parties informed and fostered a cordial and collaborative working relationship. In the end, NMFS approved the HCP and issued the permit in a timely and efficient manner. This cooperative relationship was also key in quickly resolving the few implementation issues that arose.

Washington County, Utah HCP

This HCP was the impetus for a large collaborative effort among several partners to establish a reserve for the threatened desert tortoise in the Upper Virgin River Recovery Unit in Washington County, Utah. The HCP covered take of desert tortoises from development activities in the rapidly growing city of St. George. As the permittee and HCP administrator, Washington County contributed resources to facilitate land acquisitions, land exchanges, and conservation easements for nearly 60,000 acres for the Red Cliffs Desert Reserve. Integral partners in establishing this reserve were Washington County, nearby cities, Utah Department of Wildlife Resources, Utah Department of Parks and Recreation, Utah School and Institutional Trust Lands Administration, Utah State Parks, Bureau of Land Management, and FWS.

1.2.3 Lessons Learned

Despite the many successes of the HCP program, we have learned a variety lessons over the three decades of HCP development and implementation. The good news is that the Services are taking stock of these experiences and are offering solutions and improvements for this revision of the HCP Handbook.

At the top of the list of challenges are the length of time and complications involved in developing some HCPs. There are many reasons for delays in preparing, reviewing, and

processing HCPs, and not all causes are always under any of the parties' control. However, this Handbook provides new ways of streamlining and improving efficiencies for those portions of the process that the Services can influence. This Handbook describes better mechanisms for understanding impacts and identifying relevant conservation measures, which are intended to reduce protracted negotiations. It also addresses opportunities for streamlining NEPA compliance with the National Environmental Policy Act (NEPA) on the action of issuing an incidental take permit. Other improved efficiencies reduce processing time by eliminating unnecessary or duplicative steps. We also offer tips on "Starting Slow to Go Fast" that embody the concept of investing thoughtful planning and establishing common understandings at the very beginning of the HCP development process to pre-empt problems and delays later. We also revise some advice from the 1996 Handbook, such as combining the NEPA document with the HCP in an attempt to streamline the process. Because the HCP is the applicant's document and the NEPA document is the Services', keeping them separate is critical for demonstrating that each party is complying with requirements applicable to them.

Another lesson learned in recent years is that the important task of integrating climate change considerations into HCPs and related ESA section 7 and NEPA documents can be challenging. The scientific literature on climate change and its impacts, as well as analysis tools, experience with climate adaptation measures, and related guidance are relatively new and are changing as new information becomes available. We added information at various points in the Handbook to help HCP practitioners address the effects of climate change in development and implementation of HCPs.

1.3 Laws and Other Requirements Related to the HCP Program

The Services must comply with other Federal laws and regulations related to HCP development and the issuance of incidental take permits. Some are tightly integrated with the HCP process, such as the ESA, NEPA, National Historic Preservation Act (NHPA), and Administrative Procedure Act (APA), while others, addressed below, may be relevant depending on the circumstances. This section is a brief introduction of the various laws, regulations and other requirements related to process. Further information on how to comply with some of these laws during the HCP process is in other chapters of the Handbook. At the end of this section is a list of other laws that are primarily related to wildlife and other natural resources.

1.3.1 Relationship and Hierarchy

This section explains the relationship and hierarchy of the general categories of Federal laws, regulations and other directives.

U.S. Constitution

Adopted in 1790, the Constitution is the supreme law of the land. It can only be amended by an act of Congress followed by ratification by at least three-fourths of the States. It cannot be contravened or contradicted by any law, regulation, or policy.

Statute or Law

A statute or act is enacted by the U.S. Congress and signed into law by the President of the United States or passed by Congress overriding a President's veto. Compliance is mandatory for all parties, including the applicant and the Services. The ESA, NEPA, NHPA, and APA are all Federal laws.

Federal Regulations

An enacted law authorizes the relevant members of the President's Cabinet (in the case of ESA, the Secretaries of the Interior and Commerce) to enact Federal regulations that decree how Federal agencies must implement the statute. These regulations are written in the Code of Federal Regulations (CFR). The FWS' regulations related to HCPs are found at 50 CFR Parts 13 and 17 and NMFS regulations are at 50 CFR Part 222. The regulations for section 7 of the ESA are found at 50 CFR Part 402.

Policy

The heads of Federal departments and agencies can issue policies to inform staff and the public about how they interpret and implement specific regulations or other requirements. Other policies expand on the regulations. For instance, the FWS Director's General Conservation Plan policy is not explicitly contained in the regulations, although the regulations support it. Federal agencies are expected to comply with all formally promulgated policies that apply to their work. These policies can be issued in the form of Secretarial, Executive, or Director's Orders; agency policy manuals; memoranda; or handbooks, such as this HCP Handbook. FWS Regional Directors and NMFS Regional Administrators may also issue policies that apply to their jurisdictions, as long as they do not conflict with national policy.

Guidance

Guidance consists of recommendations, directions, and advice on how to interpret or implement regulations and policies. Guidance may be formally or informally issued by any level of leadership. Formal guidance is typically in written form, such as a memo from a regional director. Staff typically must comply with formal guidance, but managers may exercise discretion to adjust to circumstances, as appropriate and with proper approvals.

1.3.2 Endangered Species Act

The ESA is specifically intended to conserve threatened and endangered species and the ecosystems upon which they depend (section 2(b)). Congress amended the ESA several times over the years, including adding the authority to exempt incidental take in 1982. Sections 9, 10, 7, and 6 are most relevant to HCPs. Here we focus the description of these four sections on how they relate to the HCP process and permit issuance.

1.3.2.1 Section 9

Section 9 of the ESA prohibits the take of any fish or wildlife species listed as endangered. Section 9 prohibits damage or destruction of listed plants only on Federal property or when

doing so in violation of any State or other law on non-Federal property. Take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” FWS further defines “harm” (50 CFR 17.3) as “...an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns such as breeding, feeding, or sheltering.” The NMFS definition (50 CFR 222.102) is very similar, but adds more specific terms related to fish. It is “...an act which actually kills or injures fish or wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering.”

The FWS further defined “harass” in 50 CFR 17.3 as “...an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.” NMFS has not promulgated a definition for this term under the ESA. When used in the context of section 7, NMFS commonly describes it as an intentional or unintentional human act or omission that creates the probability of injury to an individual by disrupting one or more behavioral patterns that are essential to the animal’s life history or its contribution to the population the animal represents.

Although Section 9 does not prohibit take of fish and wildlife species listed as threatened, the FWS promulgated a regulation (50 CFR 17.31(a)) stating that all prohibitions for endangered species also apply to threatened ones. The FWS may publish a Section 4(d) special rule for a threatened species, specifying exemptions to the take prohibitions for certain types of activities. Thus, activities exempted by a species' 4(d) rule do not need to be covered in an HCP.

In 1988, the ESA definition of “person” was amended to include an “...individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States.” Understanding which non-Federal entities are subject to the section 9 prohibitions is important for determining when application for an incidental take permit may be necessary. States, counties, cities, municipalities and other political subdivisions that regulate or issue permits for certain activities (e.g., building permits, capital improvement projects, etc.) that could result in unauthorized take may be held equally liable for violation of section 9. To ensure ESA compliance, these entities may want to develop a programmatic HCP and seek their own incidental take permit or require applicants to seek individual permits.

Section 9 prohibitions of take do not extend to listed plants on non-Federal lands, except for damaging or destroying listed plants in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law.

1.3.2.2 Section 10

Section 10(a) of the ESA provides exceptions to the section 9 prohibitions via two kinds of permits. Section 10(a)(1)(A) permits authorize take of listed species for scientific purposes or to enhance the propagation or survival of listed species.

- Section 10(a)(1)(B) permits authorize take that is incidental to otherwise lawful activities (50 CFR 17.22(b), 17.32(b), 222.307(b), and 222.307(c)).
- Section 10(a)(2)(A) lists the elements that must be contained in an HCP as part of an application for an incidental take permit (FWS: 50 CFR 12.22, 17.32 (b)(1)(iii); NMFS: 50 CFR 222.307(c)).
- Section 10(a)(2)(B) specifies the criteria that must be met before the Services can issue an incidental take permit (FWS: 50 CFR 17.22; 17.32 (b)(2)(i); NMFS: 50 CFR 222.307(c)).

The full set of section 10 regulations for FWS and NMFS are in the HCP Handbook Toolbox [*Link will be added in final version*] and at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50tab_02.tpl.

1.3.2.3 Section 7

Section 7(a)(1) directs Federal agencies to use their authorities to carry out programs for the conservation of threatened and endangered species. Federal agencies must also consult with the Services, under section 7(a)(2) of the ESA, on discretionary actions they fund, authorize, or carry out that may affect a listed species or their designated critical habitat. The Services must conduct an intra-Service consultation under section 7(a)(2) when issuing a permit for incidental take under section 10(a)(1)(B). As part of the consultation process, the Services produce a biological opinion that analyzes the effects of issuing the permit to determine whether that action would jeopardize the continued existence of or adversely modify designated critical habitat for the listed, proposed, or candidate species covered in the HCP.

Services staff should start the section 7 process in the early stages of HCP development. Starting to think about the jeopardy to the species and destruction or adverse modification of critical habitat can inform the development of the HCP's conservation strategy and measures. Deferring it until just before finalizing the HCP and associated documents can cause delays at a time when the process to make a permit decision should move quickly.

1.3.2.4 Section 6

Section 6 directs the Services to cooperate with the States in carrying out the ESA. Section 6(a) requires consulting with the States before acquiring any land or water for the conservation of listed species. Since mitigation measures in many HCPs include protecting habitat in perpetuity through acquisition of fee title or conservation easements, it is critical to work with the applicant to solicit affected States for early participation in HCP development.

Section 6(d) authorizes the Services to provide funding to States and Territories for species and habitat conservation actions on non-Federal lands. Under section 6(d), the FWS created two grant programs related to HCPs. Contact your State wildlife or agricultural agency early in the process of developing an HCP concerning funding.

HCP Planning Assistance Grant Program

This program provides funding to assist States and applicants with a number of tasks needed to develop HCPs, including but not limited to document preparation, analyses, modeling, baseline surveys, and outreach. This grant program is typically used for larger HCPs where local or State governments are the HCP applicants.

HCP Land Acquisition Grant Program

This program funds acquisition of lands that will complement the conservation efforts of HCPs for which the permit has been issued. Targeted lands must be near or adjacent to the HCP plan area. Such grants must result in important benefits to the covered species and their ecosystems. These grants cannot be used to help fulfill the HCP's mitigation requirements.

Because funding from both grant programs must be provided directly to State wildlife agencies, the interested State must help prepare proposals and send them to the FWS. Typically, States, applicants and their consultants, and FWS collaborate on preparing proposals. Timing of each Federal fiscal year's section 6 grant cycle varies, so contact your Regional HCP or Section 6 grants coordinator for information on the grant application process. The coordinators can also provide important guidance on how to prepare proposals that will have the best chance of selection in these nationally competitive grant programs.

1.3.3 National Environmental Policy Act

The purpose of NEPA is to promote analysis and public disclosure of environmental impacts from a proposed Federal action to support a decision that reflects harmony between human activity and the natural world. Issuance of an incidental take permit is a Federal action subject to NEPA compliance. Although section 10 and NEPA requirements overlap considerably, the scope of NEPA goes beyond that of the ESA by considering the impacts of a Federal action on other resources, such as water quality, air quality, and cultural resources. Depending on the scope and impacts of the HCP, NEPA requirements can be satisfied by one of the three following documents or actions: (1) a categorical exclusion; (2) an Environmental Assessment (EA); or (3) an Environmental Impact Statement (EIS). More information on NEPA and details on integrating its processes with the HCP process are included in several chapters of this Handbook.

1.3.4 National Historic Preservation Act

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on cultural resources that are, or may be, eligible for inclusion in the National Register of Historic Places. An undertaking is a project, activity, or program under the direct or indirect jurisdiction of a Federal agency. Such jurisdiction includes funding an action in whole or in part; carrying out an action by or on behalf of a Federal agency; issuance of a Federal permit, license, or approval; and State or local regulation administered under a delegation or approval by a Federal agency. As such, implementation of an HCP and issuance of an incidental take permit are an undertaking and subject to compliance with section 106 of NHPA. Details on complying

with NHPA are in several chapters of this Handbook and in Appendix A. Field staff should contact Regional HCP coordinators for guidance from Regional Historic Preservation Officers.

1.3.5 Administrative Procedure Act

The APA was enacted by Congress in 1946 to direct Federal agencies how to propose and promulgate Federal regulations. The primary purposes of the APA are to 1) require agencies to keep the public informed of their organization, procedures and rules; 2) provide for public participation in the rulemaking process; 3) establish uniform standards for the conduct of formal rulemaking and adjudication; and 4) define the scope of judicial review. Courts may find Services to be “arbitrary and capricious” when litigation reveals that they did not properly address APA procedures, provide adequate public participation, or adequately support the agency decision. Staff working on HCP development should ensure adherence to all procedural and public review requirements and document in an administrative record all actions taken and thorough rationales to support the decisions made in the HCP process.

1.3.6 Tribal Consultation and the ESA

Both Services have policies (Secretarial Order 3206 for FWS and NOAA Administrative Order 218-8 for NMFS) conferring significant responsibilities to consult with tribes when ESA actions may affect Indian lands, tribal trust resources, or the exercise of American Indian tribal rights. These policies require the Services to make efforts to establish effective government-to-government working relationships with tribes to achieve the common goal of promoting and protecting the health of ecosystems on Indian lands. Whenever the activities under an HCP may impact tribal trust resources, the exercise of tribal rights, or Indian lands, we must consult with, and seek the participation of, the affected Indian tribes to the maximum extent practicable. This includes providing affected tribes adequate opportunities to participate in data collection, consensus seeking, and other relevant HCP processes.

If field staff do not already have an established working relationship with the affected tribes, they must work with their regional HCP coordinators and Regional tribal liaisons to ensure outreach to all potentially affected tribes, including those with ancestral lands in the HCP plan area. Government-to-government consultation with the tribes is not to be done as part of the general public participation process under NEPA or section 10 of the ESA, but as its own and separate process. The Services can request consultation right before or concurrent with the general public process, but we recommend reaching out as early in the HCP process as reasonable. When tribes are unable to respond due to staffing and workload issues, the Regional tribal liaisons strongly recommend the Services make at least a second attempt to contact the affected tribes. These policies do not prohibit the Services from proceeding with an HCP if a tribe does not respond to good-faith outreach efforts.

1.3.7 Other Related Process Laws

Federal Advisory Committee Act (FACA)

The FACA was enacted in 1972 to establish the rules under which Federal agencies can convene or participate in advisory committees. It is a “sunshine” law to ensure public awareness of and

participation in Federal agency decisions that rely on advice from committees they convene. The FACA emphasizes processes for open meetings, chartering, public involvement, and reporting. Typically, advisory committees involved in an HCP process are convened by and advise the applicant and are not subject to FACA. The Services must adhere to FACA if they choose to convene an advisory committee related to HCP development and a permit issuance decision if that committee has just one member who will represent a non-Government entity. Committees whose members are comprised of all Government representatives do not have to comply with FACA. For a FWS summary of FACA go to http://www.fws.gov/mountain-prairie/planning/laws_policies/documents/laws_policies_faca.pdf.

Freedom of Information Act (FOIA)

The FOIA was enacted in 1966 and is also a “sunshine” law. It defines the rules under which previously undisclosed information held by the Federal Government must be disclosed upon formal request by the public. Before a draft HCP is made public, either by the applicant or through the public comment process, some information in the HCP may be considered proprietary. At this stage, before responding to any FOIA request for a draft HCP or other information provided by the applicant, we should give the applicant an opportunity to identify any proprietary information and provide a justification for withholding such information under FOIA. However, it is the Services’ responsibility to make the final determination as to whether any information should be withheld under a FOIA exemption. Services-generated internal documents that are pre-decisional or deliberative in nature and have not been shared outside of the agency are usually withheld until a permit decision is made. However, such documents must be released, if requested, after the agency makes the permit decision (unless one or more FOIA exemptions apply). To access information about FOIA and the FWS go to <http://www.fws.gov/irm/bpim/foia.html>. The Web site for FOIA information from NMFS is at <http://www.noaa.gov/foia/guide-for-submitting-foia-requests.html>.

Privacy Act

The Privacy Act was enacted in 1974 and governs the protection of the private information of individuals. We must protect personal identifying information (e.g., social security and tax identification numbers, personal home or cell phone numbers, dates of birth, etc.) given to us in application forms or other documents that are offered for public review or released under FOIA. For more information on the rules of the Privacy Act go to <http://www.gpo.gov/fdsys/pkg/USCODE-2012-title5/pdf/USCODE-2012-title5-partI-chap5-subchapII-sec552a.pdf>.

1.3.8 A List of Related Natural Resource Laws

Depending on the circumstances of each proposed HCP, a number of other resource laws may apply. The following list includes ones that the Services most commonly encounter during the HCP process, but is not all inclusive. This Handbook discusses in later chapters how some of these laws are integrated with the HCP process. Follow the links below for more information on each law.

- — Migratory Bird Treaty Act
<http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtintro.html>

- — Bald and Golden Eagle Protection Act
<http://www.fws.gov/midwest/MidwestBird/EaglePermits/bagepa.html>
- — Marine Mammal Protection Act
<http://www.nmfs.noaa.gov/pr/laws/mmpa/>
- — Clean Water Act
<http://www.fws.gov/policy/561fw3.html>
- — Marine Sanctuaries Act
<http://sanctuaries.noaa.gov/about/legislation/welcome.html>
- — Magnuson-Stevens Fishery Conservation and Management Act--Essential Fish Habitat
<http://www.habitat.noaa.gov/aboutus/statutoryauthorities.html>
- Coastal Zone Management Act
<http://coast.noaa.gov/czm/act/>

1.4 How to Use the HCP Handbook

1.4.1 Purpose of the Handbook

The purpose of this Handbook is to instruct Services staff about how to assist applicants with developing HCPs in an efficient and effective manner while ensuring adequate conservation for listed species. It guides staff, phase by phase, through development, implementation, and environmental compliance, using streamlined approaches whenever possible. It draws on lessons learned and past experiences to understand regulations and policy and to navigate the various processes for completing an HCP and issuing a permit. You can obtain other resources for guidance on the HCP program from the national and Regional HCP coordinators and the HCP course at the FWS National Conservation Training Center (<http://nctc.fws.gov/courses/csp/csp3117/resources/index.html>). Although this Handbook is designed for Services staff, it can be helpful to other HCP practitioners, such as applicants, consultants, and partners.

1.4.2 Organization of the Handbook

After chapter 2, which provides an overview of the HCP planning process, this Handbook is organized into four parts to correspond with the four main phases of the process: 1) Pre-application; 2) Developing the HCP and Environmental Compliance Documents; 3) Processing, Making a Permitting Decision, and Issuing the Incidental Take Permit; and 4) Implementing the HCP and Compliance Monitoring. Phase 1 chapters on the pre-application phase provide guidance on considerations before embarking on an HCP and what to do to prepare for developing one. Phase 2 chapters focus on the many considerations and tasks necessary for the preparation of the draft HCP and associated environmental compliance documents. It also includes important guidance on how to conduct the various required impact analyses. Phase 3 chapters lead the Services' HCP practitioner through the steps for reviewing and processing a permit application, making a permit decision, and issuing the permit. Phase 4 describes how to monitor for compliance during implementation of the HCP, as well as how to address issues that can arise.

Some processes and requirements for developing and approving HCPs can be quite lengthy. Rather than interrupting the flow of the HCP phases in the body of the Handbook, we placed related detailed information in appendices and in the HCP Handbook Toolbox [*Link will be added in final version*]. The HCP Handbook Toolbox is intended to be dynamic and includes important resources, such as more detailed instructions, examples, templates, and other useful tips and advice. The appendices and HCP Handbook Toolbox are equally important to understanding the HCP program as the information in the body of the Handbook.

1.4.3 Tips for Using the HCP Handbook

As we mentioned at the beginning of this chapter, the HCP program is an evolving program that has grown and changed in response to changes in society and our natural resources. To help make this document more fluid and useful, we have provided hyperlinks where practicable, which will allow readers to connect with the most up-to-date Service documents, information, or regulations available online. A combination of innovation, flexibility, and clear direction for implementing the HCP program will ensure this Handbook is a viable and powerful tool for conservation and the recovery of threatened and endangered species. We expect the HCP program to continue to evolve and adapt to future ecological, societal, and economic changes, and we expect the Handbook to do so as well.

Chapter 2: Overview of the HCP Planning Process

2.1 Phases of HCP Planning

2.2 Considerations for Successful HCP Planning

2.2.1 Understanding the Regulations

2.2.2 Flexibility and Innovation Considerations

2.2.3 Going Fast by Starting Slowly

2.2.4 Partnerships, Collaboration, and Communication

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2.1 Phases of Habitat Conservation Plan Planning

The Habitat Conservation Planning (HCP) process can be divided into four phases: Pre-application; Developing the HCP and Environmental Compliance Documents; Processing the Application, Making a Permit Decision, and Issuing the Incidental Take Permit; and Implementing the HCP and Compliance Monitoring. The HCP process is not linear, it is iterative and many steps should occur concurrently.

Phase 1: Pre-application (Chapters 3-4)

Chapter 3 Getting Started

Chapter 4 Communicating and Coordinating

During phase 1, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (Services) provide guidance and assist potential applicants in deciding whether an incidental take permit is appropriate and if so, what type and scale of HCP would best fit the applicant's needs. The Services determine the level of National Environmental Policy Act (NEPA) analysis required based on the scale of the HCP and anticipated impacts from covered activities. The Services also explain the HCP process; discuss compliance with other environmental laws (NEPA, National Historic Preservation Act, and intra-service section 7); provide advice on selecting contractors; identify training opportunities; discuss section 6 HCP planning grants; and discuss developing timelines, determining HCP plan governance, identifying stakeholders, identifying climate change considerations, etc. Also, the Services provide advice as to how to

avoid common pitfalls that may delay HCP development or incidental take permit issuance later in the process.

Phase 2: Developing the HCP and Environmental Compliance Documents (Chapters 5-13)

- Chapter 5 Land Use Activities and Alternative Actions to the Taking
- Chapter 6 Identifying the Plan Area and Permit Area
- Chapter 7 Identifying the HCP Species and Information Needs
- Chapter 8 Calculating Take from Land and Water Use Activities
- Chapter 9 Developing a Conservation and Mitigation Strategy
- Chapter 10 Monitoring and Adaptive Management
- Chapter 11 Implementation Costs and Funding
- Chapter 12 Net Effects and Permit Duration
- Chapter 13 National Environmental Policy Act Compliance

During phase 2, all the upfront planning that went into phase 1 is applied while assisting the applicant with developing their HCP, as well as concurrently developing the environmental compliance documents (e.g.; NEPA, NHPA, and intra-service section 7 consultation). Throughout this phase, the applicant may need to revise certain aspects of their HCP as updated information becomes available or as the scope/evaluation is narrowed or expanded. The goal of Phase 2 is for the applicant, with our guidance and assistance, to prepare a draft HCP that is statutorily complete and meets the incidental take permit issuance criteria. At the conclusion of phase 2, the majority of the burden shifts from the applicant to the Services.

Phase 3: Processing the Application, Making a Permit Decision, and Issuing the Incidental Take Permit - (Chapters 14-15)

- Chapter 14 Completing and Reviewing the Permit Application and NEPA Compliance Documents
- Chapter 15 Finalizing the HCP and Environment Compliance Documents
- Chapter 16 Making a Permit Decision

During phase 3, the Services initiate the review and permit decision process. This includes developing the documents that help them make the decision whether to issue the permit or not. Though stakeholders and other members of the public are usually engaged early in HCP development, the public has the opportunity at this point to provide comments on the HCP and NEPA documents during public comment periods. The length of this phase depends on the level of required environmental compliance (i.e., NEPA categorical exclusion, environmental assessment, or environmental impact statement) and time required to resolve any remaining issues with the HCP. As long as fatal flaws are not identified, after the public comments are received and addressed, the applicant's HCP is revised as necessary and finalized along with the environmental compliance and decision documents. Phase 3 is concluded by the Services' permit issuance decision.

Phase 4: Implementing the HCP and Compliance Monitoring (Chapter 17)

- Chapter 17 Implementing the HCP, Compliance Monitoring, and Making Changes, if Necessary

Phase 4 is the HCP implementation phase. This is perhaps the most important phase because this is when the permittee proceeds with implementing the HCP and their covered activities. This includes conducting the avoidance, minimization, mitigation, monitoring, and reporting activities. We highly recommended that our staff maintain close coordination and communication with the permittee throughout implementation to ensure the HCP is a success. HCPs are collaborative conservation tools for threatened and endangered species, and it is during implementation that the rewards of the conservation planning process are realized.

2.2 Considerations for Successful HCP Planning

Frequent and open communication between the Services and the applicant is key to successfully plan, develop, and implement an HCP. We recommend that the staff spend as much time as necessary upfront guiding the applicant to fully outline how their HCP will be developed, explaining the regulations and requirements, establishing good communications, identifying stakeholders, and establishing realistic timelines before starting on the content elements required for the HCP itself. Diligent, thorough, and thoughtful planning from the outset will save time in the long run.

2.2.1 Understanding the Regulations and Requirements

Service staff should have a strong working understanding of the regulations (<http://www.fws.gov/endangered/laws-policies/regulations-and-policies.html>) and requirements (<http://www.fws.gov/ENDANGERED/permits/index.html>) necessary for HCP approval and permit issuance (including the NEPA and Endangered Species Act (ESA) intra-service section 7 processes) because they are responsible for advising applicants on developing HCPs that will meet section 10 issuance criteria. It's also important that staff help the applicant clearly understand the pertinent regulations and requirements. The more the applicant knows about the process, the less likely we are to run into problems and delays.

There are many helpful tip sheets that our Regional offices have developed (e.g., compliance checklists, process for publishing Federal register notices, etc.) to help make working through the process easier. We recommend you review the HCP Handbook Toolbox [*Link will be added in final version*], then ask the Regional HCP Coordinator for help if you can't find what you need.

2.2.2 Innovation Considerations

One of the strengths of the HCP program is its flexibility. While looking at past HCPs can be instructive, keep in mind that almost every HCP will have its own set of unique circumstances. Be open to fresh ideas that may fit the particular needs of each situation. In each case, the Services and applicants have the opportunity to develop innovative approaches and unique solutions to resolve specific challenges.

We encourage creative thinking to resolve complex issues during HCP development. However, carefully consider the practicality and potential unintended consequences before embarking on any creative idea or concept, especially one that may be groundbreaking or precedent-setting or may impact conservation efforts elsewhere. Carefully weigh the benefits against the possible

repercussions as well as the complexity of implementation, legality, workload burden, and conservation contribution of the ideas. Describe how the concepts will be implemented in detail to ensure that it will be successful.

The following seven questions may to help determine whether a specific idea is appropriate to use in an HCP:

1. Will it (insert idea) meet statutory or regulatory requirements?
2. Will it streamline permit issuance?
3. Will it help or hinder permit implementation or enforcement?
4. Will it increase conservation and contribute to species recovery or contribute to the decision to preclude listing?
5. Are there any legal constraints or risks with it and which party will incur the constraints or risks?
6. Will it affect staff workload for the Service or applicants/permittees either before or after permit issuance? If so, how and when?
7. Will it establish a legal or other precedent or practice that could cause difficulties for future HCPs or other conservation efforts?

2.2.3 Going Fast by Starting Slowly

During phase I, instead of quickly launching into the technical aspects of the HCP, work with the applicant to carefully plan how the HCP will be managed and governed as it's being developed and implemented. This is especially important for development of landscape-scale HCPs. Taking the necessary time to carefully plan in advance can save the applicant time and money when developing and implementing an HCP. Starting slowly results in developing the HCP more efficiently and expeditiously to meet the applicant's needs, as well as the ability to get effective conservation on the ground more quickly.

The first step to success includes getting the right people in place and building a highly functioning team. The applicant should carefully and thoughtfully select their HCP project manager and consultant. The project manager does not need to be a biologist, in fact some of the most successful are not. The HCP consulting firm should have a strong background in science and HCP development. Likewise, the Services should assign good communicators and negotiators who are knowledgeable and have experience commensurate with the size and complexity of the HCP. The Services should also ensure that the NEPA consulting firm, if used, has the requisite knowledge and experience to prepare the NEPA document. If the team includes stakeholders, it is equally important that the representatives possess similar skill sets and are committed to follow through to the end of the process. Having the right people in place is vital to successful HCP development and planning.

The next step includes identifying the governance of HCP development, such as deciding: 1) what to address in the HCP, 2) what are the mechanics of HCP development (who is responsible for what; where; when; how much will it cost; what is the conflict resolution process; meeting management; record keeping; how will the team make decisions, and if applicable, what is the level of involvement by elected officials and managers, etc.), 3) what key stages will

preliminary decisions or approvals be sought (Applicant and Services' management), (4) what are the role of stakeholders, and (5) what are the mechanics of HCP implementation (i.e., how to handle exchange of funding, resources, procedures, organizational structure, etc.)?

This concept is discussed in more detail in Chapter 3.9.

2.2.4 Partnerships, Collaboration, and Communication

Although some listed species are located on wildlife refuges, national parks, military bases, and other Federal lands, the majority of listed species are on non-Federal lands. The Services can't recover those listed species alone. Flexible, creative partnerships between public and private sectors that consider the best available science, and good judgment, and that collaborate in good faith can help to integrate non-Federal development and land use activities with conservation goals. HCPs provide a solution to applicants' doing what they need or want to do – while complying with the ESA.

To ensure that those partnerships benefit species, we encourage applicants to develop conservation plans that contribute to the recovery of covered species. We can provide examples and technical support to help prepare novel approaches that will also ensure that the HCP can meet permit issuance criteria.

Field offices have a wealth of expertise with the species and the HCP process. Regional offices are ready to provide guidance to field office staff when needed.

The Services also use the NEPA process to involve other stakeholders, including tribes, other affected individuals, the public, non-governmental organizations (NGOs), and anyone that would have an interest in the project.

2.2.5 State and Local Coordination

Some States have laws similar to the ESA and prohibit take of State-listed species, or have laws similar to NEPA, and most states have “sunshine laws” similar to Freedom of Information Act. We recommend that the applicant involve the appropriate State agency or agencies early in the process to facilitate and streamline coordination.

Under section 6 of the ESA, states with adequate and active cooperative agreements are our partners in conserving listed species. The Services should attempt to accommodate State requirements in the development of HCPs.

Our staff should also cooperate with States so that their concerns for non-ESA-listed species are addressed in HCP planning. We should encourage applicants to include State-recommended conservation measures. However, if a proposal is otherwise lawful and the HCP meets our permit issuance criteria, the HCP still may not fully satisfy all State management goals in all instances. The applicant is required to comply with all other applicable Federal, State, and local laws. Violations outside of the Services jurisdiction may be referred to the appropriate authorities.

2.2.6 Good Communication

One of the many keys to successful HCP planning is building a strong relationship with the applicant, their consultants, and stakeholders. It begins with effective and efficient communication. Maintaining open lines of communication builds trust and cooperation while reducing the chance of being blindsided by concerns or issues which could lead to delays. It also helps to build cooperation among stakeholders involved in the HCP process.

Internal cross-program communication within the field office is critical to ensure the maximum conservation benefit to the covered species and to provide the best recommendations to the applicant so that the applicant will receive a permit that allows for their activities to proceed while protecting covered species and their habitats. Communication with the Regional Office on HCP policy is important to ensure consistency across the nation.

2.2.7 Well-written Documents

Since many incidental take permits have long permit durations and may outlive the careers of those who were involved in the HCP planning effort, it is important that the documents and incidental take permits are written clearly so that future users can fully understand how to implement the HCP and ensure it will meet the stated goals and objectives. Although all parties actively developing the HCP may fully understand what is expected and anticipated, future responsible parties will only have what is written in the HCP, permit, and associated documents to guide them. Be mindful of the future when reviewing the draft HCP and its associated documents. If it is not clear, recommend revisions to clarify specific sections or to better explain the intent and rationale behind decisions or approaches.

It is equally important that the Services' decision documents are clear, well-written, and meet all legal requirements. Decision documents should provide a rational connection between the facts we used and the decisions we made. We should inform applicants of this standard and strongly encouraged them to ensure their documents are well-written as they will be part of the administrative record supporting the Services' final decisions. When our documents are made available to the public, we are evaluated by their quality.

We must show our work (e.g., calculations) and clearly explain the chain of logic that led us to our decision. Our documents should be easily understood, well-written, well-organized, and demonstrate scientific integrity. Well-written documents developed by the applicant and the Services ultimately save time during the various internal review and surname processes. Poorly written documents are more prone to litigation, which costs time, money, and conservation potential for the applicant and us. Litigation also may delay HCP implementation or force abandonment of the HCP, which in turn eliminates the potential conservation benefits of the plan.

2.3 Tips for Success

As discussed above, successful HCP planning often requires consensus building, negotiation, and integration of numerous interests, especially for large-scale, regional planning efforts. Also,

biological issues are not always clear-cut and sometimes are subject to interpretation. Combine flexibility, creativity, good science, and good judgment when providing technical assistance to HCP applicants. The following "rules of thumb" should be helpful to you in meeting these challenges:

- **Use good science:** Stay abreast of new biological developments and state-of-the-art techniques and research. Staff should engage the applicant in assembling the best available scientific information. In coordination with the applicant, interpret the information, identify key assumptions and uncertainties, and use best practices to resolve uncertainty to the extent feasible during analyses, planning, and in the design of mitigation and adaptive management. Although the Services cannot require that applicants to actively work toward recovering species, we should encourage applicants to develop HCPs that produce a net conservation gain that contributes to recovery of the species. Remind participants that the regulated community would benefit from species recovery, which leads to delisting and removal of prohibitions. 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, updated information on climate change considerations) pertinent to HCP development. When appropriate, staff should engage in internal cross-program coordination by seeking assistance or more active participation by recovery team members and species leads.
- **Know the regulations:** Keep up-to-date on applicable statutes, and policies, including the ESA, its implementing regulations, and court decisions. Understand the authorities and limitations of the ESA and NEPA. When in doubt, seek input from your legal counsels. Access to legal counsel can be helpful, especially to advise and review documents during key stages in HCP development.
- **Remember the HCP is the applicant's document:** Keeping in mind that the HCP is essentially the applicant's document, we cannot force requirements into the HCP that applicants are not willing to undertake. Instead, we should collaborate with the applicant to develop the best strategy for the HCP that will meet permit issuance criteria. Provide technical advice and work with the applicant through the process in this Handbook. Applicants more readily accept requirements when they see the logical basis for them.
- **Identify important issues early:** Work with the applicant to get important issues on the table as early as possible in the HCP development stage. Help the applicant understand at the outset the section 10 issuance criteria and any regulatory or biological issues that they will need to address in the HCP. Ensure frequent and open communications. Be transparent in decision making.
- **Work with the applicant to develop conservation programs that offset impacts:** Some HCP conservation strategies and mitigation programs are relatively straightforward, while those for large-scale, regional planning efforts may be quite

complicated. Because flexibility is key, we offer very few ironclad rules for mitigation programs. However, we do have a few rules that must be met. Applicants must minimize and mitigate the effects of their actions to the maximum extent practicable and the measures must be manageable and enforceable. Also, the applicant must clearly articulate the biological goals and objectives in the HCP with measurable success criteria.

- **Coordinate frequently with the Regional Office:** The Services field and Regional offices should coordinate regularly throughout the HCP process and work as a team. This is essential to ensure timely reviews of documents, consistency with past and current efforts, resolve issues, making leadership aware of any issues they may need to address, and keeping abreast of any policy changes and novel approaches. Don't hesitate to contact Regional HCP Coordinators with any question or for guidance on developing an HCP. No question is too trivial or unsophisticated.
- **Ensure close coordination between FWS and NMFS:** In cases where our jurisdictions overlaps for an HCP, the agencies must closely work together in providing guidance to the applicant and coordinating reviews and approvals.
- **Include State wildlife agencies early:** Encourage the applicant to include affected State wildlife agencies at the beginning of HCP development. The State wildlife agencies share management responsibilities for many species, can provide excellent scientific and technical expertise, and often are more familiar with the local politics and issues. Some States have their own ESA statutes and NEPA equivalents that we should consider during HCP development.
- **Clearly define stakeholders roles.** Specifically, describe who will be part of the process. Work with the applicant to determine their roles and limitations. Also, determine when they will be involved throughout the process or at certain times in the process. Describe what, if any, role do they have in governance or guiding the applicant.
- **Consider all applicable laws early in the process:** At the beginning of the HCP process, explain to the applicant the Services' section 7, NEPA, and NHPA obligations for issuing an ITP. Always consider compliance with these laws and HCP development as concurrent, integrated processes, not as independent and sequential.
- **Engage the applicant's and Services's decision-makers early in the process.** Decide when and how they will be engaged in the process. Document their role(s) in the governance process and what information they will require to make the decision. Determine whether they will have a role in resolving conflicts.
- **Read and Reread this Handbook:** This tip has fundamental merit. Read through the entire Handbook before embarking on your first HCP. Even if you already have experience with HCPs, this Handbook includes many new approaches, policies, and processes that can greatly help you navigate the HCP process, provide valuable guidance to applicants, and, most importantly, lead to conservation benefits for at-risk species.

2.4 Factors Influencing How Long the Process Takes

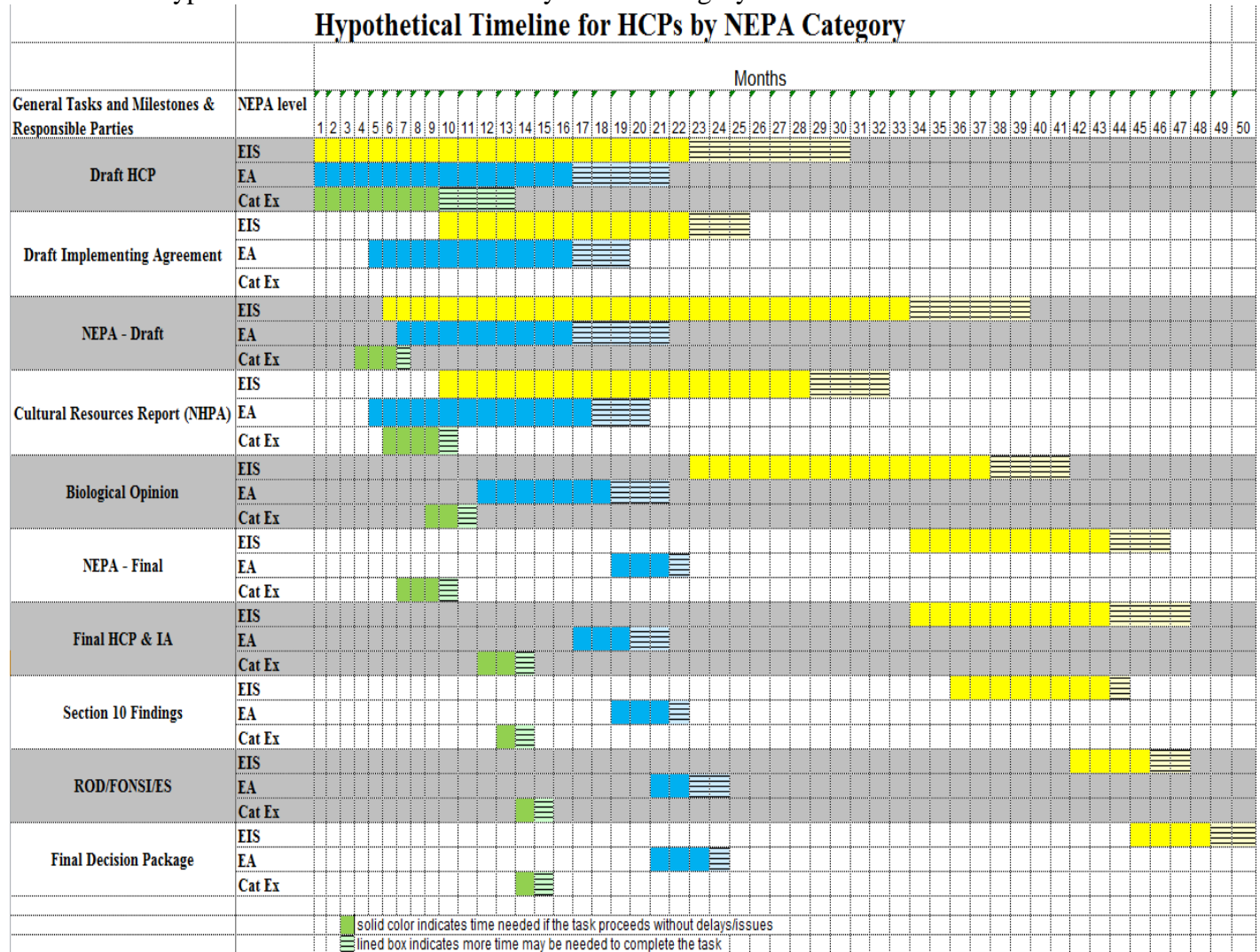
How long the process takes depends on several factors, such as:

- size and scale of the proposed HCP, including the scope of the proposed covered activities;
- complexity of the HCP (number of species, stakeholders, Tribes, and applicants; long or short permit duration; climate change considerations and other environmental changes, and interactions among them; extent of the conservation program; mitigation structure; funding assurances, etc.);
- thoroughness of phase 1 pre-planning by the team (applicant, consultants, Service, etc.);
- allocation and commitment of resources (staff and funding) by the applicant and the Services;
- timing and level of engagement by the Services in the applicant's HCP preparation effort;
- the availability of necessary data or information to inform our decision;
- level of uncertainty and controversy related to the HCP;
- the number and composition of stakeholders;
- the extent of legal review required by the Services' solicitors and general counsel of the HCP and decision documents; and
- NEPA process, and other factors.

All of these factors come into play and should be addressed at the very beginning of the HCP process, which is described in Chapter 3. Advance planning, good communication and governance, setting goals and expectations, establishing milestones, and jointly developing an HCP completion timeline are some of the keys to success. Advice and recommendations are threaded through the Handbook to assist you with your effort to guide the applicant down the most efficient planning path and to avoid common pitfalls.

The following Gantt chart provides an idealized timeframe for HCPs related to each level of NEPA analysis assuming that every step proceeds perfectly. However, every HCP is different and these timeframes may be shorter or longer depending on the many factors described above, as well as the unique set of circumstances pertaining to the HCP.

Table 2.4a: Hypothetical Timeline for HCPs by NEPA Category.



(Note: This is an approximate timeline to show relative lengths of various tasks and the sequence of tasks. Each HCP timeline is different.)

2.5 Roles and Responsibilities

Table 2.5a: Roles and responsibilities.

Task	Role			
	Service	Applicant/ permittee	Consultant	Outside expert
Planning/Development of the HCP				
1) Decision to develop HCP	Support	Decide	Support	
2) Identify plan area and species	Contribute Support Prelim. Approval Review	Decide	Support	
3) Develop biological goals and objectives	Contribute Support Prelim. Approval Review	Decide	Write	Contribute Support Review
4) Identify conservation actions to meet goals and objectives	Contribute Support Prelim. Approval Review	Decide	Write	Contribute Support Review
5) Develop reserve design	Contribute Support Prelim. Approval Review	Decide	Write	Contribute Support Review
6) Develop monitoring and adaptive management program	Contribute Support Prelim. Approval Review	Decide	Write	Contribute Support Review
7) Develop funding strategy (estimate costs, assurances, etc)	Support Prelim. Approval Review	Decide	Write	Write Contribute Support Review
Implementation of the HCP				
8) Implement conservation actions	Support Prelim. Approval Review	Implement	Contribute Support	Support
9) Implement the monitoring program activities	Support Prelim. Approval Review	Implement	Contribute Support	Support
10) Update understanding and models to inform future management decisions	Support Review	Implement	Contribute Support	Support

Write=	Write
Decide=	Decide
Implement=	responsible for implementing
Contribute=	Contribute to effort
Review =	Review
Support=	Technical support provided as needed, could be advise, data, etc.
Prelim. Approval=	Preliminary approval required by this entity at appropriate planning stages

2.5.1 Applicant

The applicant's first responsibility is to decide whether an incidental take permit is the right tool under the ESA to meet their need. If the applicant chooses to seek an incidental take permit, they must prepare an HCP as part of the application. Though the HCP is generally developed in collaboration with the Services, the development of an HCP is the responsibility of the applicant. The most successful HCPs are those where the Services are involved early, provide guidance and technical assistance, and are invited to stay engaged throughout the HCP development process.

To request an incidental take permit, an applicant must submit a section 10 permit application package. The complete application package includes:

1. for FWS, an endangered species permit application form (3-200-56) and permit processing fee and for NMFS one of three application forms, depending on the species likely to be taken – Marine Mammals, Sea Turtles, or other listed species – NMFS does not require a processing fee;
2. draft HCP; and
3. if applicable, draft implementing agreement.

Recommend to applicants that they wait to submit the full application package, including the application fee, until we have preliminarily reviewed the HCP and concluded that it should be adequate to meet all the incidental take permit issuance criteria.

2.5.1.1 Consultants and Contractors

Since the HCP process can be challenging, applicants often hire environmental consultants or contractors to assist with preparing the HCP. If an applicant elects to hire a consultant, recommend that they choose carefully and thoughtfully. It is important for applicants to actively participate in preparing the HCP along with their consultants and stay engaged with the Service. Applicants should manage their consultants in a manner that ensures efficient and timely development of an HCP that will fulfill the stated goals and meet the incidental take permit issuance criteria. While consultants may write the HCP, any permit issued will be to the applicant, who is responsible for fully implementing the HCP and the permit terms and conditions.

The most successful applicants and consultants have a thorough understanding of the incidental take application process and requirements under section 10 of the ESA, the requirements and standards of both the ESA and NEPA, and what is required to develop an adequate HCP. Many applicants prepare an HCP only once, so they may be unfamiliar with the HCP process. Applicants should become informed on the process and should become familiar with the expectations for developing the HCP. One approach we suggest to help applicants become informed about the process and learn the expectation for developing the HCP, is to take a short course offered by the FWS at the National Conservation Training Center (NCTC) or a similar course offered by consultants or other parties. Applicants new to the process may also talk to others who have completed the HCP process to receive advice and suggestions. However, we should caution applicants that no two HCPs are alike. Each HCP is tailored and negotiated to

meet specific project or species requirements, which may not be appropriate in other circumstances. Finally, recommend to applicants that they hire consultants or contractors with prior experience developing HCPs for which incidental take permits have been issued.

2.5.2 The Services

The NMFS Headquarters office located in Silver Spring, Maryland is responsible for HCP planning and permit processing for marine mammals, sea turtles while in the ocean, and other listed species under NMFS jurisdiction except anadromous fish on the West Coast. Within the West Coast Region of NMFS, there are 12 local offices that have responsibilities for HCP planning concerning anadromous fish in that Region.

In this Handbook, we refer to these offices as NMFS field offices, as they are largely equivalent in responsibilities to the FWS field offices. The NMFS field offices are under the direction of the West Coast Regional office. Other permits are processed by the NMFS Headquarters office. These NMFS field offices, the West Coast Regional office, and the NMFS Headquarters office are responsible for working with applicants on the development of HCPs applicable to their species responsibilities.

The HCP organizational structure for FWS is different from NMFS. Because more HCPs fall under the jurisdiction of the FWS, allocation of the workload is distributed primarily between the FWS field and Regional offices where the resources and local knowledge is strongest. The roles of the FWS field, Regional, and Headquarters offices are described in more detail below.

2.5.2.1 Field Offices

FWS Field Offices

The field office is usually the primary point of contact for the applicant. It is important for the field office to provide guidance to the applicant, lead the process and negotiations, as well as help find or suggest solutions to challenges throughout the HCP process. However, the HCP is the applicant's document. We should not write the plan for the applicant or refuse to consider an HCP.

The development of an HCP is an iterative, negotiated process and the field office should continue to provide technical assistance to the applicant throughout. For example, if the field office staff become aware of emerging literature, changes in the status of the species, or new approaches to conservation of the species or its habitat, they should provide this information and analysis to the applicant promptly. In some instances, the applicant or stakeholders involved may be a subject-matter experts, and they should openly share information and analyses with the Service. The field office should share with the applicant any "lessons learned" from other HCP projects and especially any involving the same (or similar) species, habitats, or covered activities.

A key role of the Services' staff is to develop, build, and nurture a strong working relationship with the applicant and their consultants throughout the HCP process. The field office has primary responsibility for:

- helping the applicant decide if an HCP is the appropriate conservation tool to meet their needs;
- working with the applicant to develop appropriate biological goals and objectives for the HCP;
- coordinating with the Regional office when an applicant seeks an incidental take permit;
- providing active guidance to applicants early and throughout the HCP development process;
- ensuring transparency;
- maintaining coordination and communication between the field office and all parties early and throughout the process to facilitate development of a legally sufficient HCP and expedite its review;
- providing the applicant with scientific information regarding the species distribution, habitat, life history, survey methodologies, conservation strategy, and other relevant information;
- providing the applicants or their consultants with tools such as habitat suitability models, population viability models, climate change information, GIS data, survey protocols for detecting species or evaluating habitat;
- coordinating with Landscape Conservation Cooperatives (LCC), the Regional Climate Science Center, or the local or Regional climate change specialist to help take advantage of conservation partnering opportunities, and to stay abreast of the latest climate change information relevant for the HCP effort;
- compiling and maintaining the decision record, the final administrative record, and keeping the Services' tracking databases up to date;
- reviewing drafts of the HCP;
- advising the applicant when the HCP is ready for submission as a complete application package;
- when appropriate, conducting public meetings, reviewing and compiling public comments;
- briefing decision-makers on key decisions concerning the HCP;
- serving as a link between the applicant and others in the Services, including the Regional office, Headquarters office, and solicitor's or general counsel office;
- initiating internal cross program coordination within the field office to ensure consistency, increase communication between teams, and to gather the most current species data or other information;
- maintaining communication up and down the chain of command throughout the development of the HCP;
 - regularly brief their managers and other program staff within the field office and keep the Regional HCP Coordinator informed, especially regarding any issues that are likely to be controversial, complicated, or may be elevated (by the applicant, their consultant, or their attorney),
- assisting the Regional office by drafting the public notice, NEPA decision documents, findings documents, and the incidental take permit;

- conducting public meetings, if necessary, and reviewing and compiling public comments;
- coordinating with the regional office on outreach associated with the HCP;
- briefing decision-makers on key decisions concerning the HCP;
- participating in implementation evaluation meetings or reviews established in the HCP and incidental take permit;
- giving permittees guidance as they implement their HCP in accordance with their incidental take permit; and
- ensuring that the permittee is in compliance with their incidental take permit and is implementing the HCP effectively and appropriately.

Because we are responsible for ensuring compliance with other Federal laws such as NEPA and the NHPA during the HCP development process, it may sometimes be helpful for the applicant fund an independent contractor to expedite preparation of the our NEPA or NHPA documents. If an applicant provides funding for a consulting firm or contractor to draft our documents, we must approve the contractor, ensure the contractor has no conflicts of interest and understands that the Service, not the applicant, will ultimately supervise the content of the NEPA or NHPA document, and closely and frequently coordinate with those preparing the documents to ensure they will meet our needs. Keep in mind, it is not appropriate for the same consulting team developing the HCP to also prepare the NEPA documents. Expectations should be clearly outlined in the Statement of Responsibilities and Consultant Disclosure Statement. You can find examples in the HCP Handbook Toolbox [*Link will be added in final version*].

Many HCPs are likely to directly or indirectly affect tribes, stakeholders, or third parties. The field office may help the applicant identify who the most appropriate stakeholders are and may broker communications between the parties. However, coordination with Tribes cannot be delegated to an applicant or consultant since it is our responsibility to communicate government-to-government with tribes. For large-scale or controversial HCPs, the field office may assist in outreach efforts by conducting public meetings as part of the NEPA scoping process, answering questions from the public, or educating the public or stakeholders about the process or objectives of the HCP.

Where appropriate, the field office should strive to ensure their decisions, recommendations, standards of adequacy, processing, etc. are consistent with implementation of the HCP program and standards used throughout the country. However, minimization, mitigation measures, or other species-specific requirements are determined case-by-case. Likewise, the field office must ensure that the HCP is consistent with other legal requirements.

Early and frequent coordination between the field and Regional offices at important points in the process is a key to streamlining the HCP process. When working with the applicant to develop the schedule, it important to incorporate and allocate adequate Regional and legal counsel review time because the experts in those offices serve the Region and the FWS solicitors office serves the entire Department.

The field office routinely assists the Regional office with: 1) developing the incidental take permit decision documents; 2) developing the Federal Register notices; 3) collating and responding to public comments; and 4) preparing the incidental take permit terms and conditions.

The field office and Regional office should communicate regularly to ensure that all reviews and approvals are progressing in a timely manner.

Because field office staff often have other priorities to manage in addition to assisting with the development of HCPs, these competing commitments may result in delays with drafting the necessary documents to complete the HCP process. To address this concern, in Region 2 (Southwest), managers have developed a workload management tool where a Project Plan Agreement is signed between Assistant Regional Director and field office Supervisor to ensure adequate staff time will be allocated to an HCP and manage expectations. Although required in Region 2, the use of this or a similar tool is voluntary in other Regions. A template of the workload tool can be found in the HCP Handbook Tool Box [*Link will be inserted in the final version*].

The June 24, 2014, FWS Service Manual Part 730 FW1 allows incidental take permit signature authority to be delegated to the field office supervisor by the Regional Director for HCPs that meet categorical exclusion (e.g., low-effect HCPs) and for incidental take permits for HCPs that met the environmental assessment requirements under NEPA. In these cases, the field office closely coordinates with the Regional office, but the tasks usually assumed by the Regional office to issue the permit are the responsibility of the field office. This process is described in more detail in Chapters 13-15.

NMFS Field Office

Although most of the same concepts discussed above for FWS apply to NMFS section 10 permits have not been delegated to the NMFS Alaska, Pacific Islands, and Greater Atlantic Regions and these Regions work with NMFS Headquarters on such permits and Conservation Plans. The NMFS West Coast Region has delegated authority for section 10 permits and the field offices in that Region work closely with the Regional office on their development.

2.5.2.2 Regional Offices

FWS Regional Offices

The Regional office, particularly the Regional HCP Coordinator, is an important resource for HCP related policy interpretation and guidance. They also help to resolve complex or difficult issues and process the incidental take permit application (including reviewing the final HCP and associated documents). Another important role of the Regional HCP Coordinator is to serve as the conduit between Headquarters and the field office. Information Regional HCP Coordinators gain during the monthly National HCP call should be relayed to the field to ensure they have the most current guidance available. Regional HCP Coordinators should hold regular calls with their field offices to facilitate internal communication, foster team building, and ensure national consistency.

The Regional office provides policy guidance based on their communication with other Regional offices and Headquarters. Although major policies are generally well known, interpretations evolve as we encounter and resolve new issues in implementing a specific policy.

Communication with the field office on HCP policy is critical to providing the maximum conservation benefit to the covered species and the best recommendations to the applicant. Regional Coordinators should share this information with their field offices.

Regional HCP Coordinators (or their staff) are the first filter for the draft HCPs and associated documents. The Coordinators review all draft documents for adequacy and consistency with policy and regulations. If the field office has communicated early and consistently with the Regional office throughout the development of the HCP, review of documents are typically smooth and less time consuming than without that communication. The Regional office provides comments, suggested revisions, and when necessary, required changes to the field office. The Regional office also coordinates the NEPA process with Headquarters and the *Federal Register* to publicly announce and request comments during the NEPA process.

Regional HCP Coordinators are also responsible for facilitating legal counsel review of draft and final HCPs and related documents. When requesting legal counsel review of an HCP package, the Regional HCP Coordinator, in conjunction with the field office, should have previously reviewed the documents and flagged any potential issues that may need close attention (e.g., funding assurances, conservation easement language, etc.).

The Regional office reviews the field office recommendation to issue or deny the permit. If decision-makers, in consultation with the field office, legal counsel, and Regional HCP Coordinator determine the HCP and permit application meet the issuance criteria, the Regional office will proceed with final processing of the application package and issues the permit, unless signature authority has been delegated to the field office. This includes compliance with NEPA, all public noticing, finalizing the findings and decision documents. Once all of the documents are finalized and the record of decision (ROD) or finding of no significant impact (FONSI) is signed, the Regional office will issue the permit to the applicant. See Chapter 15 for more information.

NMFS Regional Office

Coordination between NMFS field and Regional offices works in much the same way as FWS. The one exception is that NMFS does not have Regional HCP Coordinators. The field office must work with a designated Regional staff person for each given HCP and permit.

2.5.2.3 Headquarters Offices

FWS Headquarters Office

The primary role of Headquarters at the FWS is to support the Regional and field offices by providing guidance on policy, procedures, and precedence to ensure the HCP program is implemented consistently across the Nation. This is particularly important concerning nationally significant or controversial issues or events. Generally, the Regional HCP Coordinator will contact the National HCP Coordinator at Headquarters with a request for specific guidance. This request may be as informal as a telephone call or email, or it may involve formal written correspondence. These discussions may include questions of precedence (e.g., whether a specific

action or process has previously been employed by another Region and if so, what was the outcome); the advisability of specified actions; or the development of new ideas.

The FWS's Headquarters office is typically not involved in the development, review, or permitting of individual HCPs except as requested by the Regional office. In such cases, Headquarters may assist in resolving disputes or providing advice to facilitate coordination among Regions.

Headquarters is also responsible for briefing the Director and Department of the Interior (DOI) officials on controversial or precedent setting issues. Similarly, Headquarters is responsible for responding to requests for information from members of Congress or from the public. These responsibilities may require that Headquarters staff request information from the Regions through data calls or through briefing papers on the topic of concern. Headquarters staff may also be invited to attend meetings between applicants and DOI officials or members of Congress to answer questions or provide information on behalf of the HCP program.

Headquarters staff drafts national policy or changes in Federal regulations, as appropriate. This may involve holding public meetings and convening teams of Regional and field office staff. All associated documents and public notice requirements are drafted and processed by Headquarters staff. Policies and regulations pertaining to HCPs can be found in the HCP Handbook Toolbox (*Link will be added in final version*).

Among the many duties of the National HCP Coordinator is maintaining communication with the Regional HCP Coordinators. At a minimum, the National HCP Coordinator must hold a monthly national conference call to discuss issues and share ideas with the Regions relating to HCPs or other relevant issues. Headquarters staff also respond to questions or requests for assistance from the Regions. Additional communications with individual regions occur as needed. These communications help to maintain consistency of application of regulations and policies where possible and appropriate, while recognizing the unique nature of each HCP and specific conservation needs of covered species. Frequent communications also allow the Regional HCP Coordinators the opportunity to interact with and obtain information from other Regions who may be working with similar issues and pass this information along to the field office. Additionally, the National HCP Coordinator helps to prepare and assists in delivery of HCP specific training and provides other related training or technical assistance to the Regions and field, as needed.

NMFS Headquarters

The NMFS Headquarters office takes the lead on HCPs and incidental take permits for all east coast, Pacific Islands, and Alaska Region efforts. However, the Headquarters office may delegate the development, review, or permitting of individual HCPs for the east coast, Pacific Islands, and Alaska Region. The West Coast Region has been delegated the authority to develop, review, and permit individual HCPs and permits, so NMFS Headquarters office is typically not involved in those activities. Much of the NMFS Headquarters office roles and responsibilities are similar to the FWS Headquarters, with the exception of having a staff person in the National HCP Coordinator role.

2.5.2.4 Legal Counsels

The DOI Solicitor's Office and the National Oceanographic and Atmospheric Administration (NOAA) General Counsel's Office, Commerce Department, collectively referred to as legal counsel in this Handbook, serve as legal counsel to the Services and are important resources for the Services during the development of an HCP and the subsequent permit processing. They are our advisors on all legal matters pertaining to HCP development, NEPA, or other statutory and regulatory compliance.

As mentioned above, it is important that the FWS Regional office or NMFS field offices or NMFS Headquarters office notify our legal counsel of any issues that may need their review as early in the HCP development process as possible. Waiting until documents are fully drafted imposes a daunting burden on the legal counsel, especially when the HCP and associated documents are sizable and make timely response difficult which can result in lost time, money, opportunities to address issues, and trust between the Services and the applicant. The Regional HCP coordinators should specifically flag issues of concern or that particularly need the review and advice of legal counsel.

We ask that our legal counsel provide advice on legal issues or interpretation of statutes and regulations, as well as conduct timely review of our decision documents to ensure they are legally sufficient.

PHASE 1: Pre-Application

Chapter 3: Getting Started

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3.0 Introduction

This chapter presents many of the basic considerations that need to be addressed at the beginning of Habitat Conservation Plan (HCP) negotiations. We cannot emphasize enough the importance

of clarifying issues with an applicant the basic who, what, when, and where in informal planning at the beginning of the process. This can be as simple as a brief conversation, but the Service or an applicant may need further study to determine what is needed to begin. This chapter reviews the key factors that go into HCP planning. We also provide a framework for “starting slowly to go fast” that can help give structure to these early planning discussions.

3.1 When Are an HCP and an Incidental Take Permit Needed?

3.1.1 What is Incidental Take?

Incidental take means any taking otherwise prohibited by the Endangered Species Act (ESA) section 9 (including any of the forms of “take” defined in the ESA), if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. See Chapter 1.3.2.1 for a full discussion of section 9, prohibited activities. Among the forms of take, HCPs generally involve “harm” and “harass” situations. Harm occurs whenever an activity actually kills or injures fish and wildlife. We expect harm whenever fossorial or ground-denning species are entombed, or if active nests are destroyed. Harassment occurs when an activity creates the likelihood of injury to wildlife by annoying it to such an extent that it significantly disrupts normal behavioral patterns which include breeding, feeding, or sheltering. Harassment results from habitat disruptions, like removal of inactive nest or den trees, removal of forage sources, or other necessary habitat resources. Habitat disruptions also include temporary disturbances like artificial lighting, noise, or vehicle traffic.

3.1.2 When to Seek an Incidental Take Permit and Develop an HCP?

Whenever proposed actions within the project plan area: (1) are likely to result in incidental take; (2) are reasonably certain to occur over the life of the project or proposed permit period, and (3) for which the applicant(s) or landowner(s) have sufficient control over the affected property to implement the proposed action (see section 3.3), then an HCP is appropriate.

It might be obvious that a project is likely to involve incidental take when a visible or well-documented species occurs in the middle of a proposed project, but it is just as likely that a potential incidental take is not obvious, without on-site evaluation. Without documentation and public awareness of species presence on a property, the landowner is left to evaluate for themselves, assuming they might know a listed species occurs on their property, the potential for incidental take to occur. Although it may exceed the scope of this HCP Handbook, our attempts to raise landowner awareness of potential listed species can provide incentives for a landowner to consider their potential legal risk and take the first step to approach a Service field office and investigate their need for an incidental take permit. We can accomplish more awareness through Service private lands programs, outreach to municipalities, ESA public outreach events, cooperative programs with States, publicity for species proposed listings, public outreach for recovery planning (such as a recovery plan revision), and other recovery promotion.

If a listed species occurs on a property, the activities under consideration may or may not result in incidental take. The potential for incidental take might be high for a project that would be built quickly and occupy most of the property, or most of the listed species’ habitat on that property. The potential for incidental take may also change through the life of a permit depending on

development phases, habitat trends in dynamic systems, or changes in species distribution in response to climate change.

Section 10 of the ESA also provides for enhancement of survival permits. In addition to permits for research or recovery activities, enhancement permits also include safe harbor agreements and candidate conservation agreements with assurances. The latter two permit options may suit a landowner's activities instead of an HCP. Enhancement of survival permits have their own regulations, policy and guidance, so in this Handbook we address them only in relation to HCPs.

3.1.3 When is it Not Necessary to Seek an Incidental Take Permit?

An incidental take permit is not appropriate when there will be no take of ESA-listed wildlife or when the taking is intentional rather than incidental. For example, if a researcher collects a species for scientific research or takes it by harassment during population surveys, the take is intentional. The take may be authorized by a "recovery permit" under section 10(a)(1)(A) of the ESA. Avoid processing applications submitted purely "as insurance" when no take is likely.

Some listed species are subject to alternative regulations that might preclude the need for a routine incidental take permit. Threatened species may be regulated under a special 4(d) rule. The special rule describes the permitting requirements for that species. Some endangered or threatened species may be part of an experimental population established under a section 10(j) rule. Experimental populations have their own take provisions in the 10(j) rule. In these situations, the take may be exempt from the process in this Handbook and governed by other rules.

3.2 Avoiding Take and Avoiding the Need for an Incidental Take Permit

An incidental take permit may not be required if a proposed project can be redesigned to avoid taking listed species or altering listed species habitat. Projects with harassment effects, such as interference to a species' nighttime activity caused by artificial lighting, often can be adjusted to incorporate best management practices or other measures that would avoid incidental take entirely. In such instances, the activity can continue without the landowner's need to obtain an incidental take permit.

Although we should encourage applicants to design a project to avoid take whenever possible, take minimization or compensatory mitigation alone cannot substitute for an incidental take permit if some take is anticipated. However small, no project is exempt from an incidental take permit if we are reasonably certain it will result in take of a listed species.

Some situations can cause confusion if a minimization or avoidance measure might appear to completely avoid harming a listed species in the project site. For example, we can translocate species like tortoises or red-cockaded woodpeckers outside of a project footprint with a high degree of success, and these individuals and newly-established breeding groups may readily contribute to establishing or enhancing populations of their species. However successful these efforts might be, translocation does not eliminate the displacement caused by habitat alterations or other impacts on the project site.

3.3 Who Can Apply for an Incidental Take Permit?

Any individual, non-Federal agency, business, or other entity that has the authority to conduct activities on non-Federal property, or any State, municipal or tribal government agency that has the authority to regulate land use can apply for a section 10 permit. A qualified applicant is one who has the legal authority to execute a project on the lands that are proposed for coverage under an HCP, and who has enough legal control of the land to implement the HCP. Legal control may comprise ownership of property in fee simple, a lease agreement that grants authority for the proposed project, or a similar type of legal authority to conduct the proposed activities (50 CFR 17.22(b)(2)(F), 17.32(b)(2)(F)). Under certain conditions, see section 3.4.4, below, contractually bound groups can apply.

Generally, the Services rely on the applicant to affirm this authority. On page 11 of FWS's standard application form (Form 3-200-56), the applicant must confirm his/her authority to conduct the proposed activities. We advise staff to discuss issues of legal control with a potential applicant at the first meeting to avoid any potential confusion. During these discussions, staff should also inform them about disqualifying factors per FWS regulations at 50 CFR 13.21.

In addition to having legal authority to carry out the proposed project, the applicant must also have direct control over any other parties who will implement any portion of the proposed activity and the HCP, (see 50 CFR 13.25; 50 CFR 222.305(b)). "Direct control" under this regulation extends to:

1. those who are employed by a permittee (e.g., contractors),
2. anyone under the regulatory jurisdiction of a permittee, such as where the permittee is a governmental agency (e.g., a county that issues building permits to individuals and puts conditions in their permits to implement the HCP), or
3. entities that have an inter-agency agreement establishing the permittee's legal control.

3.4 What Types of HCPs and Incidental Take Permits are Possible?

The ESA and regulations governing HCPs and incidental take permits allow a great deal of flexibility in accommodating the needs of applicants while providing a set of comprehensive tools to address landscape-scale planning. We have adapted HCPs and incidental take permits to fit many different situations. Following is a comparative table of typical HCP and incidental take permit structures that are more fully described in the following sections. We emphasize that the following descriptions do not formally establish fixed permit categories. The permit structures we use in this Handbook simply reflect one way to organize and discuss the range of permitting options.

Table 3.4. Comparative Table of Permit/HCP Structures.

Type of Plan	Use When	Positive	Negative	Consequences
Single Applicant	Routine applicant technical request.	Simple, adaptable to many situations, can be scaled up to large, complex, or recurring projects on shifting land bases.	Inefficient for many small-scale projects, mitigation difficult and often ineffectual for small projects.	Each project has one permit, administering implementation is one-on-one with landowners.
Programmatic	Regional scale planning, or expedited processes needed.	Provides efficiencies of scale; addresses small-scale projects; mitigation can be better planned, sited, and funded. Provides better public service to small landowners. Facilitates regional conservation planning, often in cooperation with other Federal and State agencies.	Planning and negotiation often involves many stakeholders, can be controversial, difficult to sell the idea to potential applicants, enforcement mechanisms must be developed, individual enrollees are overseen by permittee, not the Services. Must start slowly to eventually go fast.	One central permit holder administers its normal regulatory authority to convey incidental take coverage to eligible landowners.
General Conservation Plan	Applicant for a programmatic not available.	Substitute for a programmatic when an applicant has not been recruited with same positives as for programmatic. Services have relatively free hand to develop the conservation plan and define eligible projects and applicants.	Individual applications are expedited, but Services must still process and advertise each one. Special considerations in impacts analysis and administration.	General conservation plan adopted by eligible applicants as part of their individual application. No master permit holder, but numerous individual permittees.

Multiple Project or Applicant Plan	Any situation where more than one applicant wants to cooperate on a project or regional plan. Possible alternatives for programmatic when non-government, industry or proponent group requests.	Provides for more comprehensive regional planning. Adaptable to many situations. Similar positives as for programmatic. Plan could be drafted by proponent group to serve an industry or similar project throughout a region.	Severability considerations, added complications with more than one applicant. Direct control must be considered, Services negotiate the multiple project plan with proponent group and also review individual applications. Some untested permit structures.	Many possible outcomes dependent on the proponents and their situations. Adjacent landowners can develop a single comprehensive HCP or regional plans can incorporate several agencies/individuals. Multiple project plan adopted by eligible applicants as part of their individual application. Often results in a programmatic plan, but some situations do not require a master permittee. General conservation plans result in numerous individual permittees.
Combined Program	Situations where applicants may have options for enhancement of survival permit or an HCP.	Uncommon, but has been used in programmatic plans so that the central permit holder can offer landowners options for section 10 participation.	Must be designed to ensure a covered activity meets criteria for the given section 10 program. Landowner cannot cover a project with both an HCP and a safe harbor, must choose one or the other.	All examples have been programmatic. One central permit holder administers its normal regulatory authority to enroll eligible landowners via certificates of inclusion into appropriate section 10 program.
Integrated Plan	Accommodates other Federal agency requirements.	Same advantages as a programmatic plan, plus: better public service to provide comprehensive, consolidated Federal authorizations. Other Federal agencies can adapt to a programmatic plan after it is implemented.	May be difficult to initiate with more than one Federal agency.	One central permit holder administers its normal regulatory authority to convey incidental take coverage to eligible landowners. Eligible landowners could also fulfill their other Federal regulatory requirements.

3.4.1 Single Applicant

The simplest incidental take permit structure involves a single applicant preparing an HCP and applying for one permit. For example, a single timber company, utility, or developer might seek incidental take coverage on a project at a given location, or they may seek a permit for a set of recurring activities across a large, multi-tract set of properties. Sometimes larger-scale plans take advantage of economies of scale because there is more land available to strategically locate mitigation within the plan area. As the scale of a single proponent project diminishes to the level of a single-family lot, planning an HCP and providing mitigation becomes more challenging. On-site mitigation is rarely feasible for small properties, and the applicants often lack the ability to provide biologically meaningful off-site mitigation. Plus, these small projects tend to occur in great numbers that may overwhelm Service field office resources. Larger scale structures that we describe below have been developed to meet this demand.

3.4.2 Programmatic Plans

Programmatic plans are typically landscape-scale HCPs initiated by a State, county, or local municipality. We use the term “programmatic” to refer to a program, established under an HCP and incidental take permit, that employs an applicant’s local regulatory authority so that individuals subject to the applicant’s jurisdiction can receive incidental take authorization as they comply with the applicant’s regulatory mechanisms. We have encouraged the use of programmatic incidental take permits in various forms to address a group of similar projects within a specific area, usually a political jurisdiction. Projects addressed by a programmatic plan can range in scale from single-family lots or whole subdivisions to capital improvements, utilities, and infrastructure. We often call programmatic plans regional or area-wide (State-, county-, or city-wide) plans. A programmatic HCP can efficiently address the needs of many similar projects by bringing them under one plan to create economies of scale. A local jurisdiction, such as a county, seeking a programmatic incidental take permit can often raise money to fund a conservation plan, spread costs through user fees, acquire lands, and plan strategically for species conservation and adaptive management provisions, such as climate change adaptation.

Although programmatic plans may have a single applicant, we distinguish them from single applicant plans (Chapter 3.4.1), based on who has direct control over covered activities and how that governs the provision of incidental take authority. A single applicant plan, such as for a timber or interstate pipeline company, might extend across several States and cover a complex array of activities and species rivaling any programmatic plan. Under a single applicant plan, that permittee has direct control over all sub-activities in the plan by virtue of direct ownership or corporate structure. Because of this direct control, the permittee’s employees and contractors will be covered by the incidental take permit.

In contrast, programmatic plans typically rely on a central, or master, permit holder, often a State, county, or municipality, in the area proposed for plan coverage. The Services negotiate an HCP with the central authority so that that authority receives an incidental take permit as the master permittee. Eligible landowners in the permit area can receive incidental take authority and No-Surprises assurances through the master permit via local regulatory instruments (building

permit, percolation test, certificate of occupancy, etc), or through a certificate of inclusion provided for in the HCP and incidental take permit.

3.4.2.1 Challenges, Details, and Opportunities with Programmatic Plans

FWS general permit regulations at 50 CFR Part 13.25(d) allow people under the “direct control” of a permittee to perform the authorized take. Direct control means those people employed or contracted by the permittee, for purposes authorized by the permit, to conduct the authorized activity without on-site supervision by the permittee. Establishing direct control is usually not an issue in most single-applicant HCPs: the incidental take permit covers employees and contractors (see section 3.5.5 for special considerations). Programmatic plans, however, need to consider how incidental take authority will be extended by the master permittee to those who need it for their individual projects. In most cases, the FWS can rely on general permit regulation 50 CFR Part 13.25(e) which:

- extends direct control over people under the jurisdiction of the master permittee, and the master permit provides that those people may carry out the authorized activity, OR
- extends direct control over those who receive a permit from, or have executed a written agreement with, a master permittee who is a government entity.

Before these direct control regulations were promulgated, the Services relied on “certificates of inclusion” that were in the HCP and incidental take permit. These are agreements between the master permittee and individual landowners so that incidental take authority can be conveyed to the participating landowner. In most cases it is preferable and easier to rely on the 50 CFR Part 13.25 regulations, but certificates of inclusion can serve as the “written agreement.” Certificates of inclusion are more common in programmatic safe harbors and candidate conservation agreements with assurances. They may also be useful in developing multiple project plans (section 3.4.4).

Programmatic plans are the most frequently used form of expedited incidental take permitting for projects involving numerous similar projects. They are especially helpful in addressing the needs of small landowners because, by scaling up the size of the project (encompassing several small projects) mitigation planning can be consolidated to avoid isolated “postage stamp” conservation areas.

Often counties, municipalities, and other organizations have little experience with HCPs. A programmatic plan may represent a significant change in doing business for a municipality. Adversarial relations need to be overcome so that the Services can collaborate with the applicant agency (Chapter 4). More than that, we need to encourage the applicant to bring their affected constituents into the programmatic HCP development process. Establishing a collaborative effort among stakeholders who can contribute to creating a successful programmatic HCP requires a significant investment of time and resources by the prospective permit applicant.

The Services should take advantage of Landscape Conservation Cooperative (LCC) efforts that are providing the tools to help establish collaborative “communities of practice.” Some LCCs may have already created an ecosystem governance community that can be tapped into. It can

help to persuade a local government to enter into an HCP planning process if they understand the potential time and cost-savings to themselves and their constituents. An economic analysis by the applicant, a stakeholder, or possibly the Service or LCC can be especially helpful to demonstrate and convince local authorities and their constituents of the economic advantages of developing an HCP instead of continuing without the assurances of an HCP regulatory framework.

Service staff can encourage a local government into HCP development by identifying a local “champion” who understands Service interests and who has experience working with local decision makers. This “champion” might be a local government staff level person or an influential constituent. Finding and partnering with such contacts can be essential to initiating and maintaining a successful planning effort.

The ability to incorporate other Federal, State, and local regulatory processes into a programmatic HCP provides another incentive for a local jurisdiction. For example, this might involve the U.S. Corps of Engineers (Corps) Clean Water Act wetland fill permits. See more in section 3.4.7, below.

Depending on the size and complexity of an HCP, we encourage applicants to establish a dedicated team of individuals to lead development of the HCP and to serve as the points of contact with us. The applicant’s core team members may include, but are not limited to: an environmental consultant(s), project manager, legal or policy advisor, biological staff, State agencies, and our lead on the HCP. An applicant’s team should incorporate the expertise and institutional knowledge required to ensure:

- efficiency during the HCP development phase,
- that the HCP can be integrated into existing policy and legal frameworks,
- proper funding mechanisms can be established to support all aspects of HCP implementation and mitigation requirements, and
- the conservation program can be implemented on the ground in a practical manner.

For complex landscape level HCPs that may require sophisticated conservation strategies, we strongly recommend the applicant involve species experts or science advisory panels on the HCP development team.

We should encourage the applicant to look beyond conservation or biological expertise and consider assistance from other types of experts. Professional facilitators or program managers can help maintain momentum throughout the HCP development process. Facilitators may also be needed for key meetings or to oversee stakeholder groups. An economist may be useful to help calculate costs and benefits of alternatives, or to help develop funding assurance measures. See section 3.8, below for contracting.

3.4.3 General Conservation Plans

A general conservation plan provides one approach to serving numerous, similar projects. The Services prepare an HCP and related NEPA and section 7 analyses to fit the needs of potential applicants with similar species effects in a given area. We make the general conservation plan available to eligible applicants who can incorporate it into their incidental take permit application

as if it were their own HCP. We use the term “general conservation plan” in reference to plans established per the FWS’s October 5, 2007, *Final General Conservation Plan Policy*. Programmatic HCPs require a central permit holder. If a local agency cannot be found that can take on this role, a general conservation plan provides nearly all the benefits of a programmatic HCP. Neither of the Services, nor any other agency, is issued a general conservation plan “permit.” Instead, a general conservation plan is used by qualifying individuals as they apply for their own incidental take permits. If the Services determine that an applicant satisfies criteria defined under the general conservation plan, and that they meet statutory and regulatory issuance criteria, we may issue an individual incidental take permit.

3.4.3.1 Challenges, Details, and Opportunities with General Conservation Plans

Although we may take advantage of the latitude provided by not having to negotiate the general conservation plan with an outside party, we must coordinate early and often with the people or organizations whose interests we hope to attract to use it. The general conservation plan’s plan area should be tailored to the prospective covered activities and conservation needs of the affected species. The Services define the type of activity and applicant who would qualify to participate in the general conservation plan. Although the general conservation plan should be designed to meet issuance criteria for eligible applicants, the 50 CFR Part 13 disqualifying factors can only be evaluated at the time an individual application is under review (see Chapter 16.1.4).

Recipients of an incidental take permit issued under a general conservation plan also receive No-Surprises assurances. In addition, the Services will not alter a previously-approved general conservation plan without first amending it in accordance with established permit review procedures. In accordance with No-Surprises, any such amendments will have no effect on permits previously issued under that general conservation plan.

Staff should carefully consider defining the period in which a general conservation plan would be available to the public and how that would relate to the maximum duration of permits issued under the plan. These considerations directly influence the analysis of effects in the plan. Generally, it works best to consider total “build-out” in the plan area over a projected period. If effects and management risks are well known, it may be appropriate to make the general conservation plan available for a relatively long period and to issue relatively long-term permits.

We may set individual permit duration to a given number of years, or to a defined date. Where an individual incidental take permit is defined with a set number of years, then we could issue, on the last day a general conservation plan is available, a permit with the full, defined term. Where there is greater uncertainty or management risk, we could make the plan available for a short period, and the individual permits set to expire on a specific date. In this arrangement, a permit issued on the last day of the plan’s availability would have a shorter duration than one issued on the first day.

General conservation plans expedite permit reviews in several ways. Individual permit actions can tier off the plan’s environmental impact statement (EIS) or environmental assessment (EA), and be categorically excluded. Signature authority can be delegated to field offices, and public

notices can be streamlined by batching and referencing the original notice announcing availability of the general conservation plan.

We evaluate the general conservation plan as if it had been submitted by an applicant. Approval of a general conservation plan does not result in a single programmatic permit. Instead, an approved plan results in a number of individual incidental take permits each with no surprises assurances for the permittees. Compared to a programmatic HCP:

- Programmatic HCPs generally result in a single incidental take permit. The master permit holder can convey incidental take authority to eligible landowners for individual projects.
- A general conservation plan results in a number of incidental take permits as the Services make it available for use by individual applicants.

3.4.4 Plan Variations, Multiple Projects or Applicants, and Severability

Any of the permit and HCP structures described here can accommodate more than one applicant sharing an HCP and the incidental take permit as co-permittees (e.g., a city and county jointly developing an HCP for infrastructure and development permitting). In addition, more than one applicant can work together on one HCP and receive separate incidental take permits for their respective portions of a project or programmatic plan (e.g., adjacent property owners with similar, independent projects and listed species impacts). Another scenario is that a programmatic HCP might be established to allow other entities in a watershed, or similar ecoregion, to adapt it to similar development and listed species circumstances in their respective jurisdictions. The Services and the applicants must consider roles and responsibilities so that any incidental take permit is enforceable, and that each permittee can be held responsible for their respective implementation obligations.

Permit severability refers to the ability to suspend or revoke any one permit without jeopardizing other permittees. Permit severability essentially divides a plan into separate administrative processes/responsibilities, different covered species, different activities, or geographically by jurisdiction into multiple sub-plans with discrete roles for each applicant. The Services, before issuing a permit, must find that each piece of the plan is viable on its own without relying on the other pieces of the plan. While this makes it much simpler to determine how to proceed should a permittee relinquish its permit, the analyses required before issuing the severable permit may be greatly increased as we make a permit decision for each applicant.

As appropriate, divide activities and responsibilities among the applicants in the HCP(s) and incidental take permit(s). Incorporate procedures into implementation planning for when circumstances change to deal with potential compliance problems. As described below, it may be necessary for a group of non-government co-applicants to create appropriate legal instruments to allocate the rights and responsibilities of each co-permittee in order to achieve severability.

Although permit severability is highly beneficial for the Services and the applicants, it is not mandatory. There may be situations where conservation strategies rely on all permittees. Note that programmatic and general conservation plan structures achieve severability through

individual local authorizations (or certificates of inclusion), or via individual incidental take permits under a general conservation plan.

The FWS's April 30, 2013, *Final Guidance for Endangered Species Act Incidental Take Permits Covering Multiple Projects or Project Owners* (Multiple Project Guidance) (see HCP Handbook Toolbox [*Link will be added in final version*]) addresses issues related to planning and implementing large-scale, multi-party, programmatic HCPs across large geographic areas. The Multiple Project Guidance highlights the ability of Programmatic HCPs and General Conservation Plans to meet large scale planning needs and provides clarifications to facilitate their use:

- clarifies direct control (see section 3.4.2.1),
- NEPA and intra-Service consultation analyses should be inclusive enough so that individual actions can be approved with consistency determinations rather than individual NEPA and section 7 review,
- public notices may be batched for regular submittal to the *Federal Register* where this could reduce Service workloads and improve efficiencies,
- clarifies applicability of No-Surprises assurances (see sections 3.4.2 and 3.4.3, above),
- suggests issuance of an incidental take permit to a group of “co-permittees” (see section 3.4.6, below).

Industrial consortiums, primarily wind-energy so far, have begun using the Multiple Project Guidance to develop large-scale, multi-party plans that function like a General Conservation Plan, but any group of non-Federal entities can do the same. Service participation in reviewing and approving these multiple project plans works more as it would for a Programmatic HCP. We need to provide advice and negotiate our positions early and throughout plan development.

The non-Federal entities write the plan, not the Services, and submit it to us for review prior to making it available for potential applicants. With Service input, the entities define the plan area, and the activities to be covered, and they decide what kind of project an applicant would qualify to participate. Under a General Conservation Plan, an applicant would apply to the Services for a permit. Under a multiple project plan, there may be additional requirements established by the consortium that developed the plan before the Services receive an application. As any permits are implemented, the individual permit holders would be governed by the same regulations and policy, including No-Surprises, as any other incidental take permittee. We should not accept or condone any restriction on our ESA permit enforcement authority.

The Multiple Project Guidance addresses permit structures with a record of success:

- Programmatic HCPs,
- General Conservation Plans, and
- co-permittee plans.

These permitting approaches can accommodate any likely situation. We recommend their use for multiple project plans because they are tested, and we know that they can withstand challenges if properly written and implemented.

The Multiple Project Guidance also addresses potential permit structures that have not been attempted, but that might be useful in certain situations:

- contractual arrangements among non-government entities in order to establish “direct control” as described in section 3.4.2,
- use of partial permit transfers in order to convey incidental take authority to applicants seeking to participate in the plan.

To implement these structures would require rigorous review of the contracts among the participants in order to fulfill permitting requirements. It also is not clear how a partial permit transfer could be conducted without simultaneously transferring ownership of covered land.

3.4.5 Combined Section 10 Plans

It is possible to combine an HCP with a safe harbor or candidate conservation agreement with assurances. These situations occur infrequently and, to date, have involved programmatic applicants. The Georgia Statewide red-cockaded woodpecker plan offered potential participants an HCP and a safe harbor option. There are also a handful of combined programmatic safe harbor and candidate conservation agreements. For these, an applicant for a programmatic HCP may want to add an enhancement of survival option to their plan to accommodate the situations of different landowners. Under a combined programmatic plan, potential enrollees might have the choice of an incidental take permit, or an enhancement of survival permit depending on the nature of the activity and its proposed timing.

For an individual landowner, their take of a species might fit an HCP option, or it might fit a safe harbor, but the landowner needs to choose the appropriate conservation plan. The same activity cannot be covered under more than one section 10 incidental take authority for listed species. However, if a landowner has both listed and candidate species on their property, it may be appropriate to enroll them under a candidate conservation plan option and one of the other programs for listed species. Combined section 10 program plans must carefully consider the regulatory and policy requirements for enhancement of survival permits as provided in separate policy and guidance for those programs (also see Chapter 3.5.2).

3.4.6 Integrated Plans

The development of a Habitat Conservation Plan provides landscape level planning for a community, county, or even a state. It can set the future path for development and conservation. It can also set-up the side-boards or best management practices (BMPs) through its conservation program for various kinds of development and activities within the plan area. This can also facilitate review of other Federal projects within the plan area because a programmatic HCP provides a programmatic section 7 consultation.

Section 7 and section 10 are not necessarily exclusive of each other. Our intra-Service section 7 consultation provides opportunities for other Federal action agencies to integrate their consultations with that of the Service. A programmatic HCP can incorporate programmatic section 7 consultations with another Federal agency, such as stormwater discharge or wetland fill permits. In some cases, we could cooperate with other Federal agencies to provide a nearly

“one-stop” regulatory compliance process. It may be appropriate to have the other Federal agency formally cooperate in the NEPA analysis. This inter-agency cooperation may also be a part of a section 7(a)(1) planning effort, separate from any HCP.

Federal agencies can participate in the initial HCP planning. Alternatively, an established programmatic HCP can provide a framework for other Federal regulatory agencies to request consultation under the intra-Service section 7 consultation with the Service designated as the lead Federal agency, or the Federal agency requests consultation with the Service for an action, and incorporates the HCP conservation measures into their Biological Assessment (see more in Chapter 14.12.1, Integrating HCPs and Federal Actions). These three options provide pathways for Federal action agencies to streamline their consultation process by integrating their approaches and compliance with the Habitat Conservation Planning process. There are a few things to keep in mind. First, consultation under section 7 is the Federal agencies’ responsibility and therefore, how they approach it is part of their Agency discretion. In other words, how a Federal agency integrates with an HCP is purely that Agencies decision. The Services or the Applicant cannot force a Federal agency to participate or define how the Agency will participate in the HCP planning process.

3.5 What Types of Activities Can be Covered in an HCP?

Any land use or management regime can be considered for HCP coverage. However, we must carefully consider which activities should be covered and the applicant’s need for an incidental take permit, whether or not it would be prudent to expand the proposed covered activities, versus the time and cost investment to do so. While it may be prudent to limit the scope of covered activities for an HCP for a single land owner, it may be just as prudent to expand the range of covered activities for a large scale, or programmatic, HCP when we will spend substantial time and funds preparing an HCP. Covered activities should address emergency responses to predictable or likely hazards in a given area, i.e., wildfires, tropical storms, etc. However, we cannot cover take due to illegal activities like oil spills or waste water releases. These can be addressed as changed circumstances, but any take of listed species and the mitigation of effects would be addressed under other authorities, such as the Federal Water Pollution Control Act or Natural Resource Damage Assessment and Restoration Act.

3.5.1 Otherwise Lawful

To be eligible for an incidental take permit, any taking of listed wildlife must be incidental to otherwise lawful activities. While Chapter 5 discusses covered activities, there are things you can consider early in the process to avoid potential pitfalls.

“Otherwise lawful” is a key factor in determining whether we can cover an activity in an HCP. This just means that applicants must have the legal authority to successfully conduct the proposed activity in order to meet issuance criteria. The Services may accept an applicant’s assertions of lawfulness (see the certifications made in section D.2 on the FWS application form).

For most activities we consider in HCP review, the Services can readily accept an applicant’s certification regarding the lawfulness of their activities. Typical construction, timber management, mineral extraction, or other land management activities usually do not raise

questions of lawfulness. For such routine activities, we must stay mindful that we do not enforce State and local laws authorizing the activity. This means that we do not generally evaluate an applicant's compliance with local requirements (though we may refer an applicant's non-compliance with appropriate authorities), nor do we second guess a local jurisdiction's interpretation or enforcement of its requirements.

Such questions may become more important when the activity under consideration is controversial, such as a community that allows vehicles on a beach, or a State's fur trapping program. If there is local controversy or political dispute over the covered activity, we may need to ask the applicant for an explanation of their authority concerning covered activities. Having the applicant provide this background will help define our Federal action (see section 13.3.2, below).

3.5.2 Enhancement of Survival Permits Do Not Substitute for an HCP

While the Services should strive to assist applicants with their specific needs, we must not use HCPs, safe harbors, candidate conservation agreements with assurances, or research/ recovery permitting interchangeably. An HCP may incorporate some research, survey, or management activities that might separately be authorized appropriately by a recovery permit (see Chapter 3.5.5, below), but staff must not try to expedite an incidental take application by attempting to make it something it is not. Neither should we try to use a recovery permit as an interim measure (Chapter 3.5.6) to allow an early project start before an HCP is fully developed and reviewed. A research project must stand on its own merits to meet section 10(a)(1)(A) issuance criteria.

Likewise, safe harbor enhancement of survival permit applications must also meet certain criteria. These are voluntary agreements where the purpose is to undertake beneficial actions on behalf of covered species for a period of time to elevate the covered species status above an agreed-upon baseline. After the permittee's land management has improved habitat for the covered species, i.e., elevated the baseline, the safe harbor permit authorizes a specific amount of take that may occur in the future as the permittee returns habitat conditions to the baseline. Attempts to creatively schedule mitigation, or to over-compensate the impacts, will not transform an HCP situation into an appropriate safe harbor situation. Generally, an HCP is needed for a landowner whose first interest is to develop, harvest, or convert the habitat on their property. A safe harbor is more appropriate for a landowner who wants to maintain their management options into the future if their current or contemplated management regime enhances, or could enhance, listed species habitat.

A candidate conservation agreement with assurances (CCAA) functions similarly to a safe harbor in that the purpose is to provide a conservation benefit to the covered species, but it has different conservation criteria and does not establish a baseline. A CCAA is appropriate for a landowner who wants to maintain their management options in case a candidate species is listed in the future and is willing to address the threats to the species on their property. A landowner who wants to develop, harvest, or convert habitat now generally would not be eligible for a CCAA. In this situation, we could cover the candidate species under an HCP as if the species were listed, but only if there are also currently-listed species affected by the project (we cannot approve an HCP without any listed species).

3.5.3 Accommodating State Requirements

As noted in Chapter 2.2.5, we should consider State interests as we advise applicants and write incidental take permit conditions. We can adopt State requirements into incidental take permit conditions that may be more restrictive than the Services' when States are implementing their requirements in accordance with their section 6 agreement, or as provided by Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA). However, we should not adopt State requirements whenever they have no basis in our authorities under ESA, MBTA, and BGEPA, and our obligations under NHPA and NEPA.

3.5.4 Section 7 Programmatic Consultations

Non-Federal activities that have a Federal nexus, such as a required Corps wetland permit or Federal Energy Regulatory Commission (FERC) license generally do not need a section 10 incidental take permit because a section 7 consultation with the Federal agency can provide incidental take coverage to the non-Federal entity seeking the permit. Still, a programmatic HCP gives us an opportunity to:

- combine other Federal regulatory programs into an overarching interagency planning effort (section 3.4.7, above),
- it can supplement coverage of a project's incidental take when another Federal agency does not exert jurisdiction over a project's full scope of interrelated and interdependent effects, plus
- a section 10 permit has the additional benefit of providing no surprises assurances to permittees versus section 7 which can require future re-consultation.

3.5.5 Research or Recovery Permits

Other activities that the applicant may need to include in their requested take are activities that may result in additional incidental take related to monitoring the status of the species for the HCP, measuring the covered take, and any mitigation. For example: many incidental take permits require surveys of the covered species for a certain period, or for the life of the permit, to ascertain that take is not exceeded or to monitor the species status within the HCP plan area. Although take due to such activities should be covered by the incidental take permit as a covered activity of the HCP, the Services must also consider the qualifications of those who would perform such work, and we must establish methods and protocols for it. Generally, it is more efficient for us and the applicant to rely on hiring consultants whose qualifications have already been reviewed and approved under an ESA section 10(a)(1)(A) research permit review. Likewise, it may be more efficient to take advantage of methods and protocols already established through the research permits program.

3.5.6 No Temporary Authorization of Incidental Take

During the time it takes to develop an HCP with an applicant, especially with a complex programmatic plan, the Services sometimes receive requests to provide temporary or interim incidental take authorization. There is no special, alternative legal instrument to provide temporary or interim incidental take authority in anticipation of issuing an incidental take permit. We have limited means to assist individual applicants who face time constraints that conflict with HCP planning. But, we may:

- reach out early to an applicant to avoid such situations,
- delineate allowable activities that do not cause take nor compromise our section 7(d) requirements,
- provide information in a timely manner, and
- conduct timely review of documents.

The need to consider interim solutions often occurs while negotiating and planning a large-scale, programmatic HCP. If demand for incidental take authorizations throughout a programmatic plan area cannot wait for final approval of the programmatic HCP, we must consider individual applications for incidental take permits. The immediate needs of individual landowners will compete for Service resources and any solutions might risk alleviating the incentive for a programmatic plan applicant to follow through on their application. When we have to issue individual permits ahead of a programmatic plan, the individual permits must stand on their own. HCP staff should consider batching applications together to share common NEPA and section 7 analyses, and creating “fill-in-the-blank” templates of HCPs and findings.

3.6 Going Fast by Starting Slow

Taking the necessary time at the beginning to thoroughly plan how the HCP will be developed and ultimately implemented pays dividends in the long run. Once the decision is made by the Service and the applicant to develop an HCP, the temptation may be to dive in and start writing the HCP, but this is not always efficient. We should carefully consider and plan the *process* to develop the HCP before starting the writing.

The Service and the applicant need to develop a common understanding of each other's needs and goals for the HCP as well as their respective planning processes. The Services should work with the applicant to identify key milestones, such as when the applicant's executive managers need briefings or when their approvals are needed for planning to continue. Applicants should understand the time needed to achieve specific milestones associated with the incidental take permitting process. In coordination with the Services, applicants should develop a realistic time schedule to prepare their HCP. An important schedule component that applicants often overlook is the necessary review times needed by the Services and their legal counsels at different points throughout the development and approval processes. Note that several later components of these processes are contingent upon the adequacy of the draft HCP, so any deficiencies will inevitably cause delays in submitting the final application package for processing. Finally, adhering to the agreed upon timelines is a critical success factor for all parties, as even minor delays can accumulate and create major delays by the end of the process.

As a possible framework for initiating these discussions, consider filling out the “Getting Started” questionnaire we offer below (or a similar tool adapted to circumstances) before the

development of the HCP begins. The questionnaire can help to develop a common understanding between the Service and the applicant on what the HCP will be, the process to develop the plan, and the level of commitment for its development. The questionnaire need not be binding or set in stone, instead it should be a tool completed voluntarily that guides the development of an HCP. Table 3.6. Getting Started Questionnaire to be used early in HCP development.

Sample HCP “Getting Started” Questionnaire	
HCP name:	
Items for the Service and applicant to answer together	
Has the Service given an HCP 101 presentation to the applicant? If so, did it answer the applicant’s key questions?	
What are the applicant’s broad goals for the HCP?	
What are the general goals of the Service for the HCP?	
What is the general area the plan will cover?	
What species are being considered for coverage?	
What types of activities may have effects on species?	
What types of conservation activities are being considered?	
What key existing data, or plans can help inform development of this plan? (e.g. political, economic, social, environmental, climatic, etc.)	
What key information may be needed, but is unavailable?	
What is known about the species and area in relation to climate change?	
Is the plan area likely to provide refugia or movement corridors for species vulnerable to climate change effects that are either within the plan area, or that might now exist outside the plan area?	
Has a simple checklist of the specific information needs of the Service to complete the BO, make findings, and issue permits been developed and attached to this questionnaire?	
What is a reasonable timeframe for this plan to be completed?	

Has a rough timeline been created for key milestones of the plan development?	
Has a dispute resolution process been developed and attached to this planning agreement?	
In addition to the ESA permit being sought, are there other permits or regulatory processes that need to be considered?	
Has a rough budget for preparation of the HCP been developed and attached to this questionnaire?	
Has the Service informed the applicant about funding opportunities (including section 6)?	
Who are the key stakeholders that should be included in the development process?	
How will key stakeholders be included in the development process?	
Who are the key stakeholder experts who can be brought in to help develop the conservation strategy?	
How will plan development be funded?	
How might plan implementation be funded?	
What permit duration is being sought?	
Who and how will data be managed that is developed for this plan?	
Has a data sharing plan been developed between the applicant and the Service?	
How will interim decisions be memorialized?	
How will legal counsel be involved in the process?	
For the applicant to answer	
Who will be the applicant's primary project manager? How much time will he/she commit?	
Who will be the decision makers for the applicant?	
How will senior managers be involved in plan development?	
How will the applicant staff be involved in development	

of the HCP?	
For the Service to answer	
Who will be the decision makers for the Service?	
Who is the primary liaison for working and communicating with the applicant?	
How and when will senior managers be involved in plan development?	
How will the Service staff be involved in the development of the HCP and NEPA?	
What workload management arrangements and decisions need to be made to accommodate field staff time for working on the HCP and NEPA?	

Should the questionnaire be signed?

The Service and applicant must work together to decide if there is value in making the ‘Getting Started Questionnaire’ (or similar form) more formal by having it signed by both parties. Signing the document may be useful in more complex plans where commitments and process agreements are particularly important.

When to fill out the questionnaire?

Once the need for an HCP has been determined, the Service and applicant should consider filling in the ‘Getting Started Questionnaire.’

How can the questionnaire help with NEPA scoping?

For HCPs where NEPA scoping through the Federal Register is warranted, completion of the questionnaire may be a good time to initiate scoping with the public. The information in the questionnaire and timing of its completion would be useful to initiate public scoping.

3.7 Other Compliance Requirements

Issuance of an incidental take permit is a Federal action and subject to other Federal requirements. NEPA and NHPA are the two considered in all HCP decisions. The Services must also conduct intra-Service section 7 consultation.

A project proposal may affect other resources for which the Services are responsible. Although an applicant may not be on the “hook” for effects to listed plants, critical habitat, or migratory birds, the Services do have responsibilities for these resources under other laws as described below.

To avoid costly delays in a project's implementation, it is extremely important to begin coordinating how these other requirements are addressed with the applicant as early in the project designing process as possible when there is maximum flexibility and no conservation options have been agreed to or eliminated from the mix.

3.7.1 Section 7 Intra-Service Consultation

In addition to the requirements of the section 10 permit regulations, detailed species and habitat information are needed for the section 7 process. All covered species, listed, candidate, or proposed, will need to be assessed under section 7 for impacts and the likelihood of jeopardy and any adverse modification of critical habitat (see Chapter 14.13.1). We can also cover unlisted species in an HCP; if proposed for coverage, they should also be considered in the intra-Service consultation. For species covered by an incidental take permit, the biological opinion informs the jeopardy issuance criterion (see Chapter 16.1.3).

Information gathered while preparing the HCP can greatly simplify the writing of a biological opinion. This is especially important when non-listed species are involved, since often there is limited information in the Services' files to use for background information.

If listed species that occur in the plan area are dropped from the covered species list for lack of information, or are not included in the HCP from the onset, they still must be addressed in the biological opinion to determine if they may be adversely affected by the proposed covered activities. If adverse effects to a species are possible, we should encourage an applicant to include them in the HCP and permit application (see Chapter 7). However, as we discuss in Chapter 3.1.2, an applicant ultimately decides the legal risks they are willing to accept as they select which species to include in their HCP. One of those risks, as we describe in following chapters of this Handbook, would be for the Service to decide against issuing the permit.

Intra-Service consultation does not formally begin until after a complete application is received. However, there is no need to wait. We should gather information and plan the intra-Service consultation simultaneously with HCP development. As the final draft of the HCP is being compiled, just before submittal of the application, is a good time to review the HCP through the lens of an intra-Service consultation. This can identify previously unidentified gaps in the HCP. See Chapter 14.13.1 for compliance with section 7 for HCPs.

3.7.2 Listed Plants and Critical Habitat

In the Services' intra-Service consultation prepared for its incidental take permit decision, we must analyze and identify measures to conserve listed plant species as well as any designated critical habitat. Like any other Federal agency, the Services may not undertake an action that is likely to jeopardize the continued existence of listed plants, or adversely modify critical habitat. Although an applicant is not responsible for these resources, we have the authority to require other measures in the HCP and in the permit conditions to fulfill our agency obligations.

3.7.3 Migratory Birds and Eagles

In addition to the ESA, FWS implements the MBTA and the BGEPA. These laws have their own permitting requirements, but the FWS may issue consolidated permits that combine ESA measures with measures for either, or both, the MBTA and BGEPA. See Chapter 7.4 for more considerations on covering these species.

Just as we can require conservation measures for listed plants and critical habitat, FWS can also require conservation measures in the HCP and permit conditions to fulfill its MBTA responsibilities. Negotiating conservation measures for non ESA-listed birds will not, however, carry the same weight as listed plants or critical habitat because non-listed bird conservation lacks requirements equivalent to an ESA section 7 consultation.

3.7.4 National Historic Preservation Act

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and afford State and tribal historic preservation offices, and the public, a reasonable opportunity to comment on such undertakings. The implementing regulations for section 106 of the NHPA, at 36 CFR Part 800, define how the Services can meet these requirements through a consultation process. The goal of consultation is to identify historic properties potentially affected by the Federal undertaking, assess its effects and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties.

The Services' permit signatory has the obligation to fulfill section 106 consultation requirements. Issuance of an incidental take permit and implementation of the HCP's conservation requirements for covered species is a "Federal undertaking." We may use our public involvement procedures under NEPA or other program requirements to satisfy the public involvement requirements for NHPA. Cultural resources are a NEPA factor, and the NHPA regulations encourage coordination and incorporation of NHPA consultation with the NEPA consultation.

The Services may establish, in consultation with the Advisory Council on Historic Preservation, alternative consultation procedures. Although these have not been established Service-wide, Regions and field offices may develop local consultation procedures with their corresponding State and tribal historic preservation offices. As noted above, the NHPA regulations allow us to coordinate with other programs. Some States' cultural resource requirements serve our NHPA goals. These State consultations should be incorporated into our review to minimize duplicative effort by the Services and HCP applicants.

3.7.5 National Environmental Policy Act

NEPA requires an analysis of impacts to the same species as does the ESA, but the scope of NEPA goes beyond that of the ESA by considering the impacts of our federal action on the human environment such as water quality, cultural resources, and socioeconomic values. Because issuing an incidental take permit is a "Federal action" under NEPA, we must conduct the appropriate environmental analyses and document it in accordance with NEPA, the Council of Environmental Quality (CEQ) NEPA regulations, and Department of the Interior NEPA regulations before finalizing a permit decision. Early during HCP negotiation is the time to focus the analysis conducted for our NEPA review.

This Handbook relies on the Services' NEPA policy and guidance for NEPA implementation. However, conducting the HCP program requires us to adopt the point of view of a regulatory action agency, not a commenting agency.

The applicant will evaluate their project, and alternatives, from the perspective of its effects on listed species and other natural resources of concern to the Services, and provide this information in their HCP. The applicant's project provides the essential core of the proposed Federal action: issuance of an incidental take permit in response to that HCP. In our NEPA documentation, the Services evaluate issuing the permit from the perspective of its potential effects on the human environment.

When we find significant effects, we prepare an EIS. When we are uncertain of our actions effects, we prepare an EA that results in either a Finding of No Significant Impact (FONSI), or we continue to prepare an EIS. While we encourage Service staff to consider an EA to help identify the significance of our actions effects (to focus the scale of analyses in an EIS, or possibly conclude with a FONSI), we also have the option of beginning with the preparation of an EIS if we know it will be necessary at the outset. If our action has effects that are individually or cumulatively not significant, it may be categorically excluded from further analysis.

Levels of NEPA review significantly affect HCP review timelines. A categorical exclusion can be issued by an FWS field office in a couple of months, including the 30-day comment period, while an EIS-scale HCP requires more than one public notice, and usually more than a year to complete.

Misunderstanding the scope of the Federal action in an incidental take permit-related NEPA document often leads to an overstatement of impacts, potentially foregoing the use of our Categorical Exclusion, and encumbering applicants (and the Service) with unwarranted, costly, and time-consuming EIS's. In this Handbook (see Chapter 13), we seek to restore proportion to our NEPA analyses by:

- empowering the Services to focus the scale and extent of NEPA review,
- selecting an appropriate level of NEPA documentation,
- revising the required public notice periods for each NEPA review level,
- advising the Services on their oversight of the NEPA review when it is conducted by outside consultants(Chapter 3.8 and 13), and
- advising Service staff on managing the HCP Planning Assistance grants program to ensure it stays focused and on track.(Chapter 3.8).

3.8 Contracted Assistance

Large scale HCPs often involve contractors hired by the applicant, or possibly by the Services.

3.8.1 Facilitators

For large-scale or regional HCPs, we strongly encourage the use of a neutral professional facilitator who is skilled at moderating committee meetings, building consensus, handling complicated projects, and working with uncooperative parties. Such professionals can help to

move the HCP process forward. A facilitator can help recognize and resolve problems or use negotiation techniques to aid a group in overcoming obstacles and meeting expectations. When working with a steering committee or other group, a facilitator can help the group to define the problem, develop alternatives, and establish ground rules to resolve differences between divergent interests. The facilitator's role is to assist the group in reaching its specified goal. They should not be involved in formulating the particulars of the HCP or in the decisions reached by the group.

3.8.2 HCP and NEPA Consultants

Consultants or contractors can be of great assistance to an HCP applicant in a number of ways. Consultants can assist with the development of the HCP, provide input into minimization and mitigation options, help formulate alternatives, and develop monitoring plans. Although an applicant can develop an HCP with minimal impacts without the aid of a consultant, we often recommend using a consultant for large complex HCPs that require expertise beyond that of the typical applicant. However, the applicant has control over HCP preparation; a consultant does not drive the applicant's decisions.

NEPA documents are sometimes prepared by the same consultant that prepares the HCP. This can lead to confusion and conflicts of interest, possibly delaying the process, and even occasionally, leading to litigation. The NEPA document associated with issuance of an incidental take permit is the Services' document. Where preparation of the NEPA document is paid for by an applicant, the Services must approve the selection of the contractor. The NEPA documentation must be neutral and objective and not influenced by the applicant's desire for a permit. If an applicant or his/her consultant is drafting the NEPA documents, they must understand that the sections of an HCP are not fully transferable into the NEPA document.

For an EIS, we generally require that consultants who prepared the HCP not be involved in the EIS development. While not required for an EA, we strongly prefer a similar degree of separation between the consultant team preparing the HCP from that preparing the EA document. Although we prefer and recommend that these teams be from different firms, if we agree, the applicant may use the same firm, but different staff on the two documents. In either case, it is important to note that compliance with NEPA is our responsibility and as such, the contractor that prepares the NEPA documents is:

1. selected by the Services, and
2. works with and for the Services (and is responsive to the Services, only), regardless of who is paying for this task (per 40 CFR 1506.5(c)).

We recommend that the NEPA consultant be required to sign a no conflict of interest agreement (see HCP Handbook Toolbox [*Link will be added in final version*])) prior to starting work. This is required for an EIS, but not for an EA. When a consultant prepares an EIS or EA, they should prepare a disclosure statement for inclusion in the draft and final EIS or EA to ensure the avoidance of any conflict of interest (40 CFR 1506.5(c), 43 CFR 46.105, and 516 DM 8). This helps to formalize the team separation and to establish ground rules for the preparation of the NEPA document that will ensure close coordination with the Service and an analysis that is independent from the HCP.

We recognize that the scale of a project or the available planning resources do not always allow for separate teams in NEPA document preparation. If this happens we must emphasize our concerns and work closely with the consultant. The incentive for an applicant to fund NEPA document preparation is to expedite development and the review. Delays spent in negotiating the contents of a NEPA document will degrade any advantage to expediting the process this way.

In the past, we have agreed to combine some HCPs with the EA in an attempt to streamline analyses. This works in a few rare circumstances, but the majority of attempted EA-HCP combinations have been counterproductive. Combining the HCP with the NEPA documentation places the Services in the position of negotiating the content of the EA, which is our document, and blurs the distinct requirements of the two documents. Combined documents also complicate future revisions to the HCP that would otherwise not involve an EA amendment.

3.8.3 Advice to Applicants on Selecting an HCP Consultant

Because many applicants lack the necessary expertise to develop a conservation plan, we encourage them to use consultants who have experience in HCP preparation. A highly knowledgeable and professional consultant can greatly facilitate the development of an HCP, whereas a consultant who lacks adequate experience and knowledge can cause costly delays and misunderstandings. While we cannot require the applicant to hire (or refrain from hiring) any specific individual or firm to write the HCP (we do have control over NEPA documents), we offer the following considerations to applicants for them to keep in mind when they are selecting a consultant:

- What experience does the consultant have in preparing HCPs that the Services have approved?
- Do the consultant and the proposed project manager have experience in preparing HCPs with applicants similar to you (e.g., local governments, local water agencies, local transportation agencies, State agencies, industry groups, residential developers, renewable energy companies, etc.)?
- Does the consultant have experience preparing HCPs with a level of complexity similar to that expected for your HCP?
- Has the consultant been involved in the preparation of HCPs from the beginning to end, or just some portion of the process? Have them provide information or references to help us confirm this.
- Does the consultant have local knowledge of the geographic area and species to be covered by the HCP?
- Does the consultant have the technical expertise needed for the issues in your HCP (e.g., in a variety of disciplines: biologists, GIS specialists, NEPA specialists, land use planners, economists, conservation biologists, climate change specialists, data modelers, project managers, project facilitators, etc.)?
- Has the consultant's team (or sub-contractors) worked together on other projects?
- How will the consultant ensure the availability of key staff for the duration of the project?
- How will the consultant control costs and manage their budgets?

- Does the consultant have experience in implementing approved HCPs? (This allows them to bring “lessons learned” in HCP implementation to the development of your HCP).
- Ask the consultant for a list of previous HCPs and NEPA analysis documents completed, with a point of contact for each. Examine these documents if possible. Contact previous project proponents and ask if:
 - they were satisfied with the work, and
 - the HCP/NEPA analysis was on time and on budget.

Even when a consultant or legal representative is involved, it is important for applicants to also maintain close coordination with the Services to ensure an accurate exchange of information and a true understanding of expectations as the HCP is in development. All parties involved should remember that it is the applicant with whom the Services are negotiating and who will be responsible for decision-making and implementation of the approved HCP, not the consultants or other representatives.

Developing an HCP requires extensive coordination between the applicant, the Services, and other involved parties (e.g., consultants, State or local agencies, tribes, or other stakeholders). The process can be complex; therefore, the key to success is close coordination with the Service early in the process, maintaining frequent contact throughout, and maintaining momentum once the commitment is made to proceed.

3.9 Planning Resources Available

As noted in Chapter 2, training at the FWS National Conservation Training Center (NCTC) or locally provided workshops are available for applicants and consultants. FWS is developing Web-based conservation planning tools (Chapter 8.1.1) that will be available for use by the Services and the public in formulating an HCP mitigation plan. The web-based Information for Planning and Conservation (IPaC) is currently available for certain species and situations focused on section 7 consultations.

Planning assistance is available through the FWS’s Section 6 Cooperative Endangered Species Conservation Fund in the form of competitive grants we award each year. FWS awards Section 6 grants to States only, so if a local entity wants to submit a proposal, its staff will need to coordinate with the appropriate State agency that holds a cooperative agreement with FWS. FWS field offices should work closely with the States and project proponents to develop competitive proposals that fit grant criteria and establish feasible schedules.

Some programmatic plans in development receive awards over several consecutive years. FWS staff must oversee these to ensure work is progressing toward HCP development in a timely fashion and consistent with the grant agreement. Each fiscal year’s grant objectives need to be clearly defined, and if a given task carries over from year to year, the grantee, in their proposal, must try to differentiate aspects of the task that might change from one year to the next. Staff must ensure that grant dollars are budgeted towards activities that result in actual progress (collect biological information, hold stakeholder meetings with defined purposes, develop outreach, draft a section of the HCP, etc.) so that we avoid funding vague, undefined purposes or an indefinite series of studies or modeling.

3.10 Making and Documenting Decisions

There are a seemingly endless series of decisions made throughout HCP development and implementation. These can be one time decisions (e.g., which species to cover), or recurrent decisions (e.g., which management action to take) that are made throughout implementation of the plan. Some decisions are more important than others. Some decisions can be made on the fly and others may require more deliberate thought to consider the options. Decisions controlling management actions or responses to changed circumstances should be based in conceptual models that have been constructed for monitoring and adaptive management. If every decision in an HCP went through an in-depth process to determine the answer, the HCP would never be completed. However, some decisions are important enough that a structured process is warranted.

Unstructured decisions might be appropriate when:

- the answer is obvious,
- there are few consequences to the decision, or
- there is little difference between options.

Structured processes to make decisions might be appropriate when there is:

- a high chance of litigation,
- a high level of uncertainty,
- significant risk to conservation of species,
- potentially significant costs to applicant,
- long term consequences from the decision, or
- transparency is particularly important.

If we determine that a structured process is appropriate, identifying the barriers to making the decision is essential in focusing the structured process. Staff must be as specific as possible about the barriers to the decision:

- Is there some aspect of the science in question, and if so, what exactly?
- Are there value differences between the decision makers? What are those differences?
- Is there a specific source of uncertainty that is impeding the decision from being made?

We must also be realistic about the barrier so staff can understand it and figure out how to work through it.

Staff should make decisions as necessary and in a timely manner. They should use the best information available and, document the logic. If, on the other hand, a decision does not have to be made and it is postponed, we should ask:

- Why was that decision postponed?
- What value does postponing the decision have?

There should be a clear rationale for postponing any decision and it should be documented so everyone can refer to it later.

Regardless the level of deliberation, Service staff must document the outcomes and ensure all relevant personnel are informed. This can be as simple as having meeting notes circulated to all attendees, so that everyone has an opportunity to provide feedback. These types of records become more important in complex, multi-year planning efforts to minimize delays due to staff turnovers and to avoid repeated discussions over previously settled issues. See also Chapter 4.4 concerning records retention in a case file.

Simple tables with criteria used to consider which species to cover, for example, are very helpful in documenting the logic and making decisions clear. Keeping good records will help keep HCP planning on track, and it creates the Services' administrative record.

CHAPTER 4: COMMUNICATING AND COORDINATING

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4.0 Effective Communication

Communication is effective when our stakeholders receive information relevant to their needs. Communication is not effective when we simply tell the public what we're doing. Stakeholders are individuals and groups affected by, or who can affect the outcome of a Habitat Conservation Plan (HCP) project. They are also people who may simply have an interest in an HCP project for intellectual, academic, or political reasons, even though they are not directly affected by it. While stakeholder interests in an HCP project will vary, the more they stand to benefit or lose, the stronger their interest is likely to be. The degree of stakeholder involvement in HCP projects depends on each stakeholder's particular interests and motivations. Most stakeholders are satisfied with an opportunity to simply learn about the HCP project, while others, such as those with conflicting interests and motivations, may need additional opportunities for involvement.

Without exception, facilitating effective and efficient communications with and among stakeholders has important advantages:

- It increases the chance of the HCP being successful. While it's unrealistic to think that everyone is going to support the HCP project, identifying stakeholders and being responsive to their needs will make it more likely that the HCP project will succeed.
- It reduces the chance of being blindsided by issues and concerns you didn't know about. Stakeholder issues and concerns can be aired and resolved before they become time-consuming (and often embarrassing) stumbling blocks at the 11th hour.
- It creates and bridges social capital for the conservation community at-large. Social capital is the network of acquaintances, friendships, family-ties, favors, and other social currency that exist in communities, which can be used to facilitate cooperation and relationship building. Bridging social capital creates connections among diverse groups.
- It establishes with stakeholders that we are fair, ethical, and transparent; making it more likely stakeholders will support us in other circumstances down-the-road.
- It reduces the number of potentially significant issues and unresolved conflicts that need to be addressed our National Environmental Act Policy Act (NEPA) documents.

However, before anyone reaches out to stakeholders, it is important that the people involved in an HCP project, particularly the decision makers and those responsible for communicating and coordinating with stakeholders, all agree on how the communication process is going to work. To this end, we have identified a six step communication planning process, a few guidelines and principles, examples, and a variety of tools and techniques (HCP Handbook Toolbox [*Link will be added in final version*]) to help you facilitate effective and efficient communication among the Services, the applicant, and stakeholders. A point worth mentioning is that not all HCP projects need extensive communications and coordination. It is the HCP practitioner's job to determine what amount is appropriate for a particular project.

4.1 Identify Stakeholders

The key to success in the public sector is satisfying key stakeholders. If we don't know who our stakeholders are, what criteria they use to judge the organization, and how we are performing against those criteria, there is little likelihood that we will know what to do to satisfy our stakeholders.

There are a number of ways to identify stakeholders associated with an HCP project. Brainstorm with people inside the Service's, consult with other HCP practitioners, consult with partners, and consult with the applicant. Consulting with the applicant is probably one of the most effective ways because applicants generally know who their stakeholders are, and what issues and concerns are typically associated with their projects. Whatever technique you choose, think about every possible way that the HCP project might benefit or cause problems for others, both directly and indirectly. Obviously, some stakeholders will have an interest in helping carry the HCP project forward, while others may be equally intent on preventing it from happening. It is essential to identify and understand both of these groups.

It is important to understand a stakeholder's interests, motivations, and power bases; how they relate to one another; and their understanding and attitude toward HCPs, the Endangered Species

Act (ESA) and the Services; as well their expectation for involvement in the HCP project. Gifford Pinchot (1947), in describing the philosophies and practices that guided the establishment of many national forests, said "To start with I had to know something about the people, the country, and the trees. And of the three the first was the most important."

Communicating effectively with stakeholders also requires you to understand yourself. Knowing who or what you represent and how that influences your perspectives is important to acknowledge, especially before you work with stakeholders who represent a different perspective. It is natural to want to share our beliefs or perspectives with others, but in certain contexts you may be mistaken for refuting another's perspective, or at worse being adversarial. It is important to remain objective when listening to others share their concerns. This is not a point in the process to haphazardly try to educate or dispel what you believe to be myths. Operate under the assumption that another person's perception is their reality, whether or not it matches up with what you know. Knowing where there are points of confusion or where misinformation has been spread will help you to target the messaging later in the process when you build the communications strategy. Understanding stakeholders also requires you to be honest when you are not the appropriate person to gather stakeholder perspectives. In instances where an issue is extremely contentious or there has been a perceived breach of trust between the Service and a stakeholder group, you may need to find a neutral party to help you in your work.

Undoubtedly, there will always be a range of knowledge, interest, and attitudes among stakeholders associated with the HCP project, and communication methods will vary depending on the particular needs and expectations of each stakeholder group. What you learn will influence what you say, how you say it, when you say it, and ultimately, who should be the one to say it. The discipline of gaining this type of insight pays enormous dividends for you as a communicator. Take the time to understand stakeholders. The following agencies and people generally have a stake in most of the HCPs we work on.

4.1.1 National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)

Section 7(a)(2) of the ESA requires all Federal agencies to ensure that "any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of designated critical habitat. In the past, some HCP practitioners viewed the section 7 consultation for the section 10(a)(1)(B) permit as an independent review process that occurs after the HCP has been prepared. However, this approach often left the permit applicants and the section 7 biologists with no guarantee that the process of meeting the requirements of section 10(a)(1)(B) would result in issuance of the permit, since a section 7 consultation conducted late in the process could result in the discovery of unresolved issues, the return of an inadequate HCP to the applicant, or a jeopardy biological opinion. To avoid this, it is now the Service's policy to begin integrating the section 7 and section 10 processes at the beginning of the HCP development phase, and to regard them as concurrent and related, not independent and sequential, processes. In procedural terms, this means that considerations of section 7 consultation requirements should start at the beginning of the HCP development phase, not during the permit processing phase.

4.1.2 Other Federal Agencies

During the development stage of an HCP, the Services provide technical assistance and information concerning regulatory and statutory requirements to the applicants to ensure completeness of the application. At the same time, we encourage applicants to invite and include other Federal agencies who can use their existing authorities, expertise, or lands, in support of the HCP development and implementation process. It is particularly important to encourage the participation of other Federal agencies that may own or manage land either within or near the applicants proposed covered land. For instance, an applicant seeking an incidental take permit for a pipeline right-of-way project that will cross land owned by the National Park Service (NPS) may also need a NPS Special Use Permit (SUP). Issuance of SUP's by the NPS, including specific conservation measures for listed species, may be governed by NPS policy in NPS management plans, related NEPA documents, and prior section 7 consultations with the Services, just to name a few.

4.1.3 Federally Recognized Tribes

How we communicate with federally recognized tribes is governed by specific laws, regulations, and Secretarial Orders. For instance, a Secretarial Order on Native Americans and the Endangered Species Act (June 5, 1997) clarifies the responsibilities of Federal agencies for actions taken under the ESA that may affect Indian lands, tribal trust resources, or the exercise of American Indian tribal rights. This Secretarial Order requires Federal agencies to make an effort to establish effective government-to-government working relationships with tribes to achieve the common goal of promoting and protecting the health of ecosystems on Indian lands. Thus, whenever the activities under an HCP may impact tribal trust resources, the exercise of tribal rights, or Indian lands, we must consult with, and seek the participation of, the affected Indian tribes to the maximum extent practicable. This includes providing affected tribes adequate opportunities to participate in data collection, consensus seeking, and associated processes. If a field office does not already have an established working relationship with potentially affected tribes, then the Services must work with the Regional HCP Coordinator and Regional Tribal Liaison to reach out to them. Outreach to the tribes can occur simultaneously or right before any of the HCP/NEPA public participation processes, but the government-to-government consultation should occur separately from the general public process. Nothing in the Secretarial Order prohibits us from proceeding with HCP and NEPA processes if a tribe does not respond to outreach efforts. For more information on the Order, see <http://www.fws.gov/endangered/what-we-do/tribal-secretarial-order.html>. Here is the Department of the Interior (DOI) website on consulting with tribes: <http://www.doi.gov/tribes/Tribal-Consultation-Policy.cfm>.

4.1.4 State Agencies

The need for effectively communicating and coordinating the HCP project with the States is vital. Many federally-listed species are also State-listed species, with similar prohibitions to unlawful take. While many of these states have procedures to authorize take, others do not. For States that have these procedures, some will accept an ESA section 10 HCP in lieu of their own conservation plan requirement. HCP practitioners must understand these requirements, and facilitate effective communication and coordination between the applicant and the State.

4.1.5 Elected Officials

Communicating with elected officials is typically dictated by agency protocol at both national and Regional scales, which may change over time or be unique to specific members of Congress. It is important that you consult with your External Affairs Office or Tribal Liaison early in the process so that you understand proper protocols for communicating with these and other special groups.

To facilitate efficient communications with stakeholders, it is often helpful to group stakeholders by their potential relationship to the HCP project. Consider using the following four groups of stakeholders.

Stakeholder Group 1 - individuals or groups who will be directly affected by the HCP project, either positively or negatively, as a result of issuance of an incidental permit. This category of stakeholders, often called “key stakeholders”, are those who can have a positive or negative effect on the HCP project, or who are particularly important within or to the agency. Regional Directors within the Services are obvious key stakeholders, but so are certain staff, such as Section 7 Coordinators, particularly those who work on similar projects involving similar species. Other examples of key stakeholders might be State natural resource agency personnel and special interest groups. Key stakeholders are often connected to large networks, and thus can both reach and sway people far and wide.

Stakeholder Group 2 - individuals or groups who have a vital interest in what we do and how we perform, have been actively involved in endangered species issues in the past, and may require additional participation opportunities to fully explore their issues and needs. This category of stakeholders might include certain non-government organizations (NGOs), special interest groups, Federal, State, and locally elected officials, and landowners within the HCP planning area.

Stakeholder Group 3 - individuals or groups who have an interest in what we do and how we perform, have been involved in conservation issues in the past, and may or may not require additional participation to fully explore their issues and needs. This category of stakeholders might include certain NGOs, print and broadcast media, and landowners near the planning area.

Stakeholder Group 4 - individuals or groups who are potentially interested in what we do and how we perform, have not been involved in HCP-related issues in the past, and would be generally content with receiving information about the process through mailings, internet notices, or through other more general means.

Although we will provide information regarding the HCP project to all stakeholders, we may need to provide additional opportunities for participation to stakeholders in groups 1 through 3 to ensure that their issues and needs are adequately explored and understood. Generally, stakeholders in category 1 will be part of the Planning Team, and they will take an active role in the development of the HCP. There is a document in the HCP Handbook Toolbox [*Link will be added in final version*] to help you organize stakeholders.

4.2 Establish Communication Objectives

After the stakeholders have been identified and their interests and motivations understood, the next step is to decide on a desired response from each stakeholder or stakeholder group. The ultimate response from most stakeholders is some expression of support for the project and behavior that confirms it. First we need to know where the stakeholders are in terms of their “readiness to express support”. Consider the following example.

Assume we are working on a Template HCP with farmers located in a region rich with caves that support an endangered species. Runoff from multiple livestock farms in the region is getting into the groundwater supply that feeds these caves, which is having an adverse effect on an endangered fish species. There are 50 farms located in this region represented by 250 farmers (stakeholder group) that may be contributing runoff to these caves. One of the Services’ recovery goals for this species is to reach out to farmers in the region to promote the recovery of this endangered species. As one field office biologist asked, “wouldn’t it be wonderful if through this HCP process we could get all the livestock farmers in this region to control their runoff?”

In this example, three types of information are valuable to us before we start developing communication objectives. The first would be gaining some insight into where the livestock farmers are at in terms of their understanding of the problem, which is livestock runoff getting into the water supply that feeds the caves that support the endangered species. You can gain some understanding by developing a Communications Spectrum for the stakeholder group. The Communication Spectrum for this stakeholder group would look something like Table 4.3a.

Table 4.3a - Communication Spectrum for Livestock Farmers in Karst Recharge Area		
LEVEL OF AWARENESS	WHAT THAT MEANS	PERCENTAGE OF STAKEHOLDERS
UNAWARE	Never heard about the problem.	40% (100)
AWARE	Heard about the endangered fish species, but nothing else.	25% (62)
COMPREHENSION	Heard about the endangered fish species and problems associated with runoff, but not convinced runoff from livestock farms is the problem.	20% (50)
CONVICTION	Heard about the endangered fish species and are convinced runoff is a problem, but currently not taking action aimed at eliminating runoff from their farm.	10% (25)
ACTION	Fully understand the problem, support efforts to conserve the endangered fish species, and are taking action to eliminate runoff from their farm.	5% (13)

The second piece of information that is valuable is to gauge the stakeholders familiarity with the agency by asking them to circle the appropriate number on a Familiarity Scale (Figure 4.3a).

Figure 4.3a – Familiarity Scale

1 **2** **3** **4** **5** **6** **7** **8** **9** **10**
Never heard of **Heard of only** **Know a little bit** **Know a fair amount** **Know very well**

If most of the stakeholders circle the first two or three categories, our task will be to build greater awareness of the Service. Respondents who are familiar with the agency should then be asked how they feel about the agency, using a Favorability Scale (Figure 4.3b).

Figure 4.3b – Favorability Scale

1 **2** **3** **4** **5** **6** **7** **8** **9** **10**
Very unfavorable **Unfavorable** **Indifferent** **Favorable** **Very Favorable**

If most respondents check the first two or three categories, the Service will need to overcome a negative image problem or pass off the role of communicator to another entity. The three scales would then be combined to develop insight into the breadth of the communication challenge.

The next step is to decide on a desired response from the stakeholder group. The ultimate response of course is to get all livestock farmers in the region to control their runoff (i.e., to take some form of action conducive to the problem). However, from the Communications Spectrum we know that 100 of the livestock farmers in the karst recharge area may be unaware that runoff from livestock farms is having an adverse effect on endangered species, while 50 others may recognize the problem, but are not convinced they need to do something about it. In this case, we develop communication objectives to: 1) inform those farmers who are unaware that a problem exists, and 2) motivate those farmers that are aware of the problem but not yet taking action to control runoff from their farming operations. Communication objectives for this example might look something like this:

Examples of Communication Objectives

1. Within 6 months, 100 percent of the livestock farmers in the karst recharge area will recognize runoff from livestock farms as a serious problem facing the endangered fish species.
2. Within 1 year, 50 percent of the livestock farmers in the karst recharge area will be able to identify at least one conservation program that addresses runoff from livestock farms (i.e., a program that provides technical/financial assistance to farmers).

In the example above, we describe a planning and organizational approach aimed at potentially moving a stakeholder group from their present state of readiness to act to a higher state of readiness to act (i.e., unaware of the problem → aware of the problem → comprehend the

problem → conviction → action). However, before you carry out the process, it is critically important that you properly “set-the-stage” with the stakeholder group so you don’t end up at the 11th hour with a project held up because of disgruntled stakeholders.

Setting the Stage

Bleiker et. al. (2000) said there are four key principles or “life savers” essential to building support for organizations and their actions. According to Bleiker “whatever you say, whatever you write, whatever you do, make sure that your public understands these four points:”

1. Establish that there is a problem or opportunity, one that must be addressed.

Rationale: Few people will support, accept, or even be interested in something that they do not perceive as a problem or issue. Our communication must consistently and clearly show that there are important issues that must be addressed here and now.

2. Establish that it’s our obligation to tackle the problem or opportunity.

Rationale: People tend to resist solutions or plans that have solutions to issues of importance to them if they feel the individuals or organizations proposing the solutions have no responsibility or obligation for tackling the problem. We must clearly demonstrate that the Service is dealing with issues for which the Service has an obligation to address. We must establish that, given our mission, if we did not address this problem or opportunity, we would be irresponsible and not be performing the duties of our jobs.

3. Establish that your approach is reasonable, sensible, and responsible.

Rationale: People do not support ideas that do not strike them as sensible. We must ensure that our activities and decisions consider all relevant information, are based on sound science, and result in sound management decisions that balance conflicting uses in an appropriate manner.

4. Demonstrate that you listen and care.

Rationale: Nobody likes to say something and be ignored. We must be open to all input and consider that input on its merits. If someone has presented an idea to the Service that cannot be implemented for some reason, we must provide a prompt, clear response as to why we could not use the idea. Where feelings run high, we must demonstrate that we do care about what others think and we must acknowledge the diverse input.

Communication objectives that incorporate these principles might look something like this:

Examples of Communication Objectives Incorporating the Principles of “Setting the Stage”

1. Within 6 months, 100 percent of livestock farmers in the region will understand that there is an important natural resource issue that needs to be addressed through planning.
2. Within 1-year, 90 percent of livestock farmers in the region will understand that it is the responsibility of the Service to protect threatened and endangered species (i.e., it is our duty to tackle this issue).
3. Within 2-years, 80 percent of livestock farmers in the region will feel that the HCP process is open and fair, and they will be satisfied with the opportunities for public involvement (i.e., our approach is reasonable, sensible, responsible).
4. At the conclusion of the HCP process, 80 percent of livestock farmers in the region will feel that the Service listened to their issues and was responsive to their concerns (we listened and we care).

4.3 Messaging and Channels

Once we have identified the stakeholders, gained some prior knowledge about them, and decided on a desired stakeholder response, the next step is to develop messages. Messaging requires solving four problems, which means deciding on:

1. *Message Content* (what to say),
2. *Message Structure* (how to say it logically),
3. *Message Format* (how to say it symbolically), and
4. *Message Source* (who should say it).

It is important to state up-front that communicators must come to agreement on what needs to be said before any time and money is spent on how best to say it and through which channels. What can you say to farmers in the region that will move them from their present state of readiness-to-act to a higher state of readiness-to-act (i.e., unaware → aware → comprehension → conviction → action)?

To get at this question, brainstorm with people who have prior knowledge and experience with the stakeholder group. Think about what the stakeholder group needs to know and how they might be able to change their actions in simple ways to address the problem. Understand what motivates them. The more closely you tie the message to a message that resonates within the stakeholder group, the more likely you are to achieve the desired outcome. Be clear about what you want the stakeholder group to do, and make sure they have tools to do what you're asking. Ask:

- Why have they not taken action on this issue in the past?
- What are potential barriers and benefits that the stakeholder group may associate with the action?

Understanding these questions and concepts will help you frame the messages in more appropriate ways. Our goal in communicating with others is to share and obtain information in a

clear and concise manner. Keeping the following principles in mind will help us accomplish this goal:

Rules of the Road

- Promptly respond to misinformation about the HCP project or the agency.
- Communicate sensitive information promptly.
- Treat everyone with respect and all concerns as legitimate.
- Consider the merits of all issues.
- Be available for all who have something to say or need information.
- When we don't know, admit it. Explain that we will work hard to find the information.
- Help all interested parties understand who we are, what we do, and why we do it.

After you decide what needs to be said to whom, the next step is to identify the channels most appropriate for communicating with stakeholders. The channels we list below span a continuum from simply providing information to stakeholders to → soliciting information from stakeholders to → facilitating shared decision making with stakeholders. For most HCP projects, you can identify appropriate communication channels by simply asking stakeholders what will work best for them. For large or complex HCP projects, commercial databases that contain demographic and lifestyle data, along with media preferences for consumers, are available.

4.3.1 Written Media

Written media includes newsletters, brochures, newspaper and magazine articles, displays in public places, Websites, etc. These methods provide for a one-way flow of information from the agency (or applicant) to the stakeholders and they are usually designed to garner support for agency actions or simply provide information on issues of importance. The HCP Handbook Toolbox [*Link will be added in final version*] has a tool that will help you match your stakeholder group with the most appropriate communication medium.

4.3.2 Personal Contact with Stakeholders

Personal contact with stakeholders usually involves Services personnel talking informally with key stakeholders. Through these discussions we can gain a sense of the issues or concerns around a proposed Federal action. Important considerations when you interact personally are to keep a contact log of the conversations you have with stakeholders (see below) and always be aware that the conversation could be recorded and released to the public. The HCP Handbook Toolbox [*Link will be added in final version*] includes a template contact log.

4.3.3 Public Comments

Public comments on Services actions, typically solicited through the Federal Register (through Notice of Intent and Notice of Availability) are received as letters, telephone calls, and increasingly through electronic media (e-mail, regulations.gov, etc). Solicited and unsolicited public comments are a major source of information an agency receives. However, public

comments do not allow for discussion among participants or between participants and our personnel.

4.3.4 Public Meetings

Public meetings are forums in which our staff can present information to interested stakeholders. Many public meetings, such as “open house” type public meetings, are designed to encourage discussion and feedback. Public meetings can be very effective and useful for conveying information, educating the interested public, and identifying interested parties. They often allow for discussion between agency staff and the public in a one-on-one or small group setting which can be more congenial and allows for a greater exchange of ideas than say a public hearing format.

4.3.5 Public Hearings

Public hearings are a common method for soliciting stakeholder input on agency actions. Hearings provide all or selected participants an opportunity to present their opinions on an issue, usually in a formal manner in an allotted amount of time (often 2-5 minutes each). The information is recorded and becomes part of the public record. Public hearings may be mandated by laws or agency regulations. The major criticisms of public hearings are that they provide little opportunity for discussion and feedback among participants and between participants and agency representatives. Public hearings often attract proportionally more people opposed to a proposed action than are present in the general population.

4.3.6 Focus Groups

Focus groups are a structured method for collecting stakeholder opinions. They are facilitated discussions focusing on specific issues. Participants are often invited because they represent or understand certain viewpoints. Discussions are guided by a set of predetermined questions. There is limited opportunity for feedback between the agency and participants, but substantial opportunity for discussion among participants.

4.3.7 Nominal Group Process

A nominal group process is another structured technique for gathering stakeholder feedback. It involves asking small groups of participants (usually 6-10) to brainstorm on a specific question or series of questions. Responses are then discussed and ranked. The nominal group process allows for some feedback between the agency and participants, particularly as it allows the agency to respond immediately to individual concerns. It also provides for considerable discussion among participants.

4.3.8 Workshops and Forums

Workshops and forums provide an opportunity for discussion and feedback. They can be used to identify and discuss important issues, and help participants arrive at agreements. They generally last longer than other meeting types, from a half-day to several days. One important criterion for workshop success is having the right mix of participants that represent the stakeholders you are trying to reach.

4.3.9 Advisory Committees

There are two types of advisory committees that are often used in HCP projects. They are: 1) Citizen Advisory Committees and 2) Technical Advisory Committees. Citizen Advisory Committees involve citizens who are called together to represent the views of the wider public. Technical Advisory Committees are committees typically comprised of experts from outside the organization who bring technical or scientific expertise to the HCP project (e.g., forestry practices, economics, statistics, etc.). Both forms provide an opportunity for interaction between the participants and the Services. Members in both types of committees also expect to have their input included in the decision-making process. Important considerations for advisory committees include:

- who establishes them (i.e., applicant, Services, others),
- who the stakeholders are,
- how their representatives are chosen,
- who facilitates the committee,
- what technical skills are needed, and
- what the specific role of the committee will have in the HCP project.

Note: The Federal Advisory Committee Act (FACA) governs the establishment of and procedures for committees that provide advice to the Federal Government when at least one member will be from outside of a Government (Federal, State, local) agency. FACA's statutory triggers do not exist where a permit applicant or project proponent meets with agency staff concerning a proposal, nor is it applicable to a contractor or consultant hired by a Federal agency. It's also important to note that FACA's requirements are only triggered when the outcome is expected to be consensus on advice (not when you are looking for individual opinions on an issue and there's no attempt to reach consensus).

4.4 Analyzing Stakeholder Input

Much of what has been discussed in this chapter has focused on facilitating effective communication with stakeholders. What we do with all the information we receive is just as important. One effective tool for analyzing and understanding qualitative information is "Content Analysis". While content analysis does not typically allow for statistical analysis, it can capture the nuances of a topic, making statistical analysis either redundant or superfluous. Grounded content analysis that allows for themes to build out of responses is more than simply list-building. It helps you see where there are echoes (i.e., the same thing being said from different people or groups), saturation (i.e., no matter how much more data you collect you receive no new information/perspectives), discordance (i.e., groups are saying different or opposite things) and lone truth tellers (i.e., a topic is only mentioned once or a few times, but it is provocative because it reframes the issue in a new or different way that may be important to recognize). All these "pieces of the puzzle" are important when building a stakeholder communication plan, especially when developing targeted messaging because they link back to the story in which the stakeholder groups believe.

4.5 Implementation and Monitoring Communications

With the vast number of communication channels and messages available for reaching stakeholders it is imperative that we manage and coordinate the communication process effectively. Mis-managed communications lead to ill-timed messages and missed opportunities, messages that lack consistency and create confusion among stakeholders, or messages that are not cost-effective and burn up the communication budget. For instance, for HCP projects involving an Environmental Assessment (EA) or Environmental Impact Statement (EIS), it is important to be precise about the underlying Federal action. For some projects, there has been considerable confusion over what the actual “scope” of a Federal action was in response to an incidental take permit application. Misunderstanding the scope often leads to an overstatement of impacts, potentially foregoing the use of our Categorical Exclusions, and encumbering applicants and the Services with unwarranted, costly, and time-consuming EIS’s.

A basic tenet underlying incidental take permit applications is that the Services do not authorize the applicant’s activities that cause the take. Instead, the Services authorize the incidental take that results from the applicant’s covered activities. However, stakeholders often do not understand this concept, at least initially, and we’ve found ourselves spending weeks or months responding to issues and concerns that are associated with an applicant’s project, but unrelated to our proposed action.

For these issues and concerns, we must clearly and consistently distinguish between our proposed action (i.e., issuance of an ESA incidental take permit for the purpose of authorizing incidental take within the context of an HCP) and the activities of the applicant. We must not defend or express our opinion on the advisability or appropriateness of those aspects of a non-Federal project that are completely controlled by the applicant for which we have no discretion. Our main concern is whether these activities are otherwise lawful. The role of the Services is not to judge the applicant's project. Such personal opinions should never be part of the conversation with stakeholders, applicants, or others. What’s important for us is to quickly and clearly acknowledge to the stakeholders that the proposed action does not have the potential to affect that particular issue or concern, when applicable. In fact, depending on the level of controversy, we may want to ask the applicant to address the issue or concern.

Measured Results

- Not the number of stakeholders reached by the communications....
- Not what the stakeholder or stakeholder group likes or dislikes about the way you communicate...
- But the changes that occur in the stakeholders awareness, comprehension, conviction, and behavior as a result of the communications.

To ensure that we are communicating effectively, we must periodically check our progress and effectiveness in implementing the communication plan. If we are not communicating in a manner that meets the needs of the stakeholders, we must consider how we can modify our approach to be more effective. Effective communication is a measure of how well we are communicating, to a defined audience, information and a frame-of-mind that ultimately stimulates action (or

inaction). Communication succeeds or fails depending on how well it communicates the desired information and attitudes to the right people at the right time and for the right price. We must consider how our communication is working both internally and externally. Two fundamental questions to ask are: (1) Are we communicating effectively with internal stakeholders, and (2) Are we communicating effectively with external stakeholders?

4.6 Effective Coordination

In the past, many HCP practitioners approached communication and coordination simply to fulfill what was required under the NEPA. Early NEPA regulations required us to inform the public and obtain comments from the public, but not necessarily involve the public. In fact, how public input is to be used in agency decision-making was not discussed in the regulations until fairly recently. Coordinating with stakeholders involves listening to and understanding their diverse opinions and motivations, while at the same time, giving those people who make the effort to involve themselves in the HCP process a sense of ownership in the outcome.

Shared learning takes time; negotiating takes time; building trust takes time; and planning and executing an effective stakeholder involvement strategy takes time. NEPA regulations now state agencies must “make diligent efforts to involve the public...” (40 CFR Part 1506.6), while DOI NEPA regulations go even further by stating “Responsible Officials must, whenever practicable, use a consensus-based management approach to the NEPA process” (43 CFR 46.110). A consensus-based management approach involves “outreach to persons, organizations or communities who may be interested in or affected by a proposed action with an assurance that their input will be given consideration by the Responsible Official in selecting a course of action”.

Attitudes have changed, not necessarily because of regulations, but because managers have become more comfortable with sharing influence and information with our stakeholders, and because agencies have learned through experience that the additional time and money spent consulting, coordinating, and cooperating with key stakeholders saves us far greater amounts of time and money in the long-run. It helps us avoid administrative appeals, lawsuits, and other forms of protest, which often take years to complete. HCP projects are multidisciplinary endeavors that typically involve people with varied backgrounds, disciplines, and motivations (e.g., biologists, engineers, lawyers). Therefore, to coordinate an HCP project effectively implies that someone acts as a central point (i.e., “project manager”), ensuring close contact between those actively involved in the HCP project, for the purpose of developing and maintaining productive relationships, so that the HCP project meets time, budget, and quality expectations. HCP projects usually fail not because of a lack of technical skills on the part of those executing the project, but because of inadequate coordination of project activities and the people involved. Below are a few key concepts to consider when tasked with coordinating an HCP project:

4.6.1 Develop a Project Charter

A project charter (sample provided in the HCP Handbook Toolbox [*Link will be added in final version*]) is a concise statement of purpose and goals, principles and values, and roles and responsibilities that establishes the “tone and direction” for developing the HCP. It should be developed early in the HCP process and describe all aspects of the HCP project at a high level.

Once approved by the applicant and the Services, it becomes the basis for the upcoming work. For most HCP-related projects, the project charter should reflect:

- Purpose and need - Why take action? Why here? Why now?
- Objectives and scope - What are the potential benefits to the applicant, the species, and the public?
- Approach and Organization - How will the HCP be developed? Who are the decision makers both within and outside the organization? Who are the project managers? Who is the team and what are their roles?
- Assumptions and concerns - What are we taking for granted (e.g., ability to estimate take)? What are the major concerns (e.g., ability to monitor take)?

4.6.2 Develop a Work Breakdown Structure

After you've prepared the project charter, create a work breakdown structure (e.g., Gantt chart). The work breakdown structure is a hierarchical decomposition of the work that the project team needs to accomplish, including assigning resources and estimating work as far out as people feel comfortable. It is the primary tool for organizing HCP development activities into manageable sections.

Helpful hint: Use a prior work breakdown structure from a similar HCP project as a model, if one exists (see HCP Handbook Toolbox [*Link will be added in final version*] for an example).

4.6.3 Establish an Organizational Structure

Who is the project team and what are their roles and responsibilities? Who are the key decision makers for the HCP project, both within the Services and outside?

4.6.4 Establish Management Procedures

Project management procedures explain how we will make decisions and manage issues, scope changes, risks, quality, communications, and so on. These may include regular team meetings, conference calls, emails, status reports, or other tools tailored to the project's specific needs (i.e., contact log, request tracking spreadsheet, etc)(see the HCP Handbook Toolbox [*Link will be added in final version*] for an example). Effective project management procedures prevent disputes, conflicts and delays. It is critical that all parties have a common understanding of how the HCP process will be managed, and remain committed to fully use the tools and techniques to which we all agreed.

4.7 Maintaining an Administrative Record

We intend for the guidelines in this section to provide a framework for assembling an administrative record(s) for HCP and related NEPA process. They were developed from recent Department of Justice and DOI administrative record guidance.^[1] Since the guidelines only

provide a framework for what generally should be included in the administrative record, HCP practitioners in the FWS should direct questions about individual documents to the Office of the Solicitor. The National Oceanic and Atmospheric Administration (NOAA) General Counsel has issued guidelines for compiling an agency administrative record online (http://www.gc.noaa.gov/documents/2012/AR_Guidelines_122112-Final.pdf). Documents that do not fit the general categories described in these guidelines should be placed in a temporary file that you can periodically reviewed to determine whether they should be included in the administrative record.

Generally, an administrative record should contain the complete rationale of the agency decision-making process, including options considered and rejected by the agency. It should include important substantive information that was presented to, relied on, or reasonably available to the decision-maker. The administrative record should establish that the agency complied with relevant statutory, regulatory, and agency requirements, and should demonstrate that the agency followed a reasoned decision-making process.

4.7.1 General Guidelines

- Date and label all documents.
- Identify the author(s)/source of all documents.
- Identify those documents that are protected by attorney-client or deliberative-process privilege.
- Keep electronic and paper copies of all documents, to the extent feasible.
- Organize materials in a logical order, e.g., chronologically or by topic.
- Avoid chain emails with multiple topics and responses.
- Avoid emails that commingle personal and official information.
- If you obtain information from a website, keep a contemporaneous copy of the site, including address and date downloaded.
- Do not redact, edit, or alter any documents unless such alterations were part of the original document. The redaction of privileged information may occur later during Solicitor review of the administrative record.
- Ensure that documents are complete, clean, and legible. If an excerpt of a lengthy document is included in the record, make sure that the source of the excerpt is identified.
- Prepare an index to the administrative record that provides a brief description of each document, including the date and source. A separate index is normally prepared for any privileged documents after the entire record is compiled and numbered.

^[1] See Guidance to Federal Agencies on Compiling the Administrative Record, Department of Justice, January 1999, available at <http://www.fws.gov/policy/library/m0063.html>; Standardized Guidance on Compiling a Decision File and an Administrative Record, DOI, June 2006, available at <http://www.fws.gov/midwest/Endangered/permits/hcp/pdf/DecFileAdminRecordGuidance.pdf> (“DOI June 2006 Guidance”). Note that the DOI 2006 guidance distinguishes between a decision file, which contemporaneously documents the decision, and the administrative record, which is compiled to submit to the court after litigation begins. The term “administrative record” is used for purposes of these guidelines with an understanding that compilation of administrative record documents during project development facilitates the compilation, indexing, and certification of the formal administrative record if there is litigation.

4.7.2 Documents that Should Be Included in the Administrative Record

All primary documents, which are documents that explain the agency action that may be challenged, should be in the administrative record. Examples of primary documents include EISs, Records of Decision (ROD), and biological opinions.

All relevant, supporting documents that were considered, followed, or relied on by the people involved in the decision-making process should also be in the administrative record. These documents may relate to either the substance or procedure of making the decision, or both. Examples of supporting documents include:

- Documentation of all public involvement and information activities, including published notices, scoping meetings, open houses, fact sheets, press releases, and project newsletters.
- Comments and other communications and information received from the public and other agencies, and any responses to those comments and communications.
- Documentation provided by the applicant in response to agency requests for information relevant to the NEPA and HCP processes.
- Technical information, monitoring data, sampling results, survey information, engineering reports or studies, and other factual information or data.
- If a report or study is based on predictive computer modeling, sufficient information must be included in the report or the backup file in the administrative record (including electronic files as necessary) to allow a third-party reviewer to understand and replicate the model run(s) that were ultimately relied on for the analysis.
- If a report or memorandum is based on collected data, the data should normally be included as an appendix to the report or memorandum or, if the data are voluminous, in the administrative record as an electronic backup file for the report or memorandum with a cover memorandum explaining in general the data content and method of collection.
- Documents cited as a reference in a primary document, such as the bibliography to the EIS or HCP.
- Reports and other information compiled by consultants or contractors.
- Meeting minutes, transcripts of meetings, and other formal recordings of meetings and telephone conversations during which project status, substantive issues, or other important decision points were discussed, memorialized, and circulated to the project team.
- Status reports prepared by contractors for the Service.
- Departmental, office, and bureau policies, guidelines, directives, and manuals that were relied on during the decision-making process.
- Documents that have been released to the public through Freedom of Information Act (FOIA) requests, or are available to the public, including those made available on the internet.
- Articles, books, and other publications relied on during the decision-making process (but be sensitive to copyright laws).
- The NEPA contractor's certification that it does not have a conflict of interest regarding the project consistent with the NEPA regulations.
- All documents and materials that were available to those involved in the decision at the time the decision was made, regardless of whether they support or are contrary to the

final decision. Include documents that were available to the agency at the time of the decision, even if they were not specifically considered by the final decision maker.

- Documents that fall under the categories above that may end up later being redacted or removed from the record on the basis of privilege.

4.7.3 Other Documents that May Be Included in the Administrative Record

You may need to include electronic or other internal communications, such as emails and their attachments, if they contain factual information, substantive analysis, or discussion, or if they document the decision-making process (such as substantive supervisory instructions to staff relating to the decision-making process). You only need to include it in the administrative record if it's not already included in the decision documents (i.e., ROD, biological opinion, or EIS) or otherwise reflected in the administrative record.

Preliminary and administrative drafts of the EIS and ROD are not normally included in the administrative record unless they are necessary to substantiate and evidence the decision-making process. Only include this type of documentation if it's not otherwise reflected in the administrative record under a ROD or similar document.^[1]

4.7.4 Documents that Generally Should Not Be Included in the Administrative Record

You typically do not include the following documents in the administrative record:

- Documents that are not relevant to the decision-making process.
- Documents associated with, but not part of, the decision-making process, such as fax cover sheets. NEPA contractor-generated emails, phone memoranda, and other routine communications among a report's authors and contributors during report development.
- Documents and communications that are related to logistics of the NEPA contractor's work on the EIS, including travel arrangements, coordination among study participants, meeting room arrangements, and other similar activities.
- Preliminary and draft iterations of technical reports, studies, and analyses that are reflected in final versions of reports.
- Raw field notes where the finalized data and analyses are reflected in final versions of reports.
- Documents that were not in the agency's possession at the time the decision was made.
- Documents which post-date the agency decision.
- Informal notes about routine meetings, conference calls, or telephone calls among the NEPA contractor staff, between the NEPA contractor staff and its subcontractors, or between the NEPA contractor staff and the Service.
- Documents that pertain to the administration of the NEPA contractor, such as documents detailing the scope, phasing, modification, and payment for work under the EIS-preparation contract, as well as technical progress and financial status reports.
- Personal notes, journals, "to do" lists, appointment calendars, or memorialization's maintained by an individual solely for personal use and not circulated to colleagues or added to the agency file.
- News stories and other media reports on the project.

[2] Recent DOI guidance explains the rationale for including such information: “Only drafts that help substantiate and evidence the decision-making process should be included in the AR. Drafts of documents that simply agree with previous drafts or represent primarily grammatical edits or were not circulated outside the author’s immediate office or working group typically should not be included in the AR. For example drafts may contain unique information [not otherwise included in the AR] such as an explanation of a substantive change in the text of an earlier draft, or substantive notes that represent suggestions or analysis tracing the decision-making process.” DOI June 2006 Thus, if internal deliberative communication or administrative drafts contain “unique” explanatory information that is necessary to explain the agency decision, the agency has the discretion to include it in the administrative record. If such information is not unique or needed to explain the agency decision, the agency has the discretion to omit it from the administrative record.

PHASE 2: Developing the HCP and Environmental Compliance Documents

Chapter 5: Land and Water Use Activities and Alternatives to the Taking

5.1 Activities Covered by the Incidental Take Permit and HCP

5.1.1 Activities Resulting in Intentional Take

5.1.2 Covered Activity Eligibility

5.1.3 Covering All Activities Related to the Proposed Action

5.2 Types of Land and Water Use Activities Covered in HCPs

5.3 Analyzing the Components of Land and Water Use Activities

5.4 Excluding Certain Activities

5.5 Describing Covered Activities in the HCP

5.6 Alternative Actions to the Taking in the HCP

5.7 NEPA Alternatives

5.1 Activities Covered by the Incidental Take Permit and the Habitat Conservation Plan (HCP)

Activities covered by an incidental take permit and included in an HCP are those for which the take of a covered species is authorized. Although the permit authorizes the incidental take resulting from these activities, it does not authorize the activities. Because of this, if a permittee decides to conduct an activity in the permit area that was not described in the HCP, he or she would not be violating the permit as long as the activity did not result in take.

5.1.1 Activities Resulting in Intentional Take

Although one of the issuance criteria for a section (10)(a)(1)(B) incidental take permit is that the take is to be incidental, the permit can sometimes include intentional take (e.g., capture or harassment to move listed fish out of harm's way of a project) associated with activities required in an HCP to:

- avoid or minimize more serious forms of take (e.g., death or injury), or
- conduct the HCP's conservation programs (e.g., monitoring, habitat management, restoration, etc.).

Consultants and researchers often already hold section (10)(a)(1)(A) enhancement of survival permits authorizing take associated with monitoring, research, and conservation purposes. They may be contracted to conduct the types of activities required in HCPs that are authorized in their enhancement of survival permits. However, enhancement of survival permits cannot be used to authorize moving individuals out of harm's way of activities that would otherwise need an HCP for incidental take authorization.

HCP practitioners should advise the applicant to weigh the efficiencies of contracting individuals already holding section 10(a)(1)(A) permits with adding such take to the incidental take permit and using their own staff or contractors. If the applicant intends to use their own employees or contractors to conduct management and monitoring under the incidental take permit, then such

personnel must meet the same qualifications and demonstrated expertise as required for a section 10(a)(1)(A) permit.

5.1.2 Covered Activity Eligibility

To be eligible for incidental take authorization, covered activities must be: 1) otherwise lawful, 2) non-Federal, and 3) under the direct control of the permittee. As we explain in more detail in Chapter 3, otherwise lawful activities are those that the applicant ensures are in compliance with other local, State, and Federal laws. Non-Federal activities are those that are not funded, authorized, or carried out by a Federal agency. Activities under the direct control of the permittee are those that the entity controls through jurisdictional authority, employment, contracts, leases, or land ownership.

5.1.3 Covering All Activities Related to the Proposed Action

Besides the take from implementing the proposed project, the HCP must describe all other related activities expected to result in take. This includes the HCP's avoidance, minimization, and mitigation measures, which can sometimes result in take even though they ultimately benefit the species (e.g., accidental collision with equipment used to restore habitat).

The HCP must also describe activities that may result in impacts to covered species or their habitats even if those impacts are not in the form of take. For example, noise from an activity might cause a covered avian species to flush, but that flushing response may be infrequent enough that it does not result in death, reduced fitness, or impaired recruitment. Even though such noise does not result in take, the HCP needs to describe the effects and how they may impact the covered species.

Descriptions of all these kinds of activities are important in determining whether take is likely to occur, as well as the type, amount, and extent of incidental take, other impacts, and benefits to the species. The Services must also consider this information when analyzing effects in their section 7 biological opinions and National Environmental Policy Act (NEPA) documents, and when establishing findings on permit issuance.

5.2 Types of Land and Water Use Activities Covered in HCPs

The Services' section 10 regulations do not limit the type and extent of activities that an HCP can cover, as long as the activities meet all the eligibility criteria and the HCP meets the permit issuance criteria. HCPs can cover a variety of residential, commercial, agricultural, and industrial development and any associated activities that may result in incidental take. They can also cover resource extraction (e.g., oil and gas, mining), sustainable use (e.g., timber harvest, wind energy production, fisheries harvest), recurring activities (e.g., irrigation ditch clearing, water diversions, hydroelectric power, seawall maintenance, recreation), or ongoing operations and maintenance of existing or new projects.

Many activities that HCPs cover are permanent projects on the landscape with permanent effects, such as loss of habitat from a development of a sub-division. HCPs also can cover short-term activities that result in temporary effects, such as one-time take of a specific number of

individuals from a bridge replacement. Some longer term activities may result in temporary rather than permanent effects, such as rotational timber harvest. The HCP must explain the expected duration of the activities and effects. The HCP must also include habitat restoration and management conducted as part of the minimization and mitigation measures on a permit when it may result in incidental take (e.g., prescribed burning that may kill listed butterfly larvae yet ultimately benefits the species).

Covered activities can be of any scale, from building a single-family residence to constructing a multi-State gas pipeline. Local governments can choose to cover their own infrastructure projects (e.g., buildings, roads, bridges, etc.), building permits for developers, or a combination of these. A single party can cover a single project, such as an individual wind energy facility, or a consortium of wind energy companies can collaborate on an HCP to cover several facilities across a defined area. You should work with applicants to weigh the benefits and challenges of covering multiple activities in an HCP. Benefits include:

- developing a comprehensive conservation strategy that addresses impacts from several activities, rather than attempting to piece together separate mitigation strategies from individual HCPs as they are developed over time;
- efficiencies that result by covering take for a range of activities under a single permit; and
- reducing overall workload impact by investing time and resources up-front in a single comprehensive HCP, rather than reviewing and processing multiple HCPs.

On the other hand, some challenges to consider are:

- increased complexities with understanding multiple activities and all the various resulting impacts, developing a variety of activity-specific minimization measures, and coordinating with multiple parties involved with different activities;
- the demand on time and resources due to these complexities at the time of the up-front investment; and
- developing more complex monitoring and adaptive management programs necessary for the suite of covered activities.

5.3 Analyzing the Components of Land and Water Use Activities

Most actions (e.g., a wind energy project) that an HCP covers have multiple components that can result in different types of take and impacts. Ask applicants to provide information on how every aspect of the covered action would be implemented. Take the time to meet with project proponents specifically to exchange information based on your respective technical expertise, theirs on the action and yours on the covered species. Visiting similar projects already on the ground or in progress can be particularly helpful in identifying the variety of components of an action and understanding potential impacts.

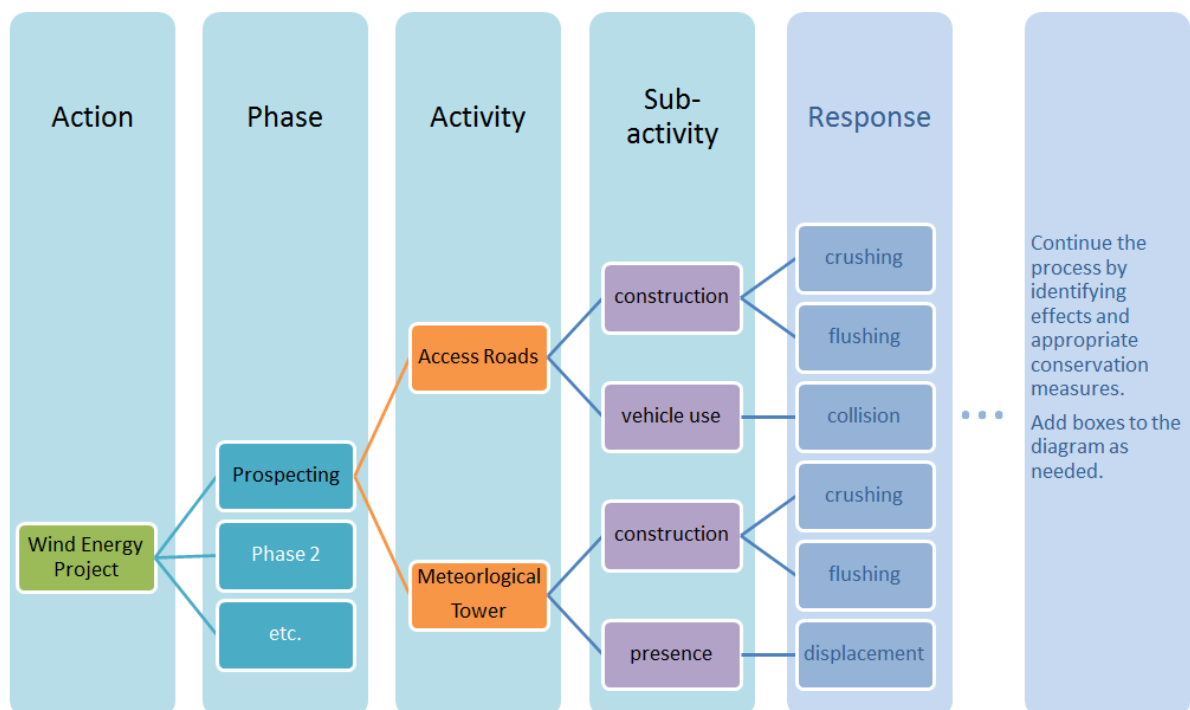
Breaking down an overall action into sub-activities is key to understanding which ones may result in take, which may result in other impacts, and which may not affect the covered species at all. Analyzing the action in this manner also helps us understand the geospatial and temporal relationship of all the sub-activities of the proposed action, which are key in identifying the permit area, determining the permit duration, and developing appropriate avoidance and minimization measures specific to the sources of take. Collaborating to analyze the components

of the action will likely lead to a better understanding by all parties on the rationale behind the identification of the appropriate covered activities and the conservation measures, which in turn should reduce or eliminate prolonged debate during HCP development.

The FWS developed a process, called Effects Pathway Management (EPM) (<https://ecos.fws.gov/epm/home/epElements>) to help identify the connections between project activities and species effects and to ultimately develop corresponding conservation measures. These conservation measures are delivered to the public via the FWS' Information for Planning and Conservation (called IPaC) decision support system. EPM also contains detailed breakdowns of many types of actions that can help you consider the effects of actions on species and their habitats.

Using a diagram or table helps visualize and track the relationship between the components of an action and effects to the species (see Figure 5.3a). Use this process for each covered species or guild of species if effects would be the same.

Figure 5.3a. Visualizing How to Break Down Components of an Action to Identify Species Responses



This graphic focuses on breaking down activities associated with a proposed wind energy facility affecting the lesser prairie chicken, using a couple of examples from just one phase of the action. The process should continue by adding more steps to connect effects on the individual and demographic levels and appropriate conservation measures.

Typically, development actions can first be broken into broad phases, such as construction, operations, and maintenance, while others may have additional phases. For example, the phases for wind energy development are:

1. prospecting,

2. siting and development,
3. construction and commissioning,
4. operations and maintenance, and
5. repowering or decommissioning.

Identify the activities associated with each phase. For example, a few of the components of the prospecting phase for a wind energy facility include access roads and construction and operation of meteorological towers (see Figure 5.3a).

Next, break down each activity into sub-activities that may affect the covered species. Then identify the type of response the sub-activity may elicit in the covered species. The example in Figure 5.3a shows that activities associated with construction of access roads could cause repeated flushing of lesser prairie chickens, vehicles traveling access roads could strike lesser prairie chicken individuals, while the presence of a meteorological tower may cause lesser prairie chickens to abandon nearby habitat. Include only those components that likely impact the covered species. See Chapter 9 for subsequent steps to identify how these responses would ecologically and demographically affect the species and determine appropriate avoidance, minimization, and mitigation measures.

5.4 Excluding Certain Activities

In some cases, you may find there are reasonable measures that could eliminate the likelihood of take from certain activities, such as modifying beach lighting to avoid impacts to sea turtles. You should advise the applicant that committing to such measures not only would be good for the species, but also would remove the need for the applicant to mitigate for the impacts of such take. Ultimately, the applicant chooses whether to design their project to avoid take or to include certain activities for take coverage. However, if take from such activities is likely to jeopardize the species or destroy or adversely modify its critical habitat, they cannot be covered in the permit. In this case, you will need to work with the applicant to modify the activity and incorporate conservation measures to eliminate the risk of jeopardy or critical habitat destruction or adverse modification.

Due to ongoing Section 7 consultation with the Environmental Protection Agency on registering and labeling pesticides, we provide guidance in Appendix B on when pesticide use can be included in HCPs and how to address them.

5.5 Describing Covered Activities in the HCP

Because the HCP is the applicant's document, the applicant ultimately decides how to write it. However, you should provide guidance on what they should include as covered activities so that we can adequately review the document and the public can understand and comment on what is proposed. A proper description in the HCP is also key for future permittees and Service staff to understand how the covered activities will be implemented over the duration of a permit.

The process of breaking down the action into components is particularly helpful in establishing what the HCP should describe and in what detail.

- An HCP should thoroughly describe activities and associated components that are likely to have impacts, but should not include overly detailed information about sub-activities that do not affect covered species.
- Brief descriptions of such sub-activities and citations to support why they do not impact species is sufficient.
- Describing all the ways a particular activity could be conducted may not be necessary if the anticipated impacts would be the same. For instance, if the impacts of a proposed development are solely the permanent loss of a specified amount of currently unoccupied habitat that is projected to remain unoccupied in the future, whether the structures are residential or commercial may not be important. In this case, broadly describing the activity as development gives the applicant flexibility without affecting the outcome of analyses of impacts.

5.6 Alternative Actions to the Taking in the HCP

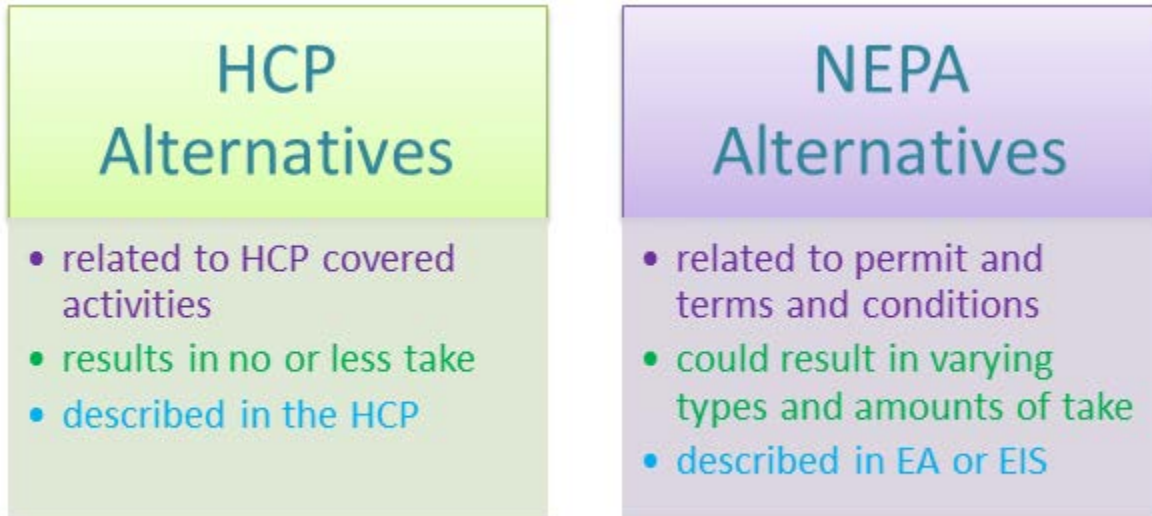
Section 10 of the ESA and its regulations require that an HCP describes actions the applicant considered as alternatives to the take that would result from the proposed action and the reasons why they are not using those alternatives. When describing alternative actions in the HCP, the applicant should focus on significant differences in project design that would avoid or reduce the take. These alternatives should be meaningful and not merely involve small changes in project implementation or minimization and mitigation measures that do not avoid or reduce take.

HCPs also typically include a no-action alternative, in which the applicant would not proceed with their proposed project or modify it to avoid take altogether. Other types of alternatives can be implementing the project in a different location or changing the project or land use in a way that would eliminate or reduce the take in a meaningful way (e.g., burying a power line rather than constructing it above ground where listed birds might otherwise strike it).

The HCP must demonstrate that the applicant reasonably considered the alternatives to the proposed action and explain why the applicant did not select each alternative. These explanations do not have to justify impracticability of any alternative. The Services are obligated only to evaluate whether the applicant's explanations appear to be credible and reasonable; therefore, we do not have to analyze the feasibility of the alternatives.

HCP alternatives differ from NEPA alternatives, and the distinctions are subtle and sometimes confusing. Figure 5.6a compares the differences between the alternatives in the two contexts. Section 8 of this chapter further describes considerations for addressing NEPA alternatives.

Figure 5.6a. Differences between HCP and NEPA Alternatives



5.7 NEPA Alternatives

The NEPA alternatives that the Services must analyze in the Environmental Assessment (EA) or Environmental Impact Statement (EIS) are alternatives to the Federal action of issuing the incidental take permit, which includes terms and conditions to comply with the HCP. These alternatives are not necessarily the same as the HCP’s alternatives to the taking (see Figure 5.6a). The NEPA alternatives should meet the purpose and need of the action, which essentially is authorizing take incidental to the covered activities while minimizing and mitigating the impacts of the take to the maximum extent practicable. The range of alternatives typically includes:

1. the proposed action,
2. no action, and
3. one or more variations of the proposed action.

While the applicant develops the alternatives to the taking in the HCP, the Services are responsible for developing NEPA alternatives. The Services may confer with the applicant to ensure that the NEPA alternatives are reasonable, but determining which alternatives to analyze in the NEPA document is ultimately up to the Services.

Although a no-action alternative does not meet the Services’ purpose and need, we should always analyze it. For individual project HCPs, the no-action alternative-not issuing the permit-typically entails what conditions would occur without the project going forward. For programmatic or umbrella HCPs, the no-action alternative may be for the Services to not issue a single or multiple permits under a master HCP, but to issue individual permits to each project proponent that developed its own HCP.

We should also consider a range of alternatives that include reasonable ways for an HCP to meet the permit issuance criteria, particularly related to measures to minimize and mitigate the impacts of the take to the maximum extent practicable.

- Such alternatives can entail measures different from those in the proposed HCP to minimize impacts from the take. For example, an HCP might propose to translocate individuals of a covered species out of harm's way of construction activities, while we might consider an alternative as starting construction outside of the breeding season.
- Other alternatives might focus on a different conservation strategy for the HCP. An HCP might propose to restore and enhance habitat to offset impacts of the project, while we might examine a strategy to focus on perpetual protection of other habitat vulnerable to development threats.
- Finally, an alternative might include the same conservation strategy as the one proposed by the applicant, but with a different permit duration.

Theoretically, one could generate an infinite number of alternatives with variations to the proposed HCP. However, we are required to examine only a range of reasonable alternatives in depth. Do not feel compelled to invent alternatives just to have them. We also must discuss alternatives we considered, but rejected, and the reasons why we rejected them. For more guidance on determining and analyzing NEPA alternatives, see the Council on Environmental Quality's (CEQ) 40 Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations at <https://ceq.doe.gov/nepa/regs/40/40p3.htm> and in the HCP Handbook Toolbox [*Link will be added in final version*].

Chapter 6: Identifying the Plan Area, Permit Area, and Analysis Areas

6.1 Determining the Plan Area

6.1.1 What is the Plan Area?

6.1.2 Plan Area Size Considerations

6.1.3 Plan Area Units

6.2 Determining the Permit Area

6.3 Analysis Areas

6.3.1 HCP Analysis Areas

6.3.2 Section 7 Action Area and Effects Analysis Areas

6.3.3 NEPA Analysis Areas

6.3.4 NHPA Area of Potential Effect

6.4 Maps and Data Needs

6.4.1 Maps and Analysis

6.4.2 Metadata and Data Documentation

6.4.3 Data Management and Sharing Plans

6.1 Determining the Plan Area

In addition to identifying the land and water use activities, the applicant must identify the plan area (where the Habitat Conservation Plan (HCP) applies) and the permit area (where the incidental take authorization applies).

6.1.1 What is the Plan Area?

The “plan area” or HCP area is comprised of all areas that will be used for any activities described in the HCP, including land use activities and the conservation program. It includes all lands necessary for the HCP to be fully implemented. The plan area must include at least the permit area but may be larger than the permit area. The HCP boundary is the boundary around the plan area. The plan area must be clearly delineated in the HCP with a map and written description. The plan area and HCP boundary should be as exact as necessary to avoid uncertainty about where the HCP applies. The visual and narrative description of the plan area provides the user and the public with a clear picture of the location of the HCP.

Depending on the nature of any specific HCP, the plan area could: include all or some of the property of a single private landowner or multiple landowners; encompass a large area to allow for anticipated future acquisition or expansion of control by a large company; be a physical boundary such as a watershed or ecological boundary, such as an ecoregion; be a political boundary area such as a city, county, or State under a programmatic HCP that would allow enrollment by multiple landowners over time; or be based on lands under the jurisdiction of a Tribe, State agency (e.g., State lands commission), or local entity (e.g., drainage district).

The plan area may be contiguous or include separate locations. There may be separate locations if there is a mitigation or reserve site associated with an HCP that is located apart from other HCP activities, or if an applicant has separate properties each with project activities that will be included under one HCP.

The plan area may include some areas that are not under the direct control of the applicant(s). This is often the case for landscape-scale HCPs where the plan area is based on a large physical or ecological boundary. Also a mitigation site associated with an HCP may be controlled by someone other than the applicant, such as another landowner. However, applicants must ensure that they can achieve their responsibilities under an HCP and the associated permit within the plan area where the conditions or requirements will be in effect. This may mean that they have to enter into additional agreements, or memorandums of understanding (MOU), or use other legal instruments with affected parties.

Determining the exact location of the plan area and HCP boundary is often an iterative process that is intertwined with determining other components of the HCP, including covered species, covered activities, anticipated impacts, and conservation opportunities, as well as economies of scale and time constraints.

6.1.2 Plan Area Size Considerations

There are no minimum or maximum plan area size requirements. For small or single landowner HCPs, the plan area is often some or all of the landowner's property. HCPs with small plan areas usually take less time to develop and National Environmental Policy Act (NEPA) compliance is not usually as complex (e.g., Categorical Exclusion (CatEx) or Environmental Assessment (EA)). However, HCPs with small plan areas may be less efficient at demonstrating conservation value and in some cases more costly to develop on a per acre basis.

Except in the case of a general conservation plan, the final size and configuration of an HCP plan area is up to the applicant(s). In order to maximize the conservation value of the HCP, the Services often encourage applicants to consider a landscape-scale or regional plan area if it is feasible and consistent with the applicant's land or natural resource use authorities. The advantages usually associated with landscape-scale plans are:

- allow for pro-active, long-term development planning to conserve species and their habitats in balance with important economic needs of applicants;
- can comprehensively provide for the needs of a covered species because they often can encompass more life history requirements and provide greater conservation opportunities;
- are more efficient to develop and administer on a per acre basis;
- may allow the permittee to address a broader range of activities;
- can avoid the need for many smaller HCPs;
- allow for analysis of a wider range of factors affecting listed species, maximizes flexibility needed to develop innovative mitigation programs, and minimizes the burden of ESA compliance by replacing individual project review with comprehensive, area-wide review; and
- minimizes the time and Services' workload associated with many individual project reviews by conducting a single comprehensive, area-wide review.

Disadvantages of landscape-scale plan areas are:

- may have more covered activities and covered species to address which increases the complexity, costs, and time needed to develop them;
- achieving consensus gets more challenging as the number of participants increases;
- biological information such as species occurrence and habitat conditions may be less available and more difficult to acquire for a large plan area;
- less data availability for large plan areas can lead to greater uncertainties associated with the impacts of implementing these HCPs;
- more robust monitoring and adaptive management programs are often needed to address the uncertainties associated with large plan areas; and
- often take longer to prepare.

6.1.3 Plan Area Units

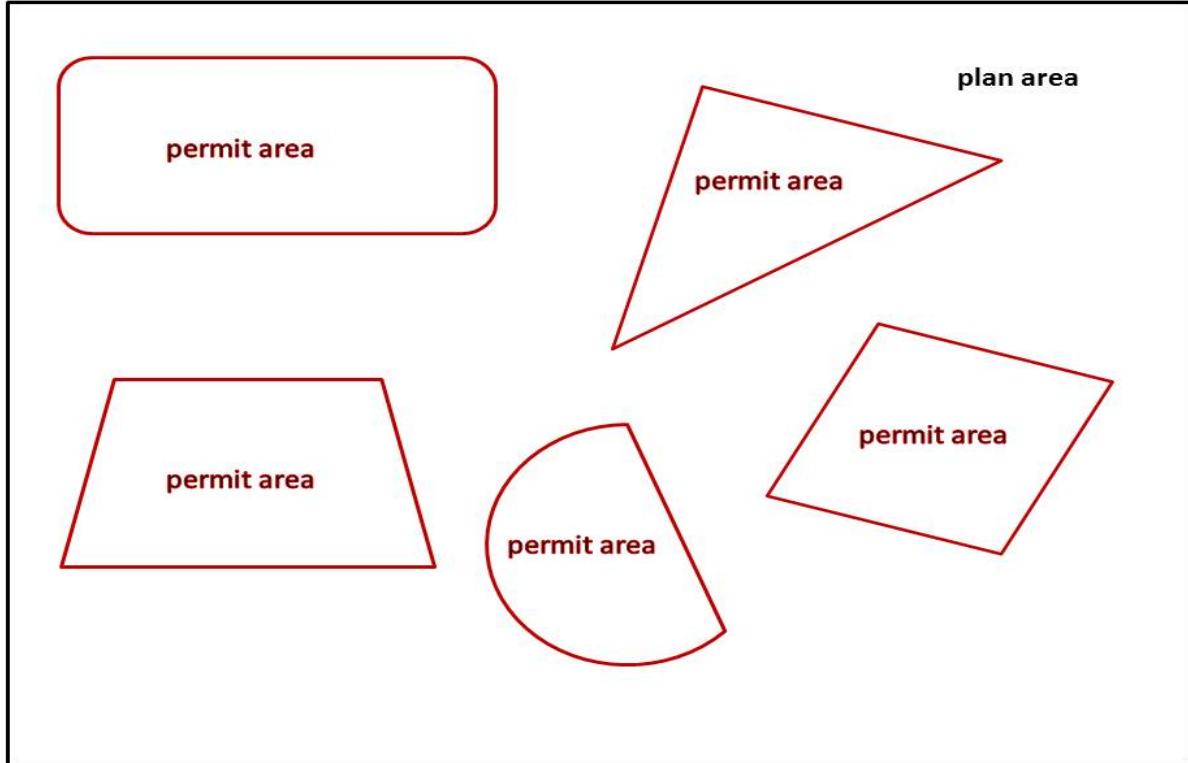
Landscape-scale HCPs and even some smaller HCPs may be simplified by dividing the plan area into separate units with different conditions and requirements for each unit. For example, some units may be identified for development activities and others for conservation purposes. Using plan area units may also help in segregating a phased approach to implementation for large or long-term HCPs. Plan area units may be a way to make severability possible as discussed in Chapter 3.4.4.

6.2 Determining the Permit Area

The “permit area” is the geographic area where an incidental take permit is applicable. The area is defined by the location of those activities covered by the permit (i.e., covered activities). Although there is not a minimum permit area size, it must be within the plan area and under the control of the permittee or holder of a certificate of inclusion. The permit area must be clearly delineated with a map and written description in the HCP and the permit. The written description may include township, range, and section information; plat map and parcel numbers; global positioning system (GPS) coordinates; legal descriptions; or whatever is necessary to ensure that there is no uncertainty as to where covered activities may occur.

Depending on the HCP and its permit structure, the permit area may be the same as the plan area or a subset of the plan area. They are often the same when there is a relatively small HCP plan area with just one landowner. Permit areas are often a subset of a plan area for landscape-scale HCPs with multiple applicants (see Figure 6.2a) or when activities likely to result in incidental take occur only in certain parts of the plan area (See Figure 6.3a). Determining the exact location of the permit area is an iterative process that is intertwined with determining other components of the HCP, such as plan area, covered activities, and anticipated impacts.

Figure 6.2a. Permit Areas that are Subsets of a Plan Area



6.3 Analysis Areas

An “analysis area” is the geographic area within which impacts to a particular resource (e.g., a covered species, soils, water quality, socioeconomics) are analyzed. The analysis area is different for each resource because of their location, how they are affected, and what constitutes a meaningfully relevant analysis unit for the resource.

The term “analysis areas” can apply to analyses conducted under section 7 and section 10 of Endangered Species Act (ESA), as well as NEPA. However, because section 7, section 10, and NEPA have specific analysis requirements, the analysis may be different even for the same resource.

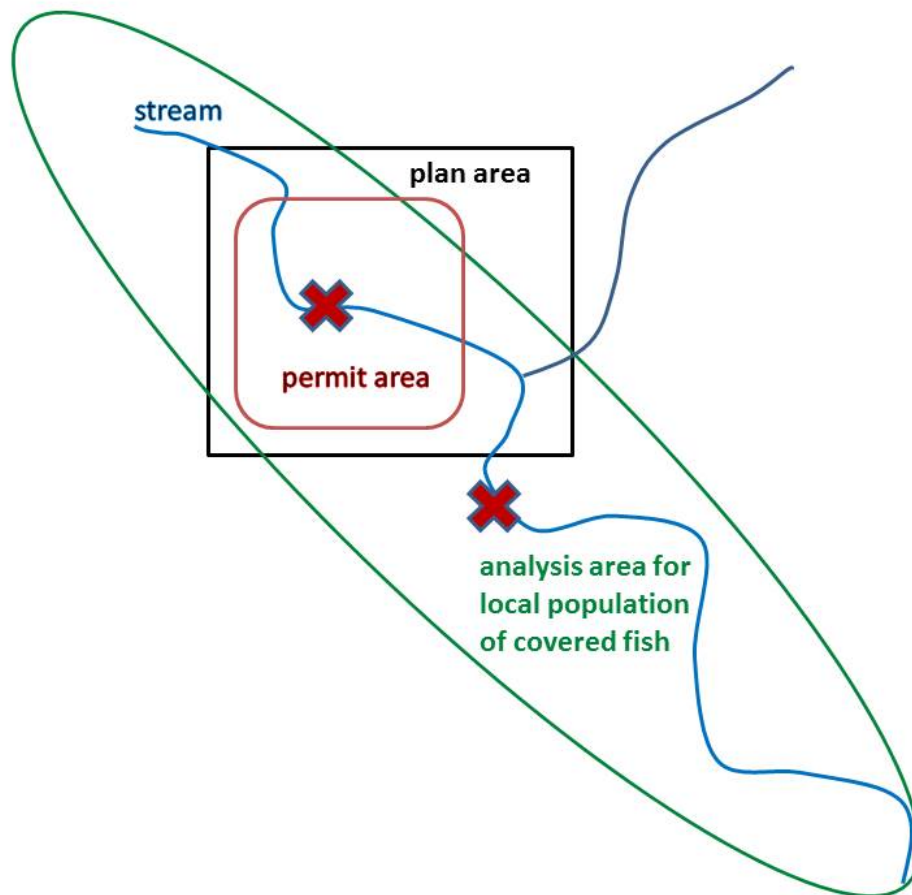
6.3.1 Section 10 Analysis Areas

Under section 10 of the ESA, the HCP must specify the impact of the taking on each covered species. The impact of the taking must be determined at the rangewide scale to ensure that the taking does not jeopardize the continued existence of the species. Therefore, the analysis area for determining the impact of the taking on a covered species is the entire range of that species. However, this analysis is often conducted using a stepwise approach with local and intermediate analysis areas such as the area occupied by a local population and a recovery unit. Effects associated with these local and intermediate analysis areas are then used to predict effects associated with the entire range of the species. Sometimes covered species analysis areas at the

local level may include areas that are both within and outside of the permit area and plan area as the example below and Figure 6.3a illustrate.

In Figure 6.3a, the plan area (black square) represents a single landowner's property associated with an HCP. The permit area (red square) is where proposed covered activities will occur and cause direct effects to a listed species. The covered activities are also expected to cause indirect effects as a result of an increase erosion and stream sedimentation which is likely to cause take of a covered fish species (shown with red X's) near the planned project site within the permit area and also downstream from the site in an area outside of both the permit and plan areas [Note: This is a new concept. There may be take which we authorize on the permit but which is occurring outside of the plan area or permit area because these terms are defined by other parameters (e.g., regional or landowner boundaries and covered activities, respectively)]

Figure 6.3a. Analysis Area for a Local Population of a Hypothetical Covered Fish Species.



The Services have determined that the geographic extent of the local population of the covered fish is defined by a stream segment identified within the green oval in Figure 6.3a. This stream segment is the meaningfully relevant analysis area for determining the impact of the taking on the local population of the covered fish because it includes all impact areas and represents the geographic extent of the local population. Anticipated effects to the local population can then be

used to assist in predicting the impact of the taking on a recovery unit, if applicable, and the entire range of the species. Keep in mind that climate change considerations may alter the likely distribution of some species during the timeframe that is relevant for assessing the effects of the HCP activities, and this will need to be considered in delineated the analysis area.

6.3.2 Section 7 Action Area and Analysis Areas

Under section 7 of the ESA, we are responsible for analyzing impacts to all covered species affected by the proposed Federal action of issuing an incidental take permit. The action area must be determined for us to do this analysis. Section 7 regulations define the “action area” as all areas that will be affected directly or indirectly by the Federal action, and not merely the immediate area involved in the action (50 CFR 402.02). For example, if a proposed project is noisy then the action area must extend out at least as far as where the project’s noise levels are above ambient noise levels. Similarly the action area would extend out as far as necessary to encompass other project effects such as vegetation, sediment, or light impacts. Ultimately, the action area can be represented by a polygon that is the farthest extent of all areas likely to be affected directly or indirectly by the covered activities. Based on the action area, we will determine which listed species and critical habitat are present and provide this information to the applicant for their consideration as covered species in the HCP.

Like section 10, the section 7 analysis area for determining effects to each covered species is the range of that species. This is because we must determine the effects to those species at the range wide scale to ensure that they do not jeopardize the species’ continued existence. Also like section 10, we may use a stepwise approach to conduct the section 7 effects analysis with local and intermediate analysis areas identified. For example, we may identify anticipated effects to a local population or a recovery unit first to help predict effects at the rangewide scale. Also, we will need to consider climate change effects relevant over the HCP timeframe (e.g., an HCP that involves some type of on-going activity may have different effects over time as listed species distribution or abundance is projected to change).

Under section 7, we are also responsible for determining if the Federal action is likely to destroy or adversely modify designated critical habitat. We determine this based on the effect of the action on the critical habitat as designated in a final rulemaking. When multiple units of critical habitat are designated, they may be part of a stepwise approach to making a destruction or adverse modification determination on the entirety of the critical habitat. This is similar to recovery units being part of a stepwise approach to the jeopardy determination which is made at the rangewide scale.

6.3.3 National Environmental Policy Act Analysis Areas

For each alternative in the NEPA analysis, there should be an analysis area boundary delineated for each resource (e.g., soils, water, vegetation, wildlife) affected. For instance, the impact to soils or vegetation of grading a site for a sewage treatment plant may be confined to the building footprint. The impact to water quality may be the entire length of the river where treated wastewater is discharged. For socioeconomic impacts, a city or county boundary may be the logical analysis area.

Sometimes the analysis area boundary for a particular resource changes with different alternatives. For example, analyzing three or four different locations for a sewage treatment plant means analyzing impacts to vegetation and species in each of those different locations. If the Services agree with the analysis areas established for the covered species in the HCP, then these same analysis areas would apply to the proposed action alternative and possibly other alternatives in the NEPA document.

It is not necessary to draw analysis boundaries or collect data to describe resources that are not likely to be significantly affected by the NEPA alternatives. If the resources don't need to be described, the descriptions in the affected environment section of the document should be no longer than is necessary to understand the effects of the alternatives which are described in the environmental consequences section of the NEPA document.

6.3.4 National Historic Preservation Act Area of Potential Effect

To determine the Area of Potential Effect (APE), we must first understand the extent of the Federal undertaking. We define the Federal undertaking as the issuance of the permit and the associated conservation measures in the HCP, specifically the minimization and mitigation measures. The Area of Potential Effect (APE) includes the areas where the FWS have authorized take and influenced the project through negotiation of the avoidance, minimization, and mitigation measures, as well as, the activities associated with their implementation. It may include reasonably foreseeable impacts outside areas associated with conservation measures if the permit causes such impact, but be sure that such impacts would not already occur without the permit.

FWS staff should coordinate closely with their Regional Historic Preservation Officers (RHPO) early in HCP development to help establish the APE and to consult with the State Historic Preservation Officers. See Appendix A for additional information regarding NHPA compliance.

6.4 Maps and Data Needs

For those resources that will sustain impacts, collecting accurate and adequate data on their present status (location, nature, condition, scope, size, etc.) is critical in determining impacts, and must be available in time for baseline analyses. A geographic information system (GIS) or other mapping system can be the basis of analyses, and we can use that data to decide how best to develop or manage resources. Quality data will help in making quality decisions. For more information on data requirements see Chapter 10.4

6.4.1 Maps and Analyses

GIS is an important tool for creating maps and for conducting multiple analyses. Applicants and the Services should carefully consider what map and analytical needs there are, who will develop them, where the data will be housed, and how the data will be shared.

The following are the GIS analyses to routinely consider for HCPs, keeping in mind that other than the first two items in the list below, this will need to include consideration of projected climate change effects for the relevant timeframe of analyses:

- general map making;
- land ownership, management and patterns;
- species occurrence, richness, and range distribution;
- species-habitat suitability and characterization;
- direct and indirect estimated impacts to covered species habitat;
- estimated availability of covered species habitats/vegetation; and
- connection corridors for covered species.

6.4.2 Metadata and Data Documentation

What is metadata?

In its simplest form, metadata is basic information, which accompanies other data to describe what it is and make it easier for others to find it, understand it, and use it. As that data is used and modified, users must update the documentation to reflect changes.

Why is metadata important?

Updated and complete metadata are critical to maintaining data quality and makes it possible for others to understand and use the data. Data without accompanying metadata are hard to trust and understand, so it is difficult to use them with any degree of confidence.

Basic metadata that must be captured include:

- description of how the data was created;
- purpose of the data;
- time and date of creation;
- updated time and date stamps;
- Data author;
- location on a computer network where the data was created; and
- data standards used.

Metadata should be prepared for all data that is collected or developed for the HCP.

6.4.3 Data Management Plans

There must be a data management and sharing plan for any HCPs where the Services and the applicant develop maps, conduct analyses, or collect data. A data management plan describes the data that will be authored, what will be shared, how it will be shared, and how the data will be managed throughout its lifetime. For small plans, where there's very little or no mapping is done, or where the Service prepares the maps and analyses, a data management plan is not required.

The data management plan should include:

- the types of data to be created;
- the data standards that will be used;
- how the data will be stored;

- who will have access to the data;
- plans for eventual transition or termination of the data collection in the long-term future;
- how data will be shared between the permittee and the Service;
- schedule for sharing data; and
specific data that will be shared.

Chapter 7: Identifying HCP Species and Information Needs

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7.0 Introduction

Preparing an acceptable Habitat Conservation Plan (HCP) requires thorough, up-to-date biological information on the project area, covered lands, and species. First, we should advise the applicant to collate and review existing information about species distribution, occurrence, and ecology (e.g., feeding, breeding, sheltering), including substantial climatic changes anticipated during the life of the HCP. We can assist in this process by directing the applicant to available information and species or other subject-matter experts. Second, the applicant, in coordination with the Services, should determine if the available information is adequate to proceed with the HCP planning process. If further information is needed to develop the HCP, the Services should

work with the applicant to determine the type, scope, and design of biological studies that can reasonably be developed to support the HCP. Appropriate data gathering efforts for an HCP could include species population surveys, species distribution information, and/or habitat modeling and distribution. Surveys can occur before the permit is issued (with the appropriate permits, while the HCP is in development) and after the permit is issued (during implementation of the HCP).

Deciding which species to cover in an HCP involves the consideration of many factors. The Services and the applicant must work together to identify the list of covered species. The applicant must include Endangered Species Act (ESA) listed animal species that are expected to be taken from proposed covered activities as covered species in the HCP. Species that may be ESA listed during the permit term, and are expected to be taken from proposed activities should be considered for inclusion as a covered species. Common species, or species that have very low likelihood of becoming ESA listed, should not be covered by the HCP because every species included involves commitments of time and money by both the applicant and the Services. Every species covered in the HCP must be treated as though it were already listed.

Take of listed plants is not prohibited under the ESA and we cannot authorize incidental take of plants. However, the Services cannot issue a permit that would jeopardize the continued existence or adversely modify the designated critical habitat of any listed species, including plants, so including listed plants in the HCP may be prudent.

Table 7.0a Species Coverage in HCPs

	Occurs in the plan area or likely to occur	Take ¹ expected from covered activities	Cover in HCP?
ESA- listed species	yes	yes	yes, <i>mandatory</i> if species occurs in the plan area
ESA- listed species	yes	no	optional
ESA-listed plant	yes	yes	yes, cover to avoid potential jeopardy/ adverse mod to critical habitat problems later
Proposed or candidate species	yes	yes	consider for coverage
State listed	yes	yes	consider for coverage
Common species	yes	yes	no

¹ Take of plants is not prohibited under the ESA. As applied to plants, “take” in this chart means impacts to plants.

A key factor in determining whether to cover a species is how much is known about the species. If there is not enough information available (see section 7.1 for more information) to develop a conservation strategy for a particular species, choosing not to cover the species may be best. In this case, take of an ESA-listed species must be avoided or the permit cannot be issued. Another key factor is whether the species occurs in the permit area. If there is not enough information available to determine if the species occurs within the permit area or not, there is unlikely to be sufficient information for an adequate effects analysis, which are required contents of an HCP, National Environmental Policy Act (NEPA), and Section 7 analysis. An additional consideration is the option of including species that do not currently occur in the plan area, but are reasonably likely to move into and occur in the area during the life of the plan, e.g., due to a range shift related to climate change or for other reasons.

Helpful Hint: All listed species that will be taken through implementation of covered activities must be included as covered species, or we cannot issue the incidental take permit. The applicant must adjust covered activities to avoid take of listed species that are not covered by the HCP.

A covered species in an HCP is one for which an applicant is requesting authorization for incidental take and is developing a conservation strategy. There are HCPs that include both listed and non-ESA-listed species in the plan without take coverage. This is typically the case where State or local laws require certain minimization or mitigation requirements for those species, and the HCP can help meet those requirements (e.g., establishing and maintaining a 5,000 acre grassland preserve for the covered species would also benefit some non-covered species). By including them as species of local concern the applicants are not required to meet issuance criteria for them or have individual goals and objectives, or monitoring requirements, but may be able to meet the requirements of State or local laws. The HCP must make it clear for which species the applicant is seeking incidental take permit coverage.

7.1 Requirements and Information Needs and Standards for Covered Species

An applicant needs sufficient species information to meet required permitting elements. FWS permit regulations (50 CFR 17.22(b)(1) and 17.32(b)(1)) require the permit application to include the “number, age, and sex of such species, if known.” National Marine Fisheries Service (NMFS) permit regulation 50 CFR 222.307(b)(3) requires that applications include the species or stocks, by common and scientific name, and a description of the status, distribution, seasonal distribution, habitat needs, feeding habits, and other biological requirements of the affected species or stocks. The HCP must describe:

1. the impact that will likely result from incidental taking; and
2. what steps the applicant will take to monitor, minimize, and mitigate such impacts.

The permit issuance criteria require the Services to determine if the applicant has fully offset the impacts, and if not has minimized and mitigated the impact of the taking to the maximum extent practicable. The impact of the taking cannot be clearly articulated without some baseline information about the presence of the species in the covered area, or a logical explanation of potential impacts based on habitat characteristics, carrying capacities, etc. and by taking into consideration likely future changes due to climate change impacts or other causes.

Information on species current occurrence in the plan area is needed for a baseline assessment of the species. If such information is not available for the plan area, there are a few options to understand current occurrence status:

- conduct new surveys
- develop species distribution models
- use habitat to estimate species occurrence in the plan area
- or highlight important habitat within the plan area

The development of species distribution models can be useful for filling information gaps about species occurrence in the plan area, where sufficient information is available to develop such a model. For species that have a close tie to a certain habitat, and are known to be present nearby, habitat may be a useful indicator of current occupancy in the plan area. The HCP must include an assessment of current, and likely future habitat availability and how that may change as a result of the proposed activities, including the mitigation measures.

We must also be able to describe and analyze the effects of the proposed covered activities on the covered species to issue incidental take coverage for each species. If there's not enough information about a species' habitat requirements, its potential reaction to changes in habitat resulting from the proposed activities, or the effects associated with some form of disturbance (e.g., noise, artificial light, airplane/helicopter flyovers, human presence, pets, etc.), then the species should not be included in the HCP. For a listed species that won't be covered in the plan, the applicant must modify development activities to avoid taking the species. In complex HCPs covering many activities, it may be necessary to exclude coverage of certain activities if the effects of the take cannot be well quantified.

The HCP should acknowledge information gaps, and uncertainty in species needs and impacts to species so uncertainties that cannot be resolved during the HCP development phase can be addressed through monitoring and adaptive management (see Chapter 10 for more information about Monitoring and Adaptive Management).

Helpful Hint: how to determine if there is sufficient information to cover a species in an HCP? Consider not covering a species if there isn't information available and cannot be collected for the following:

1. Is the likelihood of species occurring in the plan area low?
2. Do we know enough about the species to be able to assess the impacts of the taking from the covered activities?
3. Do we know enough about the species to develop a conservation strategy for the species that offsets the impacts of the taking?

If there isn't enough species occurrence information in the plan area, covering the species may not be appropriate. If the applicant drops coverage of a species part way through development of the HCP, the Services must determine the effects of dropping that species in relation to other covered species? What conservation is being lost from dropping the species? How much did other species conservation strategies depend on the conservation from the species that was dropped?

Detailed species and habitat information are also needed for the intra-Service section 7 consultation. All covered species, listed or not, will be assessed under section 7 for direct, indirect, and cumulative effects and the likelihood of jeopardy, and for listed covered species, adverse modification (if critical habitat is designated in the plan area). The HCP essentially serves as a biological evaluation and can greatly simplify the writing of the biological opinion (BO) by referencing the information from the HCP in the BO. This is especially important when non-listed species are involved, since there often is little or no information in our files for background information.

7.2 Selecting Covered Species

Early discussions with the applicant should identify the proposed activities and the proposed or approved planning area in order to identify all listed species that may be incidentally taken. Non-listed species, especially proposed and candidate species, for which permit coverage may be desired should also be identified at this time. If there are listed plants in the HCP area, encourage applicants to also cover those plants. However, take is not applicable to ESA-listed plants (see section 7.4.5 below), so an HCP must cover at least one listed animal. The availability of information about the species to be covered should be discussed as soon as possible to determine whether there is sufficient information available or whether additional information needs to be collected to complete the HCP.

Helpful Hint: You must have at least one listed animal species to do an HCP. Encourage applicants to also include plants; and proposed or candidate species that may be listed during the life of the permit if they may be impacted.

All covered species (listed or non-ESA listed) in an HCP are treated as if they are ESA-listed and must have sufficient background information, analysis of effects from proposed covered activities, and mitigation and monitoring requirements. We should work in partnership with the applicant to make the decision about which species to include in the HCP and permit application. The first HCPs written often covered many species, which increased plan development time and increased costs. Each species covered in the HCP will require a thorough analysis of effects and a commitment of time to understand their conservation needs to offset the impacts of the taking. These are very real commitments of time (i.e., takes longer to finish the plan) and money (i.e., to fund staff/consultants and to implement conservation actions) for the applicant and for the Service. Finding the right balance between covering enough species without covering too many species involves trade-offs of resources and time and the decisions of which species to cover should be based on the benefits of covering each additional species and the costs of doing so. Discussions on covered species lists should be focused on species that are not mandatory for coverage (as is described in Table 7.0a Species Coverage in HCPs), as there is discretion for which of these species to cover. The mandatory species for coverage must be covered unless there is insufficient information to analyze impacts from covered activities or develop a conservation strategy to offset the impacts of the taking: in which case, take of these species must be avoided and permit coverage is not included.

Helpful Hint: HCP-covered species lists, especially on large plans, often changes throughout development of the plan. This is ok as new information comes in that informs the decisions of which species to cover.

Typically, NMFS does not cover non-ESA listed species in HCPs. When non-ESA listed species are covered, they are candidates for ESA listing.

7.3 Addressing Non-ESA Listed Species in the HCP

Covering non-ESA listed species in an HCP is a decision that should be based on the likelihood of listing, the availability of existing information, the additional monetary costs, and the additional time required to include them in the HCP. Coverage of non-listed species should also be judged in terms of feasibility from the applicant's point of view, overall benefits to the species, and whether there is sufficient species information available for the Services to determine if permitted activities may affect the species.

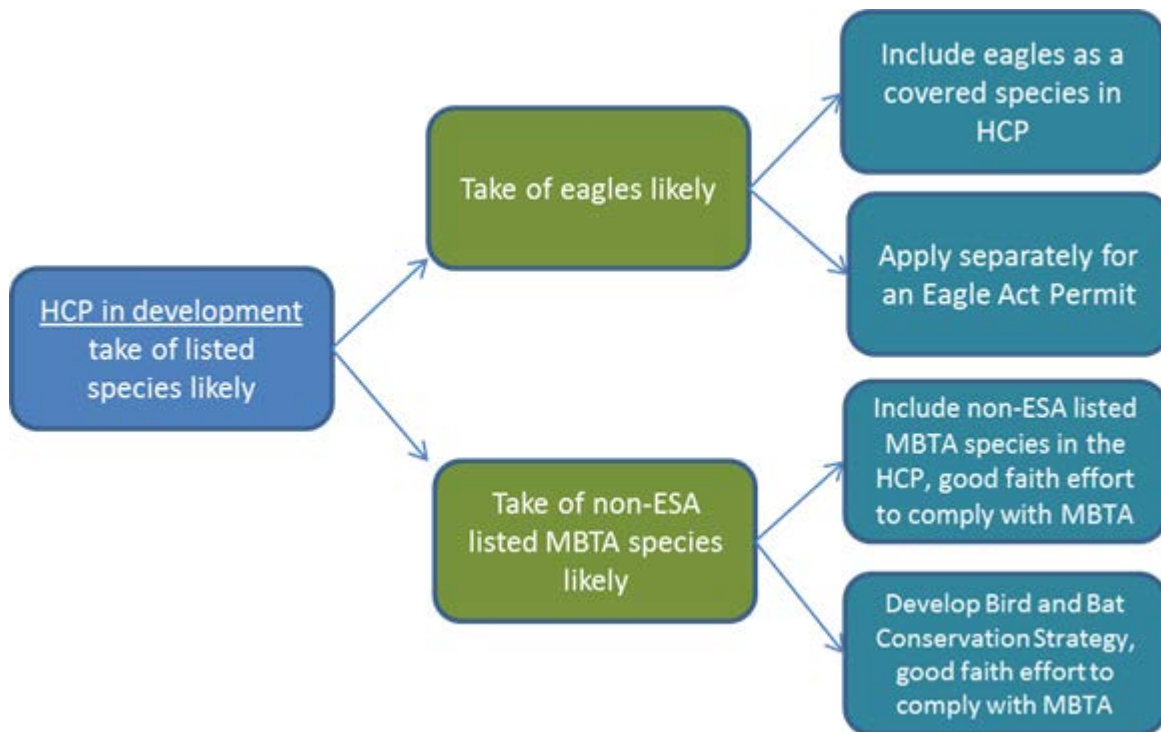
7.4 Special Considerations for Species Coverage

7.4.1 Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits take of all migratory birds in the United States, and currently the FWS does not have a regulation to authorize take that is incidental to an otherwise lawful activity. When a migratory bird is listed under the ESA, the ESA allows for incidental take through incidental take permits. There are a number of HCP applicants that have chosen to include conservation measures for bird species protected under the MBTA that are not currently listed under the ESA to demonstrate their good faith efforts to comply with MBTA. The FWS Office of Law Enforcement may take into consideration the good faith effort should unintentional MBTA violations occur. MBTA species covered in an HCP must be treated as though they were ESA-listed species. Minimization and mitigation are required for those species and may provide considerable conservation.

If it is likely that covered activities will take bird species that are protected under the MBTA and not listed under the ESA, it may be appropriate to develop a Bird and Bat Conservation Strategy. FWS staff, working with permit applicants, should confer with their Regional Migratory Birds staff to determine if inclusion of measures in the HCP or development of a Bird and Bat Conservation Strategy is recommended. In general, inclusion of conservation measures, including nest avoidance and disturbance buffers, within the HCP may be incorporated as other measures required as necessary and appropriate. The need to and benefits of developing a Bird and Bat Conservation Strategy are case specific. If non-ESA listed migratory birds will be covered, the group should work together to determine an appropriate approach in an HCP or through other permit options. Migratory bird permit regulations are currently under review and may change in the near future.

Figure 7.4a: Different approaches to receive take coverage for eagles and for non-ESA listed birds, different approaches to demonstrate good faith effort to comply with MBTA



7.4.2 Bald and Golden Eagles

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940 (before the ESA) to conserve eagles. In 2009, the FWS amended the BGEPA implementing regulations to allow for, under certain circumstances, the permitting of incidental take of bald and golden eagles. Due to concerns about the status of golden eagle populations, the FWS has stricter parameters for authorizing take of this species. Issuance of a take permit under the BGEPA requires a determination that the take is compatible with the preservation of eagles, which the Service defines to mean that the taking is consistent with the goal of stable or increasing breeding populations. Currently, the Service has sufficient data to show that golden eagle populations cannot sustain any additional unmitigated take without experiencing declines. Accordingly, all new authorized take of golden eagles must be at least equally offset by compensatory mitigation in the form of actions that either reduce another ongoing source of mortality or lead to an increase in carrying capacity that allows the eagle population to grow by an equal or greater amount. FWS prioritizes issuance of take permits for golden eagles associated with: safety emergencies, Native American religious purposes, and Programmatic take permits that are designed to fully offset impacts to eagles.

FWS will only issue permits for eagles where it's associated with, but not the purpose of, the activity, and it cannot practicably be avoided. Therefore, applicants need to include all practicable measures they plan to use to avoid the potential for take and explain how any anticipated take of eagles from covered activities cannot practicably be avoided. Applicants will

also need to include appropriate measures to support a determination that the plan will achieve the BGEPA's standard of maintaining stable or increasing breeding populations.

Applicants can choose to include bald and golden eagles in an HCP as a covered species. Issuance of an ESA incidental take permit for eagles also confers take authorization under the BGEPA (50 CFR 22.11). However, when making permit decisions, FWS must consider whether the permit issuance criteria under both ESA and BGEPA will be met by the conservation measures included in the HCP. Additional information on the permitting requirements for authorizing the take of eagles under BGEPA can be found in the permit regulations (50 CFR 22.26) and the FWS 2009 permit rule (74 FR 46835-46879). In general, combining the requirements of BGEPA and ESA is more efficient than applying for two separate permits. FWS staff can reference the May 10, 2011 memorandum entitled "Use of Endangered Species Act Section 10 Permits to Provide Bald and Golden Eagle Act Authorization for Incidental Take of Bald Eagles and Golden Eagles" refer to the HCP Handbook Tool Box (Link will be added in final version) for more information about including eagles in HCPs. As with other species, including eagles in an HCP without take authorization is possible, but the pros and cons of this approach should be examined before making this decision.

7.4.3 Anadromous Fish

Close collaboration between the Services is required when an applicant's proposed covered activities are likely to cause take of both FWS and NMFS listed species, such as salmon and sturgeon. When both agencies are working with an applicant on development of an HCP, careful planning is necessary to ensure efficient development of the plan. Any differences the two agencies have about minimizing or mitigating take for a species or a life stage of a species in an HCP should be discussed early in the process so issues can be resolved

7.4.4 Sea Turtles

Jurisdiction of listed sea turtles is shared by FWS and NMFS in accordance with a July 1977 Memorandum of Agreement (MOA). FWS has jurisdiction over sea turtles while they are on the land, while NMFS has jurisdiction in the water. Close collaboration between the Services may be needed when an applicant's proposed activities cross our jurisdictional boundaries.

7.4.5 Marine Mammals

When developing an ESA incidental take permit application and conservation plan, it is imperative that an applicant work with the Services from the onset in order to determine if their action will incidentally take marine mammals. If marine mammals could be incidentally taken as a result of proposed activities, the applicant should also begin a Marine Mammal Protection Act (MMPA) application process for authorization of incidental take of marine mammals. Section 101(a)(5) of the MMPA provides authority for the Secretary of Interior or Commerce to allow incidental (but not intentional) take of marine mammals. Section 7(b)(4)(C) of the ESA also requires the Secretary of Interior or Commerce to conclude that the taking of ESA-listed marine mammals is authorized under section 101(a)(5) of the MMPA. We may authorize incidental take for a period of up to 5 years if certain requirements are met.

To authorize take, we must find that it will:

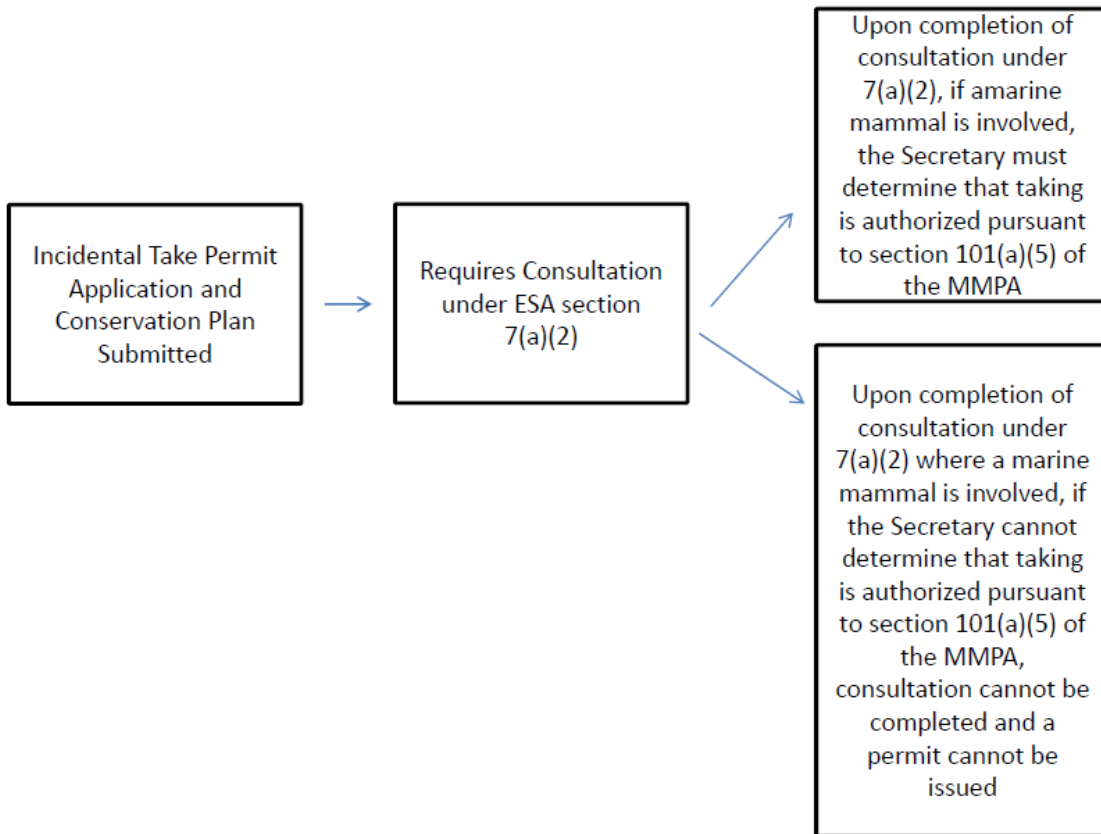
1. have a negligible impact on the affected species or stock, and
2. not have an unmitigable adverse impact on the availability of such species or stock for taking for subsistence uses. Incidental take may be authorized via either a Letter of Authorization or a more streamlined Incidental Harassment Authorization. The applicant must consider what type of MMPA Incidental Take Authorization is most appropriate; however, it is more likely that a Letter of Authorization is more appropriate for those engaged in the HCP process due to its ability to cover a longer time frame. The Incidental Harassment Authorization may be valid for a maximum period of one year.

We may authorize incidental take by using either a letter of authorization or a more streamlined incidental harassment authorization. The applicant must consider what type of MMPA incidental take authorization is most appropriate, but a letter of authorization is often more appropriate for those engaged in the HCP process because it can cover a longer time frame. An incidental harassment authorization is only valid for up to 1 year.

If marine mammals are not identified as an issue up front, the permitting process could become much more time consuming (effectively doubled) if it is later discovered that marine mammals will be taken, for instance during section 7 consultation . Therefore, it is in the interest of both the applicant and the Services that MMPA compliance requirements are running concurrently with the ESA permitting and consultation process.

Establishing an “incidental take” program for marine mammals requires either a special rule-making for any species or a more streamlined notice and comment procedure, depending on the level of harm to marine mammals (50 CFR 18; NMFS regulations are 50 CFR 216). Within FWS, authority for MMPA permits has been retained at the Division of Management Authority and within NMFS, authority for MMPA permits has been retained in the Office of Protected Resources, Permits, and Conservation Division.

Figure 7b Marine Mammal Protection Act: Incidental Harassment Authorization



7.4.5.1 Incidental Harassment Authorization (IHA)

The applicant may apply for an IHA if they can show that (1) the underlying activities have no potential for serious injury or mortality, or (2) they can negate the potential for serious injury or mortality through mitigation requirements in the requested authorization. Serious injury is defined as “any injury that will likely result in mortality” (50 CFR 216.3).

The IHA process does not require procedural rulemaking; however, the Services must solicit public comment by publishing the proposed authorization in the Federal Register. The MMPA indicates that IHAs should be issued within 120 days of a Service’s receipt of a complete application (although other factors may, in practice, lengthen this time).

7.4.5.2 Marine Mammal Protection Act: Letter of Authorization

If covered activities are likely to cause or lead to serious injury or death, and they cannot be moderated by mitigating measures, the applicant must obtain a letter of authorization (LOA). For well-planned, multi-year activities for which enough detailed information can be provided in an application to allow for a robust analysis of the whole 5 years of activities, we may use the

rulemaking/LOA process, even when serious injury or mortality is not anticipated, because the annual renewal of LOAs does not require a public comment period and is administratively less cumbersome than requesting and processing a new incidental harassment authorization every year. To issue an LOA, we have to promulgate regulations, which may be valid for a maximum period of 5 consecutive years. We may issue LOAs annually under these regulations or for up to the maximum 5-year period of validity. The MMPA rulemaking process requires two public comment periods, including public notice of the receipt of a request and, subsequently, a proposed rule.

Both proposed IHAs and proposed rulemakings must outline:

1. permissible methods of taking;
2. the means of effecting the least practicable adverse impact on the species or stock and its habitat and on the availability of the species or stock for subsistence uses; and
3. requirements for monitoring and reporting, including requirements for the independent peer-review of proposed monitoring plans where the proposed activity may affect the availability of a species or stock for taking for subsistence uses.

If the information submitted in support of the LOA is sufficient (i.e., it would support necessary analyses as well as preparation of the requisite NEPA analysis and ESA section 7 consultation), we start processing the LOA. Decisions on LOA applications, which include two comment periods, possible public hearings, and consultations, may take from 10 to 18 months, in addition to the time required for NMFS or both Services to complete NEPA analysis. In contrast, IHA decisions involve just one comment period and, depending on the issues and species involved, can take anywhere from 4 to 9 months. However, as stated above, considering issues such as the form of take contemplated by the applicant engaged in the HCP process, and the need for enduring coverage, the IHA process would appear to have little utility to most of those seeking large scope and long enduring incidental take permits.

After the type of MMPA authorization is determined, the applicant must submit a written request to the Services (FWS for sea otters, manatees, polar bears, and walrus, and NMFS for all others).

Requests made to NMFS for authorization must include items 1-14 below:

1. A detailed description of the specific activity or class of activities that can be expected to result in incidental taking of marine mammals;
2. The date(s) and duration of such activity and the specific geographical region where it will occur;
3. The species and numbers of marine mammals likely to be found within the activity area;
4. A description of the status, distribution, and seasonal distribution (when applicable) of the affected species or stocks of marine mammals likely to be affected by such activities;
5. The type of incidental taking authorization that is being requested (i.e., take by harassment only; take by harassment, injury, or death) and the method of incidental taking;
6. By age, sex, and reproductive condition (if possible), the number of marine mammals (by species) that may be taken by each type of taking we describe in (5) above, and the number of times such takings are likely to occur;

7. The anticipated impact of the activity on the species or stock;
8. The anticipated impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses;
9. The anticipated impact of the activity on the habitat of the marine mammal populations, and the likelihood of restoration of the affected habitat;
10. The anticipated impact of the loss or modification of the habitat on the marine mammal populations involved;
11. The availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact on the affected species or stocks, their habitat, and on their availability for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance;
12. Where the proposed activity would take place in or near a traditional Arctic subsistence hunting area or may affect the availability of a species or stock of marine mammal for Arctic subsistence uses, the applicant must submit either a "plan of cooperation" or information that identifies what measures it took or will take to minimize any adverse effects on the availability of marine mammals for subsistence uses;
13. The suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species, the level of taking or impacts on populations of marine mammals that are expected to be present while conducting activities and suggested means of minimizing burdens by coordinating such reporting requirements with other schemes already applicable to the people conducting such activity. Monitoring plans should include a description of the survey techniques that will be used to determine the movement and activity of marine mammals near the activity site(s), including migration and other habitat uses, such as feeding. Guidelines for developing a site-specific monitoring plan may be obtained by writing to the Director, Office of Protected Resources; (NMFS) and
14. Suggested means of learning of, encouraging, and coordinating research opportunities, plans, and activities relating to reducing such incidental taking and evaluating its effects.

FWS informational requirements are similar to NMFS's list above. FWS's MMPA regulations are at Part 18, with exceptions in the 18.20's, but incidental take is mostly covered by 18.27. FWS does not provide a 3-200 application form for MMPA.

7.4.6 Plants

Although take does not apply to listed plant species in the ESA, plants can and often should be included in HCPs as covered species. By covering plants in an HCP there should be a conservation benefit to the species even though take of plants is not prohibited. Because the Services cannot issue a permit that would jeopardize the continued existence or adversely modify the designated critical habitat of any listed species (including plants) covering plants in an HCP may be prudent to avoid these problems in the HCP permitting process. In addition there may be State laws that prohibit take of state listed plants and an HCP can provide the instrument to satisfy State law.

In general plants do not need to be included on the incidental take permit, however there may be exceptions including:

1. taking of plants is defined under another law that the HCP and permit are serving a purpose to facilitate compliance for the other law (e.g. state prohibitions)
2. the applicant wants “no surprises” to cover plants and they have robust coverage of the plant species in the HCP (must be treated like other ESA-listed species that are covered)
3. some other compelling reason to include plants on the permit

7.4.7 State Protected Species

In States that have their own versions of ESA, it is particularly important to coordinate the development of the HCP for covered species with the State natural resource agency. For example, in Illinois, the State accepts the HCP as part of their process to authorize incidental take of State-listed species. In Illinois, if an applicant needs incidental take coverage of State-listed species, including it as a covered species in the HCP might be an efficient way to meet State requirements.

7.4.8 HCPs and Enhancement of Survival Permits

Candidate conservation agreements with assurances (and their associated permit) cover the permittee’s incidental take if a covered species becomes listed. Safe harbor permits also cover incidental take as long as the permittee maintains a certain baseline of habitat or species numbers. These enhancement of survival permits provide no surprises assurances similar to HCPs, and they can be amended to adapt to changing circumstances. Nevertheless, there are growing numbers of situations where covered landowners seek significant, fundamental changes that will require an HCP. A landowner may want to change their land use in ways completely incompatible with their permit, or a covered property might be incorporated into a larger-scale regional project.

The Services need to carefully consider the agreements and analyses supporting the enhancement of survival permit, as well as the changed circumstances when working on the HCP. Would the proposed land use change truly exceed take levels already authorized (e.g., below baseline)? The existing enhancement of survival permit may already address appropriate responses if a permittee decides to terminate their agreement. As much as possible, we should respect the voluntary measures that have already been implemented. For example, an Safe Harbor Agreement (SHA) conservation site might become the mitigation site for the new HCP, in which case, the HCP should build off the conservation achievements of the SHA and include them in the HCP. In this situation, the HCP permit terms will usurp the SHA permit terms at the site. In some cases there may be ongoing conservation commitments from implementing the existing SHA that must be retained. For example: the XYZ SHA has a conservation commitment that extends 10 years beyond the permit term to maintain certain habitat conditions. After the SHA expires the landowner wants to use the SHA area as part of a new HCP; in this case the conservation commitment beyond the SHA permit term must be honored.

On a safe harbor property, the status of above-baseline species or habitat may become open to negotiation. The landowner has the authority to take down to baseline, but any above-baseline

resources might figure into the mitigation of a potential HCP. If there is no way to accommodate the existing covered species, either above- or below-baseline, into newly proposed land uses, then a safe harbor permittee seeking an HCP may need to consider off-site compensatory mitigation.

FWS biologists negotiating SHAs should consider the possibility that an agreement might eventually need to be transformed into an HCP.

7.5 Addressing Critical Habitat

When a species is proposed for listing as endangered or threatened under the ESA, the Services must consider whether there are areas of habitat essential to the species' conservation. Within the geographical area occupied by the species at the time it is listed, critical habitat is the specific areas that contain features essential to the conservation of an endangered or threatened species that may require special management considerations or protection. Critical habitat may also include areas outside the geographical area occupied by the species at the time it is listed that are essential for the conservation of the species.

7.5.1 Effect of Critical Habitat on HCPs

Under section 7 of the ESA, Federal agencies must ensure that their activities are not likely to result in the destruction or adverse modification of designated critical habitat. If proposed covered activities in an HCP are likely to adversely affect designated critical habitat, section 7 requires us to analyze those effects in the consultation for the proposed issuance of the incidental take permit and determine if it is likely to destroy or adversely modify critical habitat. If we determine that covered activities in an HCP are likely to destroy or adversely modify critical habitat, the applicant must adjust the plan so that they avoid that outcome. If critical habitat is designated on lands that are covered by an existing HCP, we must reinitiate consultation on the existing Section 7 analysis to analyze the effects of implementing the plan on critical habitat. If we find that there could be adverse modification, we must consider our options consistent with the regulatory assurances, including:

- permittee can voluntarily adjust implementation of covered activities to avoid adverse modification to critical habitat, or
- the Service could revoke their permit or coverage for those activities that are expected to adversely modify critical habitat.

Planning for designation of critical habitat will clarify the response should it be designated in the plan area (often in the changed circumstances section). Typically, the response outlined in the plan is a commitment by the permittee to adjust covered activities to avoid adverse modification as determined by Service staff in consultation with the permittee.

7.5.1.1 Critical Habitat Exclusions

The Services jointly proposed a policy that would provide predictability, transparency, and consistency regarding exclusions from critical habitat designations. Rather than cover the entire

range of factors that may be considered as the basis for an exclusion in any given designation, the proposed policy provides our position on how we consider non-permitted conservation plans and partnerships; conservation plans permitted under section 10 of the ESA; tribal, military and Federal lands; and economic impacts in the exclusion process.

Under section 4(b)(2) of the ESA, all discretionary decisions to exclude areas from a critical habitat designation, including areas covered by a permitted HCP, must be based on a case-by-case analysis to determine whether the benefits of exclusion outweigh the benefits of inclusion and will not result in the extinction of the species. Our proposed policy doesn't alter this requirement, but it will serve to clarify the critical habitat exclusion process for Federal and State agencies, tribes, and the public. It will also provide for a more defensible and predictable critical habitat exclusion process.

The proposed policy consists of the following HCP-related elements that the Services consider when determining whether to exclude any areas from critical habitat:

- **Section 10 permitted conservation plans**: When we undertake a discretionary 4(b)(2) exclusion analysis, we will always consider for exclusion from a designation of critical habitat those areas covered by an approved candidate conservation agreement with assurances/safe harbor agreement/HCP if incidental take caused by the activities in those areas is covered by a permit under section 10 of the Act.
- **Partnerships and conservation plans**: When we undertake a discretionary 4(b)(2) exclusion analysis, we will give great weight and consideration to the conservation benefits provided through conservation plans, programs and partnerships before designating critical habitat. We will generally exclude areas from critical habitat designation when those areas are covered by approved and implemented plans or programs, and involve demonstrated partnerships that provide a benefit to the species and its habitat. This policy element could be used to evaluate an area covered by an HCP that is not yet permitted, but is in the final stages of permitting.
- **Economic impacts**: When the Services are determining whether to undertake a discretionary 4(b)(2) exclusion analysis as a result of the probable incremental economic impacts of designating a particular area, it is the nature of those impacts, not necessarily a particular threshold level, that is relevant to the Services' determination.

The Services are working to address comments received during the public comment period and plan to finalize the policy in summer 2016. We will incorporate elements of the policy, as appropriate into this Handbook when it is finalized.

7.6 Identifying the Role of the Plan Area in the Conservation of Each Covered Species

Understanding the conservation context of the approved planning area to covered species is necessary to understand how both the impacts and conservation applied will affect the overall species status. See chapter 9 for more on developing the HCP conservation program.

The role of the HCP area in the conservation of covered species relative to the overall range of the species is an important consideration for the section 7 (jeopardy analysis) and NEPA (cumulative effects) analyses. This information also helps us understand the conservation needs

of the species to develop an appropriate conservation strategy. Examples of questions we could ask to understand the context of the plan area to the species include:

- What percent of total habitat or species range occurs in the HCP area?
- Does the HCP area contain designated critical habitat?
- Is the HCP area a core area for the species?
- Does the HCP area include habitat needed for recovery of the species as identified in the recovery plan? If there is no recovery plan or if a plan is not up-to-date, this will be determined (by the Services) based on the best available science for the species.
- Does the HCP area harbor a genetically unique or isolated population?
- Does the HCP area harbor a source population that enhances surrounding populations outside the plan area?
- Does the HCP area provide a climate refugia or other conditions important for conserving climate sensitive species?
- How will implementation of the plan's covered activities negatively affect the species outside the plan area and the overall range of the species?
- How will implementation of the plan's conservation program enhance the species status outside of the plan area and the overall range of the species? Can we quantify it?
- How will changes to habitat quantity and quality affect the species outside the plan area and the overall range of the species? Does the HCP area play a particularly important role for the species in terms of habitat quality or quantity?

The structured framework in **species status assessments** could be useful to adopt for developing a conservation strategy for HCPs.

Threats to the species both inside and outside the plan area are important to keep in mind when developing a conservation strategy for covered species. Large-scale threats, like climate change can add to the importance of evaluating the role of the HCP area relative to outside the area and of the overall range of the species. Some of the questions we should consider include:

- Are there large-scale threats that could impact the conservation program of the HCP (e.g., white-nose syndrome in bats, various widespread impacts related to invasive species, or impacts of climate change such as drought, increased spread of invasive species, increased risk of wildfire, sea level rise, etc)?
- Are those threats already occurring in the plan area, or is the HCP area currently a safe haven from an important threat?
- Is the species particularly vulnerable to specific aspects of climate change? Does the HCP area provide an opportunity for the species to seek refuge from the effects of projected future climate change? Are there areas within the HCP that should be conserved to help reduce the effects of climate change on the species (e.g., provide a diversity of conditions that will allow the species to adapt to changing conditions, or that facilitate movement in response to changing conditions)?

7.7 Tools

Developing a conservation program and analyzing effects from plan implementation can be challenging tasks, but there are tools that can help. [Note: a link will be provided to the HCP

Handbook Tool Box in the final version.] Below is a small selection of tools that may be useful in developing your HCP. The summaries below are to get you started; more investigation is needed to understand and use these tools.

7.7.1 Climate Change Analysis

Understanding the realm of ongoing and future climate changes can be an important consideration to provide context for decisions during the HCP development process, and in related section 7 and NEPA processes. Climate change analysis traditionally follows three main stages: 1) identifying ongoing and likely future changes in climate; 2) assessing the known or likely effects of these changes; and 3) identifying whether/what climate change adaptation actions are appropriate, including HCP mitigation and adaptive management activities. The three stages involve using different types of analysis tools: stage 1 involves projections of climate change (e.g., temperature, precipitation, sea level rise, changes in storm severity or extreme events) based on models; stage 2 typically involves using the projections from stage 1 in combination with other tools (including some listed below) for assessing likely effects on species and habitat, including interactions with other stressors (e.g., modeling individual species, vegetation, fire, hydrology), and stage 3 typically involves analyses informed by information from stages 1 and 2. In some cases it may be appropriate to use existing scientifically credible information, rather than conducting new analyses. Also, user-friendly scientific tools are available online that may be suitable for some analyses. In all cases it will be important to understand the appropriate uses and limitations of the tools, as well as best practices for interpreting and using model outcomes or other information. Since tools are continuing to improve for assessing and addressing climate change and its effects, obtaining the assistance of Service or other climate change specialists will help ensure efficiency and effectiveness.

7.7.2 Conceptual Models

Conceptual models can range from basic to complex graphics to simplify problems by laying out how the system, species, or threats are thought to work and affect each other. Conceptual models can be useful early in the HCP development process as hypotheses about how the system works and the discussions during their development promotes close coordination between the Services, the applicant, and their consultants. See *10.1.2.1* for more on conceptual models. Mental modeler <http://www.mentalmodeler.org/>, and Lucid Chart <https://www.lucidchart.com/> are 2 examples of free and easy to use programs to help develop conceptual models.

7.7.3 Decision Support Models

Structured decision making is a general term for a logical *process* to make decisions. It involves carefully organized analysis of problems to reach decisions that are focused clearly on achieving fundamental objectives. Based in decision theory and risk analysis, structured decision making encompasses a simple set of concepts and helpful steps, rather than a rigidly-prescribed approach for problem solving. Key concepts include clearly articulated goals and objectives, dealing explicitly with uncertainty and transparency in decision making, and integrating science and policy explicitly. Decision support tools include decision trees, scoring matrix tables, etc. These tools can be useful throughout the entire HCP process whenever decisions need to be made. For

more information about structured decision making click here [HCP Handbook Tool Box (Link will be added in final version)].

7.7.4 Geographic Information System (GIS)

GIS is an essential tool for logically laying out an HCP area and displaying it through maps. GIS can also be a useful tool for analyzing complex spatial data. GIS analyses can include many things like: species locality analysis and modeling, vegetation locality analysis and modeling, determining location of different habitat, spatial analysis/depiction of likely locations of habitat change and potential range ranges related to climate change effects and many more. All of these analyses and map making are often an integral part of reserve design, avoiding impacts in important areas, etc. The mapping and analytical outputs of GIS are indispensable tools for all HCPs. More information about GIS can be found here: <http://www.esri.com/what-is-gis>.

7.7.5 Habitat Equivalency Analysis (HEA)

HEA is a methodology we use to determine compensation for natural resource damages. HEA was developed specifically for damages caused by things like spills and hazardous waste contamination. The idea behind HEA is that the public can be compensated for past losses of habitat resources through habitat replacement projects of the same type lost. The HEA process attempts to understand the value of lost habitat services and find a replacement of restored habitats that provides services of the same type and quality, and of comparable value as those lost due to injury. HEA assumes the public is willing to accept a one-to-one trade-off between the service lost and the service gained by the restoration. This process can be useful when developing HCPs to determine impacts of the taking and how to appropriately compensate for it. However, information provided by an HEA will need to be considered in conjunction with the statutory permit issuance criteria.

7.7.6 Population Viability Analysis (PVA)

PVA is a species-specific method of risk assessment frequently used in conservation biology. It is a process that estimates the probability that a population will become extinct within a given number of years. PVA is a statistical approach that utilizes ecological data to bring together species characteristics and environmental variability and forecasts population health and extinction risk. Each PVA is unique and is individually developed for a target population or species, provided sufficient information is available to result in credible modeling. It will be important to consider whether the underlying assumptions of a particular PVA process need to be adjusted due to various changing conditions related directly or indirectly to climate change. Although PVAs can be useful for HCPs to evaluate the population level effects from an HCP's area implementation, we need to interpret the results carefully as the quality and quantity of the data affects the analysis. PVA is useful for comparing scenarios and how they may affect the risk of extinction, which should not be just to avoid extinction but also to understand actions that will improve the conservation status of the species.

7.7.7 Reserve Design Optimization Models

Reserve design optimization models can be useful in both the HCP development and implementation phases. These models make use of known species occurrence data (or modeled habitat suitability data) combined with values defined by the user to analyze the landscape and produce a solution or range of solutions that best meet the user-defined goals. For example, you might ask the model to identify 10 acres of a 100-acre area that has the most species that use the area currently and what the projected use will be in future climates. These tools can be extremely useful in balancing species conservation needs with development needs during the reserve design development process. Zonation and MARXAN are good examples of reserve design optimization models.

7.7.8 Resource Equivalency Analysis (REA)

REA involves determining the amount of “natural resource services” that the affected resources would have provided had they not been injured. It equates the quantity of lost services with those created by proposed compensatory restoration projects that would provide similar services. The unit of measure may be acre-years, stream feet-years, or some other metric. The size of the restoration project is scaled to the injury first; the cost of restoration is then calculated after the scaling is complete. The cost of restoring a comparable amount of resources to those lost or injured is the basis for the compensatory damages. REA calculates the replacement cost of the lost years of natural resource services. This process can be useful for HCPs in helping to determine impacts of the taking and how to appropriately compensate for it.

7.7.9 Species Distribution and Habitat Suitability Models

We can estimate species distribution and potential changes to it based on their pattern of occupancy as it relates to biotic or abiotic variables. These models generally analyze species occurrence records against numerous biological (e.g. vegetation associations), geological variables (e.g. elevation), and climatic variables (e.g. rainfall) to determine the bio-climatic envelope in which the species inhabits. This bio-climate envelope can help explain where the species lives and can be used in places where data are insufficient to predict areas the species may also occupy (now or in the future). Species distribution models can integrate other variables depending on the technique used including: dispersal/migration, disturbance, and abundance. We can also use them to help assess climate change impacts and conservation management issues by incorporating the results of climate models to help predict how future habitat distributions will change. There are a range of types of species distribution models, including: presence/absence models, dispersal/migration models, disturbance models, and abundance models. Species distribution models can be very helpful during HCP plan development to assess: what areas should be included in the approved planning area, habitat quality throughout the plan area, ecological corridors, and for design of both planned conservation areas and approved impact areas (e.g., highest biological value to be avoided). Some species distribution models are available online some are being refined, and new models are emerging. We encourage HCP practitioners to check with Services staff with the appropriate expertise about using such modeling and interpreting the model outcomes. Simple models can be created through GIS, or dedicated models like MaxEnt can be utilized.

7.7.10 Species Status Assessments

The species status assessment concept was designed to provide a common, consistent, repeatable, scientifically sound approach that will help serve as a basis for informing future ESA decisions. Using the SSA Framework early can help provide the context for a decision on whether protections are warranted, then for decisions regarding what is needed for its conservation and recovery, what the greatest research needs are, and how public or private actions may affect the species. Staff in each region are available to provide support to help ensure we continue to build on and improve the successes the SSA Framework has already delivered. Over time, completed species status assessments are expected to be available for many species and used for: candidate conservation, analyses for listing decisions, consultations, grant allocations, HCPs, and recovery planning.

7.7.11 Spreadsheet Population Models

Spreadsheet population models can be simple logic paths to help understand complex problems. Simple spreadsheet population models often use basic life history traits to evaluate how populations may change as new variables are introduced or as life history values change. Spreadsheet population models can be useful tools for HCP development to evaluate how population numbers may change as the HCP is implemented.

7.8 Data Sharing

Collaboration is an extremely important element of efficient HCP development; data sharing is no exception. The applicant and the Service must work together to provide the necessary information to develop the HCP.

For HCPs where maps are developed, analyses performed, or data is collected for a data management and sharing plan must be developed. A data management and sharing plan describes the data that will be authored, what will be shared, how it will be shared, and how the data will be managed throughout its lifetime.

For more information on data management plans see 10.4 and information in the HCP Handbook Toolbox [*Link will be added in final version*].

7.8.1 Freedom of Information Act (FOIA) and Proprietary Data

Most information cannot be protected once the Services take possession of the data including species occurrence locations which are often thought of as sensitive data.

The following are examples of exemptions that the Services can typically use to withhold proprietary, financial, and personal information from being released when a Freedom of Information Act request is submitted:

- Covered by a Statute - information specifically exempted from disclosure by another statute such as the National Parks Omnibus Management Act of 1998, the Archaeological Resources Protection Act of 1979, the Federal Cave Protection

Act of 1988, or the National Historic Preservation Act Amendments of 1966, as amended through 2006.

- Trade secrets, commercial or financial information (confidential business information).
- Personal information affecting an individual's privacy.
- Geological and geophysical information, including maps, concerning wells.

Although we may assert that information should be withheld based on one or more of the FOIA exemptions listed above, the applicant should be aware that FOIA requesters may appeal withholding of information to the Departmental General Counsels and ultimately to a United States District Court. If a requester's appeal is successful, we will have to release the contested information.

Chapter 8: Calculating Take from Land and Water Use Activities

8.1 Analysis of Take from Proposed Land and Water Use Activities

8.2 Determining Take

8.2.1 Sources and Types of Take

8.2.2 Units of Take

8.2.3 Quantity of Take

8.2.4 Take That May Be Accounted for in Another Permitting Process

8.3 Describe the Impact That Will Result from Such Taking

8.4 Section 7 Tasks

8.1 Analysis of Take from Proposed Land and Water Use Activities

The Habitat Conservation Plan (HCP) must contain an analysis of the impact which will likely result from the taking of the covered species. The impact of the taking may have population or species-level effects substantially greater than just the number of individuals or acres of species habitat. Ultimately the impacts of the taking must be minimized and mitigated. Nevertheless, quantifying the amount of take provides a key basis for evaluating project impacts.

To fully identify all sources of take that may result in an impact, it is necessary to consider each component of the proposed activity in detail. The following sections provide guidance on how to conduct this analysis.

8.2 Determining Take

HCPs often involve incidental take in the form of harassment or harm of covered species. Harassment occurs when an activity interferes with a species normal behavior directly, such as flushing from construction equipment or loud noise. Harass occurs when covered species habitat is altered so that the species use it less or are totally displaced. Reduced or total displacement causes harm when it results in injury or death. Harm might occur for any number of more direct causes, including when a covered species is injured or killed by entombment, collisions with structures, or during removal of nesting or roost trees that they occupy.

Breaking down an applicant's proposed activities as described in Chapter 5, will help to identify the type and amount of incidental take that could result. At this point of planning, we should be able to:

- identify the resources needed to fulfill the conservation needs (breeding, feeding, sheltering) of the species or ecosystems (predator-prey relations, dens re-used by other species) present in the project area;
- identify, isolate, and examine the components of ("deconstruct" as we often call it) the activities within your project area that potentially impact those resources; and
- identify and document the chain of logic needed for the development of the HCP's conservation program (i.e., biological goals and objectives, avoidance, minimization, and mitigation measures, etc.).

8.2.1 Sources and Types of Take

FWS has developed a conceptual model to guide the process of evaluating effects to individuals, called the effect pathway model. In addition, the FWS has developed software in the Environmental Conservation Online System (ECOS) to help analyze effects to individuals using the effect pathway model which is called Effect Pathway Manager (EPM). While we describe the basic steps of the effect pathway conceptual model below, more information and tools to capture the information with the effect pathway chain of logic can be found in the HELP topics of the ECOS EPM application (<https://ecos.fws.gov/epm>).

This system builds on and replaces the conservation frameworks established by FWS's Information for Planning and Conservation (IPaC). Current HCP planning efforts may be used to help populate the effect pathway manager. The EPM contains source deconstructions that can be adapted to projects under review.

At this point in the impacts analysis, our purpose is to enumerate take in terms such as numbers of affected individuals, nesting groups, or acres of habitat or stream miles. Net effects, or impacts to the populations of covered species are addressed in Chapter 12.

Determining the amount of take analyzes the activities proposed, as well as their identifiable components or sub-activities to identify effects, like harm or harassment, of the species or impacts to their habitats. Identify all the "direct interactions" or "stressors" associated with each sub-activity. A stressor is any agent capable of causing stress to a resource upon which an organism depends. A stressor might change, or new ones come into effect, as a result of climate change. A direct interaction is an effect on the individual organism.

Identify the resources affected by each stressor. A stressor acts on a resource and results in a response. The resource could be an area (e.g., habitat), an organism (e.g., individuals, eggs, breeding females, migrating individuals), or a circumstance (e.g., historic competition or predation rate, natural ambient lighting). The effect can be both direct and indirect (e.g., destroying hibernacula in the summer affects both hibernation habitat directly and hibernating bats indirectly).

Identify the conservation need affected (i.e., breeding, feeding, or sheltering) by a stressor. Conservation needs are the basic needs that a species requires for survival and recovery. More than one conservation need can be affected by a stressor.

Identify the physical response associated with each stressor. A species' response is the direct or indirect effect of an agent on a species, ranging from stress to system failure. Responses are usually measured on an individual basis and then are expressed as a range of responses (e.g., mortality through displacement).

Interpret the demographic consequence of the individual responses. Once we have identified the responses of individuals, we must translate them into terms that relate to species conservation potential. For example, reduction in a species' forage base can translate into reduced growth that can delay age at sexual maturity (or reduce size at sexual maturity, or reduce fecundity), which in turn affects reproduction, which ultimately affects species conservation potential.

Management options include avoiding, minimizing, and mitigating the production of or exposure to a stressor.

Applicants tend to highlight the avoidance measures built into a proposal. We can compare this in our review to an alternative that does not incorporate any avoidance or other conservation measures. Even though our hypothetical alternative would likely not meet issuance criteria, it helps us make a more informed permit decision and conduct a more thorough section 7 analysis.

8.2.2 Units of Take

The HCP must identify the impacts likely to result from the proposed incidental take. It must include defined units to quantify impacts in terms of taking a number of affected individual animals or acceptable habitat surrogate units within the plan area.

Numbers of individuals, nesting territories, breeding pairs, etc. often come to mind first, but it is not always practical to survey and count affected wildlife populations directly. More often a surrogate measure, such as acres of habitat or a measurable ecological condition, is employed to express incidental take authorized by a permit. To use a surrogate measure, we must:

- describe the causal link between the surrogate and take of the covered species,
- explain why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of number of individuals, and
- set a clear standard for determining when the level of anticipated take has been exceeded.

This justification for use of a surrogate can be in the intra-Service section 7 consultation, the HCP, or we can reference recovery planning documents, such as a recovery plan or species status assessment.

When identifying a surrogate measure, it also is important to take climate change considerations into account because what previously were causal links will not necessarily remain valid due to various effects of climate change. Consider climate change effects that may be important enough to address in the monitoring plan and adaptive measures. Possible examples include:

- the emergence of novel species to species, and species to habitat, relationships,
- range shifts or other changes in the distribution and abundance of competitors or predators,
- increased spread of non-native invasive species, or
- differences between surrogate and the covered species in terms of vulnerability to climate change and related impacts.

Incidental take has to be expressed in terms that are measurable and enforceable in the HCP and in the incidental take permit. The unit of take must be practicable which means it can be monitored and the results of monitoring can be applied to adaptive management decisions. Conducting section 7 analyses concurrently with HCP development help us better negotiate take levels in the HCP and identify appropriate units to enumerate take.

Units of take, or their surrogates, can take many forms:

- In the simplest case, we can identify individual animals, such as desert or gopher tortoises, likely to be affected by a project.
- Breeding pairs or nesting territories might be readily identified and treated as the unit of take. However, the actual number of individuals affected becomes less certain, as the species territory may include the current and previous year's offspring. Although we might count nesting territories, the population numbers affected become less certain.
- Species that aggregate into roosting, hibernation, or maternity colonies test our ability to tie a "territory" to numbers of individuals. We may enumerate only relative sizes of the colony and numbers of colonies.
- In cases where a colony or breeding territory is used as the take unit, habitat acres, such as foraging area or a buffer, will also often need to be quantified.
- Presence of wide-ranging, secretive species becomes more difficult to enumerate directly. Sand skinks, Houston toads, or American burying beetles are difficult to census, and surveys are often inconclusive. For species like these, we often need to rely on surrogate measures. Usually, the surrogate we use will have resulted from recovery planning or conservation strategies that emerge from our efforts independent of any HCP. Nevertheless, an applicant may be able to develop a new surrogate measure, or one tailored to their situation.
- Recovery planning for the Florida panther has resulted in a delineated consultation area. Take within this area is measured in acres, and adjusted by weighted habitat value factors. This results in a relative measure of impact that integrates habitat acres and habitat values.
- For conservation plans addressing coastal or estuarine fishery bycatch of listed species, applicants quantify expected take from fisheries observer programs in combination with statistical modeling methods. Typically, the applicant (usually a State fisheries management agency) will either have a fisheries observer program in place, or will develop one as part of their conservation plan and use Federal fisheries observer data. Within these observer programs, observers on vessels make direct observations of bycatch in certain bodies of water or habitats. These observations are quantified, described, and logged as data. Data collected from observer program direct observations are then used to develop models for estimating listed species interactions. The information gathered from these direct observations in combination with modeling allows the applicant to generate estimated take numbers for observed fisheries and build a functional conservation plan.
- Most often, we use acres, or shore/stream-miles, of habitat as surrogate units of incidental take. Although some watersheds have been modeled to determine the effect of construction on fish species in the streams, no HCPs have used the following methodology yet. This modeling identifies the additional impervious surface resulting from new construction as the surrogate measure of take. Section 7 consultations in this basin measure take in terms of the area of impervious surface that would result from a proposed project.

Whatever surrogate measures are used, we must link them to expected population responses by the covered species (i.e., stressors and effects). If not provided by practices established in

existing conservation strategies, the applicant may need to develop and explain surrogate measures in the HCP. The Services must work closely with an applicant who develops novel surrogate measures. The surrogate units of take used in the HCP and incidental take permit usually are translated to population effects in the Services' intra-Service consultation on the application. This is a crucial area of HCP development where we need section 7 staff involved early.

The Services and an applicant may not always reach agreement on every aspect of the take enumeration. We may be able to avoid conflict about such issues if we find that the disagreement in certain intermediate numbers does not affect the impact or mitigation calculations. Determining this will require looking ahead at the net effects, as we describe in Chapter 12.

8.2.3 Quantity of Take

The amount of take the permit authorizes should be commensurate with the effects of the incidental take caused by the project throughout the analysis area (see Chapter 6.3.1), plus any take that results from mitigation activities. There may be additional, separately-authorized take as described in section 8.2.4, below.

8.2.4 Take That May Be Accounted for in Another Permitting Process

As we discuss in Chapter 3.5.3, mitigation and monitoring may result in take in addition to the take the project causes. We need to quantify and consider these sources of take in our biological opinion and permit findings. The incidental take permit authorizes a permittee to implement the conservation measures in the HCP, including those that result in take, but there may be additional, continuing management area obligations into perpetuity, or for extended periods, beyond expiration of the incidental take permit. Any ongoing take related to operation and maintenance of the conservation area can be covered by a section 10(a)(1)(A) recovery permit independently of the expired incidental take permit. This assumes that the management regime of the conservation area has been assured in accordance with HCP requirements. After expiration of the incidental take permit, the ongoing mitigation purposes of conservation area management would likely satisfy recovery permit issuance criteria.

8.3 Describe the Impact That Will Result from Such Taking.

The Endangered Species Act (ESA) and its regulations require that HCPs specify the impact that will likely result from the taking [ESA section 10(a)(2)(A)(i), 50 CFR 17.22(b)(1)(iii)(A)/50 CFR 17.32(b)(1)(iii)(C)(1), and 50 CFR 222.307(b)(5)(i) for the National Marine Fisheries Service (NMFS)]. Once the initial causes, types, and amounts of take have been identified, then its impact can be assessed. While take occurs to individuals, the impact of taking occurs at levels above the individual, such as to the population and the species. Covered activities cause take of individuals, which in turn impacts the population.

covered activities ----> take of individuals ---- > impact of the taking on populations, and the species

The HCP must specify the impact of the taking on a meaningful, distinct, or relevant population of the covered species. This is usually the population that is local to the plan area, but might encompass the species rangewide or a designated population segment. This analysis forms the basis for determining appropriate avoidance, minimization, and mitigation actions needed to offset these impacts. When assessing the impact of the taking it is important to consider context, intensity, and duration of the impact.

Context is the setting in which the impact of the take analysis occurs. It usually includes geographic and temporal scales. For example, we might analyze the impact of take on species numbers, reproduction, and distribution at the covered land scale, recovery unit scale, and range-wide scale. It includes such things as understanding the conservation role of the permit area to the covered species. Effects to pristine areas that are important to a species may be greater than effects to already degraded areas that are less important or marginal habitat. Alternatively, degraded habitats may have considerable relative value if that is all that remains. A site's location on the landscape may make it important at certain times of the year or for certain purposes so that its apparent quality as habitat masks its real importance to a covered species. We must also assess the impact of the taking in the context of other threats to covered species in the plan area. For permits that cover a long duration, it is important to consider how the context of the effects might change over time. For example, there may be other ongoing threats, such as effects related to climate change, that will affect environmental conditions and the context in which the impact of the taking occurs.

Intensity is the severity of the impact, for example, the percent of the population impacted or the quantity and degree to which habitat is affected. We sometimes use population viability analysis (PVA) to try to estimate or better understand the possible severity of impacts at various scales, although the data needed for such analysis often is not available, so many assumptions are made. Consequently, the outcomes need to be interpreted with care.

Duration of the taking is at least as long as the duration of the permit. Therefore, effects analyses for a permit must correspond to at least the duration of the permit, but it may be longer if the impact is expected to last longer.

The ideal metrics, units of take (see section 8.2.2), to use in describing the impacts of the taking on the covered species are those that are closely associated with reproduction, numbers, and distribution. This is because reproduction, numbers, and distribution are explicitly associated with survival and recovery of the species in the wild as well as one of the incidental take permit issuance criterion [50 CFR 17.22 (b)(2)(i)(D) and 50 CFR 222.307(c)(1)(ii) for NMFS] and the required section 7 analysis.

Some examples of effect variables related to reproduction are:

- percent decrease in loss or increase of breeding habitat,
- percent decrease of loss of habitat that provides a climate refugia and results in reduced survivorship or lower reproduction,
- increased disturbance to breeding areas,
- increased predation of juveniles,
- decrease or increase in survivorship,

- decrease in breeding activities due to disturbance,
- loss of spawning grounds, nest trees, etc.

Some examples of negative effects related to species numbers are:

- decrease in the numbers of individuals, breeding pairs, or average population size,
- loss of an age cohort,
- changes in demographics,
- loss of recruitment,
- changes in age distribution,
- creation of a habitat sink (road crossing), etc.

Some examples of negative effects related to distribution are:

- loss or increase of habitat that affects species distribution fragmentation,
- decrease in range,
- loss of stepping stone habitat, etc.

The process of determining anticipated incidental take and the development of the mitigation program are a dynamic and iterative process which is best performed when there is close coordination between the applicant and the Services.

8.4 Section 7 Tasks

As stated previously, we should conduct section 7 analysis throughout the HCP development process. At this stage, while the applicant is calculating the take levels and impact of the taking, it is prudent to coordinate with the section 7 staff to come to agreement on the causes and forms of take associated with covered activities and on the methods and metrics for calculating take.

Chapter 9: HCP Conservation Strategy

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9.0 Introduction

The conservation strategy of a Habitat Conservation Plan (HCP) is the foundation upon which the rest of the HCP is built. The conservation strategy defines what the HCP is trying to accomplish through biological goals, how the applicant will track progress through the monitoring program, and how the applicant will adjust implementation of the HCP through adaptive management and through changed and unforeseen circumstances. The conservation strategy must be founded in: biological needs of species, a structured and logical approach to problem solving, forward thinking to anticipate future changes, and it must be developed to fit into the larger conservation context occurring around the HCP.

An applicant should consider the amount and degree of uncertainty in the HCP when developing goals, objectives, and conservation measures. For example, a complicated HCP with a high degree of uncertainty should have goals and objectives that account for that uncertainty while still being protective of species and meeting the issuance criteria. On the other hand, a small and simple HCP, such as a low effect HCP, may not need to have in-depth goals and objectives, and may need to account for uncertainty to a much smaller degree (e.g., uncertainty of mitigation in the face of climate change providing conservation value).

Because of the dual nature of HCPs (providing both an avenue for an activity that may impact species and an avenue to implement conservation of species) the applicant must consider how the development affects conservation. Applicants should give first priority to adjusting the development project to avoid as many impacts as possible while those impacts that cannot be avoided should be minimized through best management practices. What cannot be avoided or minimized must be mitigated through the most biologically appropriate means to offset the impacts of the taking and provide long-term conservation for covered species.

The November 6, 2015, Presidential memo regarding mitigation (FR Vol. 80, No. 215) memorializes many long standing practices in HCP and urges federal agencies “to leave America's natural resources in better condition than when we inherited them.” To summarize some of those practices that are addressed in the memo:

“Section 1. Policy. It shall be the policy of the Departments of Defense, the Interior... to avoid and then minimize harmful effects to land, water, wildlife, and other ecological resources (natural resources) caused by land- or water-disturbing activities, and to ensure that any remaining harmful effects are effectively addressed, consistent with existing mission and legal authorities...

Large-scale plans and analysis should inform the identification of areas where development may be most appropriate, where high natural resource values result in the best locations for protection and restoration, or where natural resource values are irreplaceable. Furthermore, because doing so lowers long-term risks to our environment and reduces timelines of development and other projects, agency policies should seek to encourage advance compensation, including mitigation bank-based approaches, in order to provide resource gains before harmful impacts occur.”

Section 2. Definitions. For the purposes of this memorandum:

(f) "Mitigation" means avoiding, minimizing, rectifying, reducing over time, and compensating for impacts on natural resources... These three actions are generally applied sequentially, and therefore compensatory measures should normally not be considered until after all appropriate and practicable avoidance and minimization measures have been considered.

Section 3. Establishing Federal Principles for Mitigation.

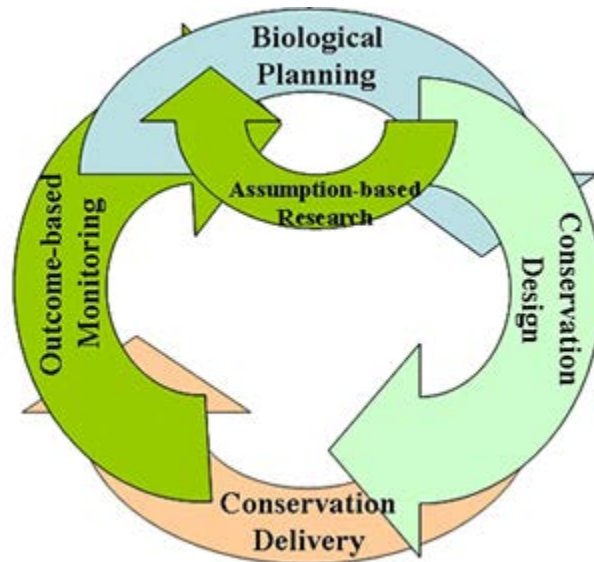
(b) Agencies' mitigation policies should establish a net benefit goal or, at a minimum, a no net loss goal for natural resources the agency manages that are important, scarce, or sensitive, or wherever doing so is consistent with agency mission and established natural resource objectives. When a resource's value is determined to be irreplaceable, the preferred means of achieving either of these goals is through avoidance, consistent with applicable legal authorities...”

As considered in this handbook and consistent with the Presidential memo on mitigation, HCPs should at a minimum fully offset their impacts which results in a ‘no net loss’ of resources or individual animals or plants. Further, large scale plans provide a landscape scale conservation vision and programmatic approach, which should confer a net benefit to conservation by virtue of their scale and strategic approach to wildlife conservation.

This discussion on developing the conservation strategy of HCPs will be framed around the tenets of Strategic Habitat Conservation (SHC): a general approach to thoughtful conservation. Key in developing a successful conservation strategy:

1. having an integrated framework to develop biological goals and objectives,
2. developing a monitoring framework to measure results,
3. developing an evaluation process to assess results, and
4. outlining a systematic learning process to use what will be learned to improve future decisions.

Figure 9.0a: Strategic Habitat Conservation



In light of the ongoing and projected impacts of climate change, it is important to interpret and apply the SHC approach within the context of the Climate-Smart Conservation framework, which the FWS and NMFS helped develop. The Climate-Smart Conservation approach builds climate change considerations into an adaptive management framework. Using the Climate-Smart Conservation approach helps ensure the HCP and our issuance of a permit is consistent with Executive Orders and related agency policies for including climate change considerations and climate change adaptation in our planning and management.

9.0.1 Considering Climate Change

The HCP conservation strategy, as well as our section 7 and NEPA work related HCP permit issuance, must consider climate change and its effects. The Department of the Interior issued its' Climate Change Adaptation policy in 2012 to "integrate climate change adaptation strategies into its policies, planning, programs, and operations"

(<http://elips.doi.gov/ELIPS/0/doc/3741/Electronic.aspx>). Based on the Department's policy, the Fish and Wildlife issued policy on climate change adaptation in 2013

(<http://www.fws.gov/policy/056fw1.html>). From the FWS policy, section 1.6:

"It is our policy to effectively and efficiently incorporate and implement climate change adaptation measures into the Service's mission, programs, and operations. ...from facilities maintenance to public use of lands, and from habitat restoration and refuge management to endangered species recovery plans."

The DOI and USFWS climate change adaptation policies also emphasize the use of the best scientific information available. More than just to meet agency policy; integrating climate change considerations into planning and implementation of HCPs makes sense to maximize their efficiency and effectiveness in contributing to the conservation of species.

The types and magnitude of ongoing and projected climate changes vary in different geographic areas and they vary over time. Climate-related effects on species and habitat also vary, and may include interactions with non-climate conditions, e.g., habitat fragmentation, invasive species. Consequently the work involved in integrating climate change considerations in an HCP conservation strategy will depend on many factors. Although there is no “one-size-fits-all” approach, there are some best practices that can guide this work. We should encourage applicants to develop an HCP conservation strategy that integrates climate change considerations throughout the process, and thus is “climate-aligned” by design; this approach is likely to be more efficient and effective than developing a conservation strategy and then trying to retrofit it to include these considerations.

Climate change, its effects, and climate adaptation approaches are the subject of continuously evolving scientific work and management experience. Familiarity with the key concepts and approaches described in documents such as *Climate Smart Conservation*, will be extremely helpful in designing the HCP conservation strategy, as well as in the section 7 and NEPA processes related to an HCP. In addition, assistance from Service or other climate change specialists may be helpful. Throughout this chapter and elsewhere in the handbook, information is included to facilitate the integration of climate change considerations. Details are provided in the HCP Handbook Toolbox [*Link will be added in final version*], and are based on a set of best practices applicable to other analyses and planning under the ESA. The best practices material will be updated as appropriate when substantial new information emerges.

9.1 Mitigation and the Maximum Extent Practicable

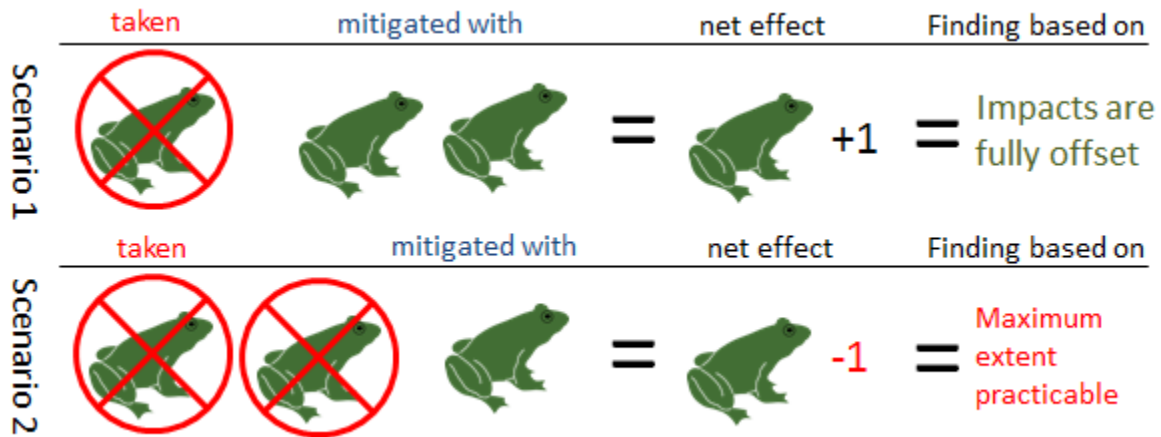
A major point of concern for applicants is knowing how much conservation they will be responsible for achieving. They should develop HCPs to provide conservation that is commensurate with the amount and significance (i.e. impacts) of the taking and we should help applicants understand and navigate how to develop a plan that does this. One HCP permit issuance criterion provides particularly helpful guidance: “the applicant will, to the maximum extent practicable, minimize and mitigate the impact of the taking.” To meet this issuance criterion and receive a permit, the applicant must:

1. define the amount of take expected from covered activities and the impacts of the taking in the HCP
2. determine from a biological perspective how far the minimization and mitigation measures in the HCP will go in offsetting the impacts of the taking, and
3. determine the net effects of the impacts vs. the minimization and mitigation.

Based on steps 1-3 above, the HCP will either:

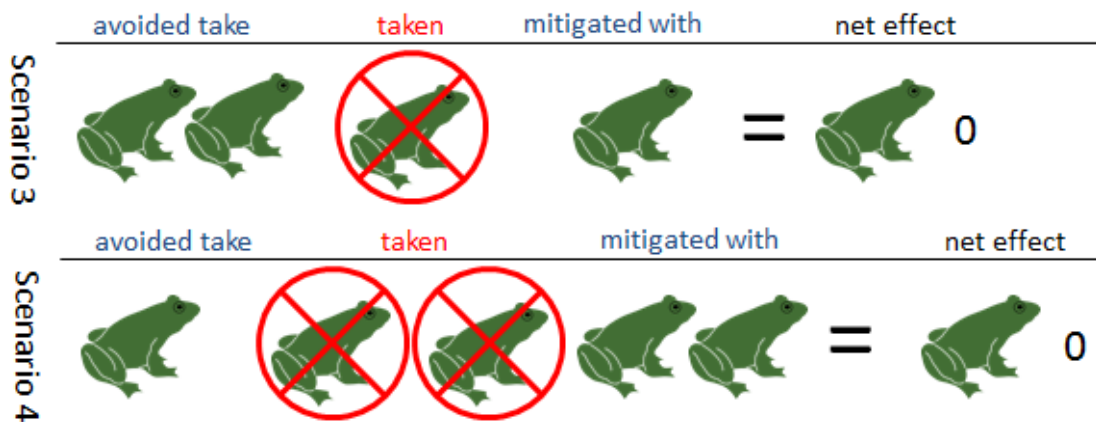
- fully offset the impacts of the taking (based on biological criteria), or
- if the impacts of the taking cannot be *fully* offset, the applicant will provide the “maximum extent practicable” (e.g. the most they can practicably do) to minimize and mitigate the impacts of the taking.

Figure 9.1a simplified illustration of the two different paths to meet this issuance criterion



The applicant should strive to fully offset their impacts through implementation of the conservation strategy. The greater the impacts of take, the more mitigation the applicant will be responsible for implementing (see figure 9.1b). This is a key point to emphasize when discussing avoidance and minimization with applicants because the amount of mitigation is directly related to the amount of and significance of the impacts of the taking that remain after minimization.

Figure 9.1b simplified illustration to show more take will require more mitigation



Ultimately, the Service must provide a clear rationale (supported in the record) for concluding that the minimization and mitigation activities are adequate, and if take is not fully offset for determining whether additional minimization and mitigation is practicable (how to determine this is explained more below).

9.1.1 How to Demonstrate “Fully Offset”

The words used in this criterion are really important to understand; it isn’t just the quantity of take impacts that needs to be minimized and mitigated for, rather it is the ‘impacts of the taking’ that must be minimized and mitigated for. Biologically, these are not necessarily the same. Impacts of the taking depend on the specific situation and could include more than just the loss

of individuals or loss of habitat. This standard requires us to think more deeply about how those impacts will affect the species. What are all the purposes the habitat that will be lost serves for the species? Foraging? Connecting habitat? Breeding grounds? Similarly, for the loss of individuals, what are all the ways losing these individuals is going to affect the species or local population? Is a source population going to be lost? Is there important genetic diversity that could be lost? Is there a particular life stage that will be lost? What value is this life stage to the population (e.g., in long-lived species, the loss of adults can have a disproportionately high effect on the entire population)? As early as possible during the development of the HCP, we should determine what is needed to fully offset the impacts of the proposed taking.

For us to determine that minimization and mitigation fully offsets the impacts of the taking, we must be able to define “fully offset” for the particular situation we’re analyzing. Fully offset should be biologically sound and based on the best available science. Fully offset means the biological value that has been lost (from covered activities) will be at least replaced (through implementation of conservation measures) with equivalent biological value. Some examples include:

Habitat example:

- Loss: 100 acres of habitat type x is lost in perpetuity.
- Replacement: restore and protect in perpetuity (at least) 100 acres of the same habitat type and of at least equal value to the covered species before impacts occur.
- Key questions: what value did the habitat lost have to the covered species? What value does the replacement habitat have to covered species (e.g., did the replacement habitat provide for the same life stage of the covered species as that lost)? Does the replacement ratio need to be greater than 1:1 to compensate for the lag time between impacts and full eco-function of the replacement habitat, to allow for restoration uncertainties, or to conform to previously-defined recovery objectives? Is the identified habitat likely to remain suitable in future climate scenarios?

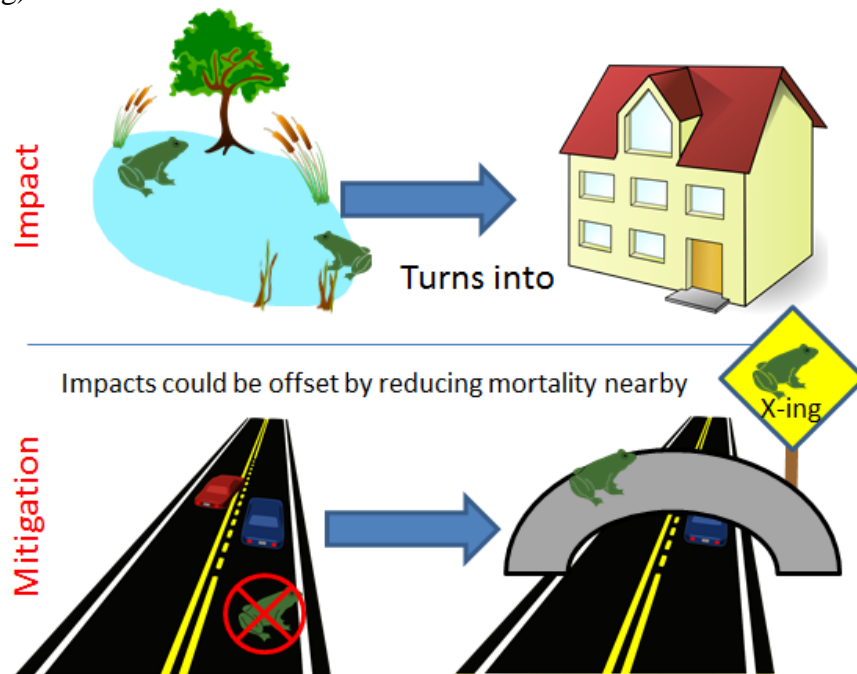
Loss of individuals example:

- Loss: 100 individuals were taken.
- Replacement: measures should be implemented to at least offset the loss of those 100 individuals (e.g., removal of non-native species, restoration, etc.). Conservation measures could affect the population by increasing carrying capacity (through improving habitat), or increasing population growth rate (by reducing threats) for instance.
- Key questions: what life stage of individuals were lost? In a long-lived species, loss of adults may have a much higher effect on the species or population than loss of juveniles, which may require actions to replace the loss of 100 adults with 400 juveniles, since many juveniles will die before reaching the adult (reproductive) stage. What is the value to the population of the life stages that were lost? What is the significance to the population or species to lose 100 individuals? Was an important population lost? What is the expected reproductive value lost before being replaced? Is the lost reproductive value factored into the mitigation requirements?

HELPFUL HINT: the Resource Equivalency Analysis (REA) process may be useful for HCPs in helping to determine impacts of the taking and how to appropriately compensate for it. REA involves determining the amount of “natural resource services” that the affected resources would have provided had it not been lost, and it equates the quantity of lost services with those created by the proposed compensatory mitigation projects that would provide similar services.

Applicants can mix and match loss of individuals and habitat (and vice versa) for the conservation of covered species, but care should be given to demonstrate the value of what is lost and the expected value of measures to replace what would be lost. Doing the math to show the net effect of the impacts and the conservation can be complicated, but is necessary to make the case for demonstrating the effects of the taking are fully offset. Conceptual models, quantitative models, and published research are all useful tools to help understand the net effects.

Figure 9.1c: mixing and matching forms of take and mitigation (to offset the impacts of the taking)



Golden-cheeked warbler

FWS estimates a total loss of approximately 55 territories of 110 Golden-cheeked warblers (55 pairs) as a result of the proposed project. However, because of uncertainty in occupancy estimates, it may be more appropriate to state that the losses in terms of habitat lost. 400 acres of high quality occupied habitat and 400 acres of low quality occupied habitat will be lost to the species.

To fully offset the impacts of the taking in this case, the project proponent could purchase credits from a conservation bank at a mitigation ratio (based on research) of 3:1 for high quality habitat, 2:1 for medium quality habitat, and 1:1 for marginal habitat.

3 credits for each 1 acre of <i>high</i> quality habitat: 400 acres (lost) x 3 = 1,200 credits	
+	
1 credit for each 1 acre of <i>low</i> quality habitat: 400 acres (lost) x 1 = 400 credits	
total credits needed to offset impacts	1,600 credits

The purchase of 1,600 credits from a mitigation bank is needed to fully offset the loss of habitat for 55 pairs of Golden-cheeked warblers. Using the framework above was found to offset the impacts of the taking by protecting more habitat (of equal or greater quality) than was impacted, to be maintained for conservation purposes in perpetuity.

Southwestern willow flycatcher

Covered activities for an agricultural focused HCP that covers Southwestern willow flycatcher include: routine agriculture, small community infrastructure construction and operation, and riparian habitat conservation and restoration activities within the plan area. Implementation of the covered activities over the permit term is expected to result in temporary and permanent impacts to habitat.

Mitigation actions include: establishment of conservation easements, habitat restoration or enhancement, and development and implementation of management agreements. Habitat permanently lost (expected to be primarily marginal habitat for the covered species) will be mitigated at a 1.25:1 ratio. Habitat temporarily altered (also expected to be primarily marginal habitat) will be mitigated at a 0.75:1 ratio.

Over the permit term, the status of the flycatcher is expected to benefit from implementation of the HCP through protection and management actions in riparian habitats. Furthermore, the habitat that is expected to be lost or degraded is primarily marginal for the flycatcher, while the amount of habitat to be conserved as mitigation will be of good quality for the species. Therefore, the mitigation and minimization measures would more than fully offset the habitat expected to be unavailable, modified, or lost due to the covered activities in the HCP area over the permit term. If we have underestimated the extent of habitat that may be unavailable, modified or lost, the HCP includes an adaptive management mechanism for additional mitigation. Thus, the HCP will provide a benefit to the status of the flycatcher over the long term.

Alabama beach mouse

Because compensating for incidental take in coastal habitats is limited, mitigation measures emphasize minimization and avoidance measures implemented throughout the life of the proposed project or activity. For beach mouse habitats, the permittee minimized construction so that as much native vegetation as possible is retained, and some habitat remains contiguous with adjacent properties. The permittee implemented permanent management prescriptions for landscaping, trash collection, feral animal control, and keeping pets to minimize adverse effects of human habitation. They also

supplemented the minimization measures with an in-lieu fee arrangement that accumulates funds and targets habitat acquisition.

Sea turtles

In Volusia and St Johns Counties, Florida, the permittees implemented HCPs to mitigate the effects of vehicular beach access and parking by the public on nesting and hatchling sea turtles. Direct harm of nesting females and emerging hatchlings is minimized by the delineation of “no-drive” zones, marking of nests, moving nests from high traffic areas, smoothing tire ruts, and keeping beaches clear of recreational gear overnight. The opportunities to compensate sea turtle habitat impacts off-site are limited, so Volusia County enhances the population (and mitigates for effects) by constructing and operating an aquarium with a sea turtle hospital. The Services accepted this as a form of compensatory mitigation because the new facility improved capacity for treating stranded adult sea turtles and significantly reduced the travel time from rescue to veterinary care. Adult sea turtles are not subject to injury by vehicles, and very few sea turtle nests are lost due to vehicular operation (none known for over 10 years). Still, the numbers of eggs and hatchlings potentially injured or killed can exceed 100 per nest. Conserving the number of breeding age adults is expected to contribute to sea turtle recovery because the future breeding potential of a rehabilitated adult sea turtle exceeds that of any given hatchling.

The applicant must include and document the analysis of the impacts of the taking being fully offset by mitigation as part of the HCP findings.

If it is infeasible for the applicant to fully mitigate the impacts of the taking, the applicant must minimize and mitigate to the maximum extent practicable. The inability to fully offset the impacts of take under the “maximum extent practicable” criterion does not change the applicant’s obligation to meet the other issuance criteria in section 10(a)(2)(B), including, but not limited to, the requirements to assure funding and avoid jeopardy to listed species.

9.1.2 Maximum Extent Practicable Defined

Maximum extent practicable means: within the available means, the applicant can feasibly do no more to minimize or mitigate the impacts of their take (see *National Wildlife Federation v Babbitt*, 2005). For example, we can determine the applicant’s available means by:

- **Insufficient implementation options:** If there are rigid restrictions on how a project can be developed and there are insufficient options for implementing mitigation, then this path to demonstrating maximum extent practicable may be appropriate. Specifically, if there is insufficient habitat to fully offset the impacts of take (in particular where geopolitical boundaries constrain where conservation/mitigation can occur), or if the measures necessary to fully offset the impacts of take that cannot be implemented due to physical constraints, then the applicant must demonstrate with supporting documentation that the level of mitigation proposed is the most that can practicably be accomplished. For example: if a city’s proposed covered activities would result in take of species X through habitat loss but there is no more habitat for species X within its jurisdictional

boundary to offset the loss of habitat, the city should attempt to acquire mitigation habitat within surrounding jurisdictions. If the other jurisdictions are unwilling/unable to allow that option, then the City should document the impracticability of providing habitat for species X as a means of offsetting the impact of take. The City should then propose an alternative form of mitigation to offset the impacts of take to the maximum extent practicable.

Demonstrating the conditions for which the maximum extent practicable has been reached can be complicated and controversial, so the applicant must have sound justification for the Service to even consider invoking this approach. The Service must conduct an independent analysis of the practicability of additional mitigation. This analysis serves as the foundation for the Service's maximum extent practicable finding.

9.1.3 The Burden of Proving Maximum Extent Practicable

Where the Service concludes that the proposed HCP's operating conservation program would not fully offset the impacts of take resulting from the covered activities, the applicant must provide written justification, with supporting documentation, to the Service that it cannot practicably do any more to offset the impacts of take. We must then independently assess the applicant's justification. If we determine that the mitigation will not fully offset the impacts of take but is the most that the applicant can practicably provide, we must explain its conclusion in the HCP Findings. Reminder: a maximum extent practicable approach must still meet the other incidental take permit issuance criteria. See case law for more information on proving maximum extent practicable: National Wildlife Federation v. Babbitt, 128 F.Supp.2d 1274 and National Wildlife Federation v. Norton, 2005 WL2175874 (E.D. Cal., 2005); National Wildlife Federation v. Norton, 306 F.Supp.2d 920 (E.D. Cal. 2004); SWCBD v. Bartel, 470 F. Supp. 2d 1118 (S.D. Cal. 2006); Sierra Club v. Babbitt, 15 F.Supp.2d 1274 (S.D. Ala. 1998); **Sierra Club v. Norton, 207 F.Supp.2d 1310 (S.D. Ala. 2002)**; Union Neighbors United, Inc. v. Jewell, 2015 U.S. Dist. LEXIS 33664 (D. D.C., March 18, 2015)

9.1.4 Demonstrating Maximum Extent Practicable

It is incumbent on the applicant to provide a strong justification that there is no more it can practicably do to reduce the impacts of take or increase their minimization and mitigation. The applicant must logically lay out its case (with documentation) that additional mitigation is not practicable.

Insufficient implementation options: If the applicant is making a case for insufficient implementation options, they need to demonstrate there are no more practicable options by taking the following steps:

1. demonstrating that they cannot adjust their project to reduce impacts and still maintain project purposes
2. documenting all the mitigation options currently proposed in the HCP
3. documenting their effort and process to secure other mitigation options
4. documenting that there are no more reasonably available minimization and mitigation options that would benefit the species

5. explaining their conclusion, with supporting documentation that additional mitigation is impracticable because of the unavailability of minimization and mitigation options

9.1.5 Services Conduct an Independent Analysis of Practicability

When evaluating an applicant's maximum extent practicable case, we should ask for the assistance of their regional HCP coordinator, solicitor, and if the applicant is making a case for financial constraints, the assistance of an economist could be extremely helpful. There are a number of questions that could be useful when assessing the applicant's practicability case:

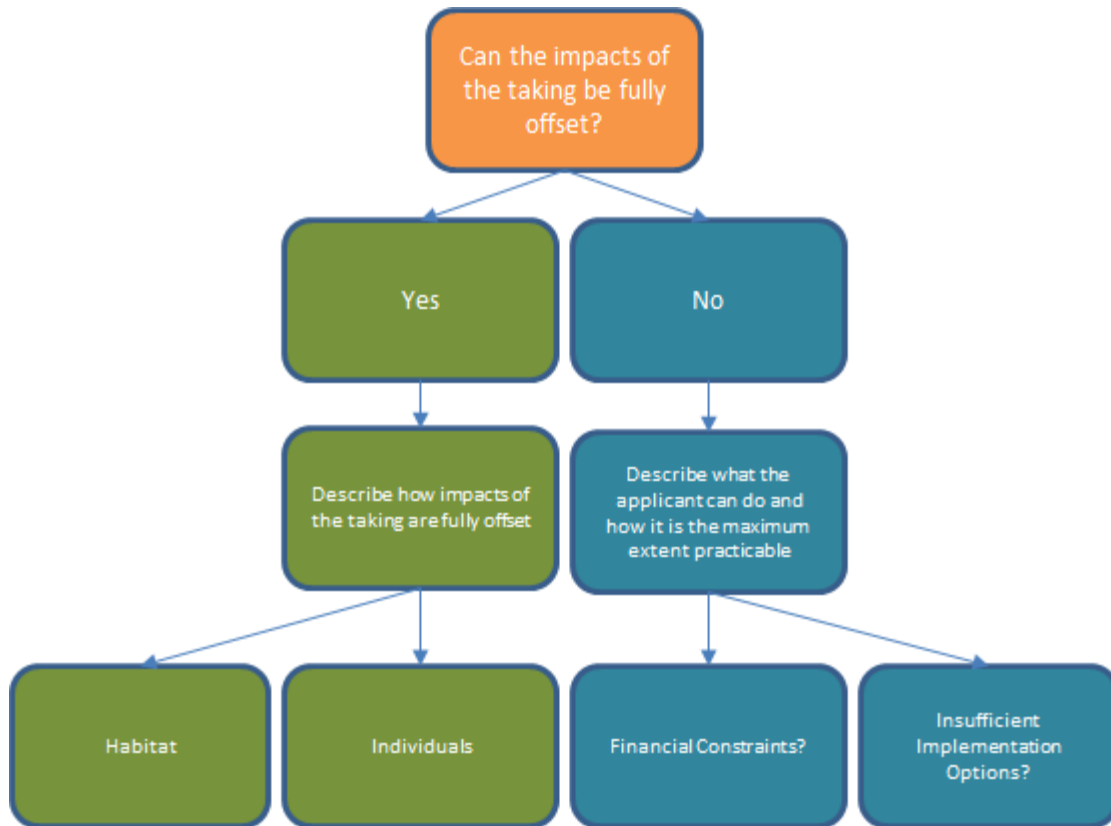
- Does it make sense?
- How does it compare to similar HCPs?
- For a financial case:
 - Did they provide adequate documentation?
 - Do the numbers seem reasonable?
- For an insufficient implementation options case:
 - Did the applicant look at all the options?
 - Did they put appropriate effort into asking for assistance?
- Does the Service agree with the conclusion?

The Services should document the answers to these kinds of questions and the entire independent analysis in the record and use it as the foundation for the HCP findings.

9.1.6 Service Demonstration of Maximum Extent Practicable

Using the results of the independent analysis (above), the Service needs to explain and document clearly and logically in the HCP Findings our conclusions that what the applicant is offering for minimization and mitigation is the maximum practicable and that additional mitigation would not be feasible. If we choose to issue the ITP, the Service should also make clear that the other issuance criteria can still be met, despite the applicant's inability to fully offset their impacts.

Figure 9.1d Decision Tree to Evaluate Maximum Extent Practicable Options



Recommendations:

- The goal for every HCP, should be, at a minimum, to fully offset the impacts of covered activities and ideally to contribute to the recovery of the species.
- The applicant should show in the HCP that it considered at least one alternative that is more protective of the species than the one it chose (e.g., no action/abandon the project, low mitigation alternative, one that fully offsets impacts, one that more than fully offsets impacts).
- If there are other HCPs that cover the same species, explain any substantial differences in required mitigation or minimization measures between this HCP and those in the findings document.
- If impacts won't be fully offset by the HCP, require the applicant to provide documentation to support a conclusion that additional mitigation would not be practicable (preferably evaluated by an independent, third party and in a clear, objective, documented format, which the Services will evaluate).
- Make sure the finding and record reflects the our independent evaluation of the impacts of the taking, the adequacy of the mitigation provided under the plan, and the impracticability of providing additional mitigation.
- If the biological impact from covered activities cannot be offset, then the field lead should contact the regional HCP coordinator and regional solicitor (for FWS) or regional lead and general counsel (for NMFS), and an economist (if making the financial case) for assistance in making a "maximum extent practicable" finding.

- It may be necessary to make a fully offset finding for some covered species while making a maximum extent practicable finding for others.
- To be a covered species, we must understand it enough to sufficiently assess the effects of impacts and conservation.
- At the conclusion of "conservation planning" process, a blueprint of the HCP should be agreed to. Further work on the HCP will flesh out the details.

9.1.7 Timing of Mitigation

The permittee should implement on-the-ground and functional mitigation in advance of the taking. If this is not possible, then the mitigation activities should be concurrent with the taking. A time lag between the taking and the occurrence of the mitigation often results in additional temporal effects, which may increase the impact of the taking and may warrant additional mitigation. We must analyze the temporal impacts in the biological opinion, and the applicant must minimize and mitigate them in the HCP. Additionally, there is increased risk of mitigation not occurring if it isn't in place before impacts occur.

In limited circumstances, we may allow impacts to occur before mitigation occurs or is fully in place. In these instances, applicants can provide bonds, letters of credit, or similar funding assurances to ensure that mitigation will occur. There should also be a clear timeline provided in the HCP for implementing the mitigation obligation. An example of one such situation is where the impacts and the mitigation occur in the same place. In this situation, it doesn't make sense to do restoration before the impacts occur. Another example is related to timber plans, where trees are harvested but other trees are left standing to grow into habitat for wildlife.

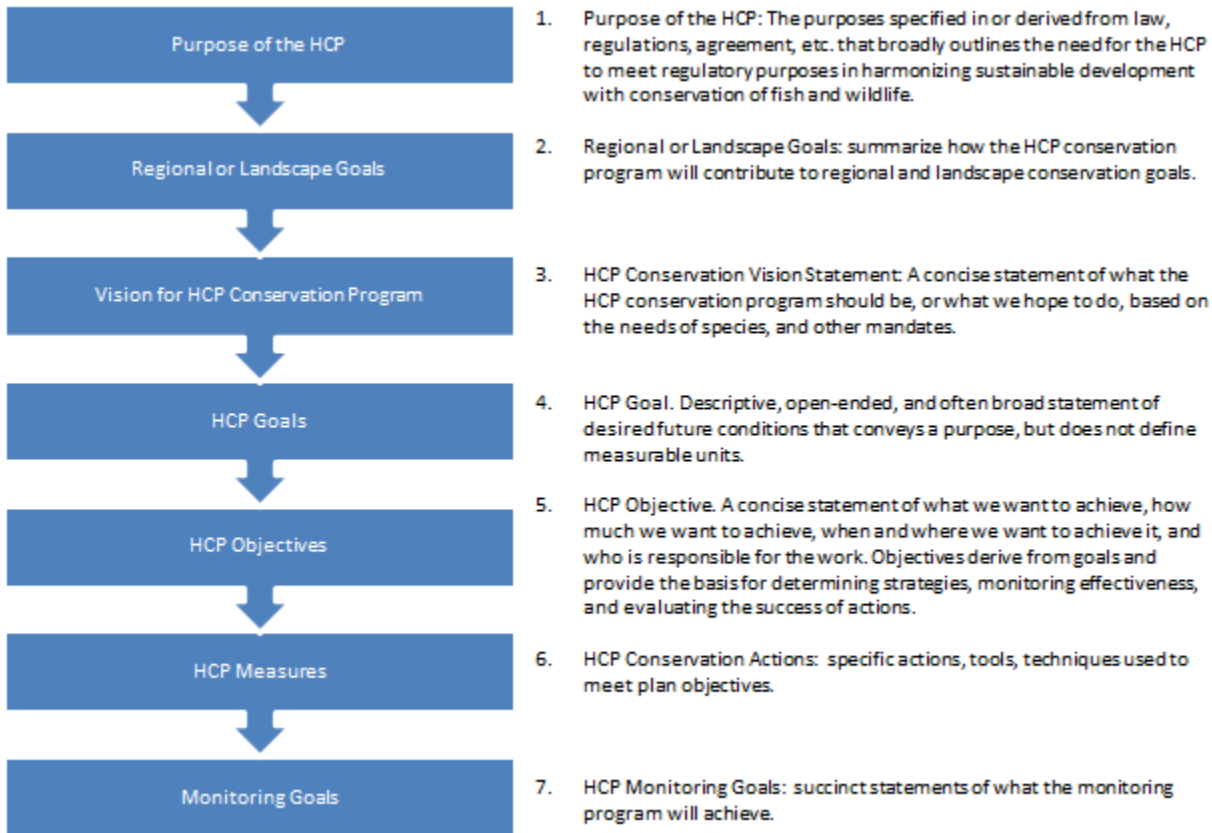
9.1.8 Mitigation and "Stay Ahead" Provisions

To ensure that timing of mitigation actions occurs before (or at least concurrent with) the taking, some HCPs incorporate a "stay ahead" provision or phasing of conservation and impacts. In these instances specific components of the overall conservation strategy are implemented in stages, and each stage has a milestone. For example, a plan may require that all restoration actions be completed by year 30 of a 50-year permit term to allow enough time to monitor the restored areas to ensure they are functioning as expected. If they are not functioning correctly, there is still time to take corrective measures before completing all covered activities. Another example is where an applicant acquires X number of acres of habitat for conservation before Y number of acres can be impacted by covered activities. There is often a 'cushion' of conserved lands or conservation actions to ensure conservation stays ahead of impacts.

9.1.9 Developing the Conservation Strategy

HCPs are but one conservation tool implementing conservation across different geographies at different sizes and scales. Development of the conservation strategy, including its goals, should be framed within this broader wildlife conservation context. HCP goals are built on the foundation of broader purposes and goals occurring for wildlife conservation at larger scales. Building upon the existing hierarchy of goals and purposes will improve conservation of species by allowing even modest implementation efforts to contribute to something bigger. See figure 9.1e.

Figure 9.1e: Hierarchy of Goals and Purposes



By framing HCP goals within the context of larger conservation efforts it should become clear how the HCP will:

- affect recovery of species,
- further progress on large scale planning efforts like Landscape Conservation Cooperatives (LCCs) and State Wildlife Action Plans,
- help build more resilience and adaptive capacity for species to withstand future climatic change,
- help protect large scale migration or movement corridors.

Climate Smart Tip: Consistent with agency policies and the use of the best available science, we integrate climate change adaptation strategies into our planning, programs, and operations. As goals and objectives are developed we must ask if they are still attainable given the effects of exposures to climate change. For example, the *Climate-Smart Conservation* guide calls for and describes how to use this type of approach, which includes looking at an initial set of goals through the lens of assessing climate impacts and vulnerability, and reviewing/revising conservation goals as needed. (See also section 9.3.2, below.)

9.2 HCP Biological Goals

This discussion of goals and objectives relies heavily on the FWS's document: "Writing Refuge Management Goals and Objectives: A Handbook." The handbook is an excellent resource to assist in development of goals and objectives for an HCP. It is important to couple climate change considerations with biological goal development; two excellent resources are *Climate-Smart Conservation: Putting Adaptation Principles into Practice*, (a guide co-sponsored by the FWS and NOAA; http://www.nwf.org/pdf/Climate-Smart-Conservation/NWF-Climate-Smart-Conservation_5-08-14.pdf).

Ideally, the applicant should develop HCP goals and objectives in close coordination with the Services as they are the foundation upon which the HCP is built.

Goals and objectives guide management actions taken to bring an HCP closer to its conservation vision. Well-developed goals and objectives are key in focusing actions to efficiently and effectively manage the landscape to achieve the desired condition and to ultimately conserve species.

The first consideration when developing biological goals and objectives for an HCP is the scale of the plan. A biological goal for a small HCP (e.g., a single family residence) may be obvious (a well-known recovery plan objective) and simple – contributing to conservation. For example, a goal may be to contribute to the conservation of the covered species by either leaving and protecting (with a conservation easement in perpetuity) 8 of a 10-acre property in its natural state for the species or by purchasing the appropriate number of credits from a conservation bank before clearing and construction begins (objectives). Goals and objectives for an HCP of a different spatial scale would likely require more consideration.

In developing goals and objectives with the applicant, there is a progression from general (purpose/vision) to specific (objectives/measures):

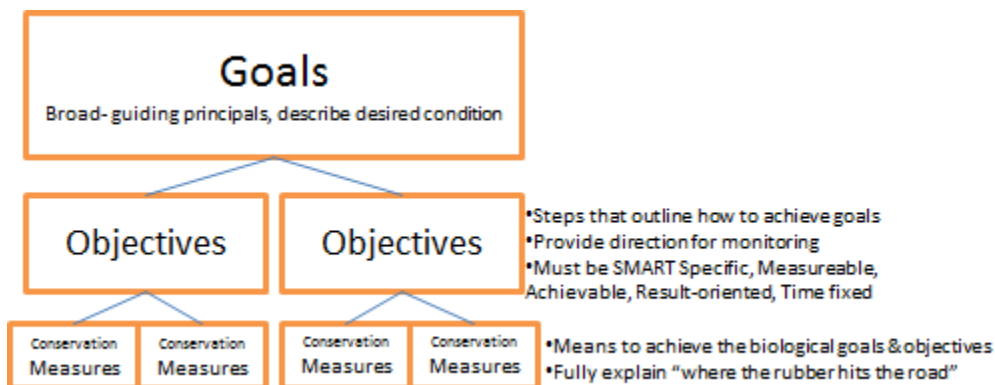
- First, we must consider the purpose of the HCP—what got us here?
- Next, we must think about how this particular HCP's conservation program fits into broader ongoing conservation efforts.
- We then develop a vision for the HCP that broadly reflects the overall intent of this HCP's conservation program.
- Our goals define general targets in support of the broad HCP vision, followed by objectives that direct effort into incremental and measurable steps toward achieving those goals.
- Next, we develop conservation measures to identify specific tools or actions to accomplish our objectives.
- Finally, we develop monitoring goals that explicitly tie the monitoring to improving efficacy of conservation measures in meeting the HCP's goals and objectives.

We will work with applicants to develop biological goals and objectives that are guided by and consistent with covered species recovery plans or outlines, 5 year status reviews, spotlight species actions plans, State Wildlife Action Plans, species status assessments, candidate conservation plans, and any other existing documents with conservation strategies for the covered species, plus any additional information needed to ensure the goals and objectives are informed by the best scientific information available. These plans often evaluate species status of

and make recommendations about what it will take to get the population to a desired condition. To develop the most effective goals and objectives, relevant expertise (e.g., species experts, listing/recovery team members, climate change specialists, and State wildlife agencies) should be sought and included in their development.

The development of vision statements, goals, and objectives is iterative, and they may need to change during the HCP development process as the plan changes or as new information becomes available. However, it is critical that you initiate the process at the beginning and preserve the hierarchical nature of the relationship. It is important not to choose measures without objectives, develop objectives without goals, or establish goals without first articulating a vision for the HCP’s conservation program. Building from the hierarchy of purpose and goals will allow you to identify existing and future efforts that may need to be refocused or eliminated.

Figure: 9.2a Biological Goals and Objectives



9.2.1 Biological Goals Defined

Biological goals describe the desired future conditions of an HCP in succinct statements. Each one translates to one or more objectives that define these conditions in measurable terms. A well-written goal directs work toward achieving the vision and purpose of an HCP.

It takes careful thought to develop productive and meaningful goals, and it is a critical step. In a few concise statements, goals comprise the HCP’s effort in pursuit of its vision and lay the foundation from which all conservation activities arise. Management activities result from goals, and not the other way around. Goals must be developed *before* developing objectives and conservation measures to orient management direction, both during plan development and throughout implementation.

Purpose of Goals: to establish a framework upon which management decisions are made.

9.2.2 Developing Useful Goals and Objectives

The applicant and the Service should collaborate to develop goals. These goals serve as the foundation of the conservation strategy and should be used to guide how the rest of the plan is developed and implemented.

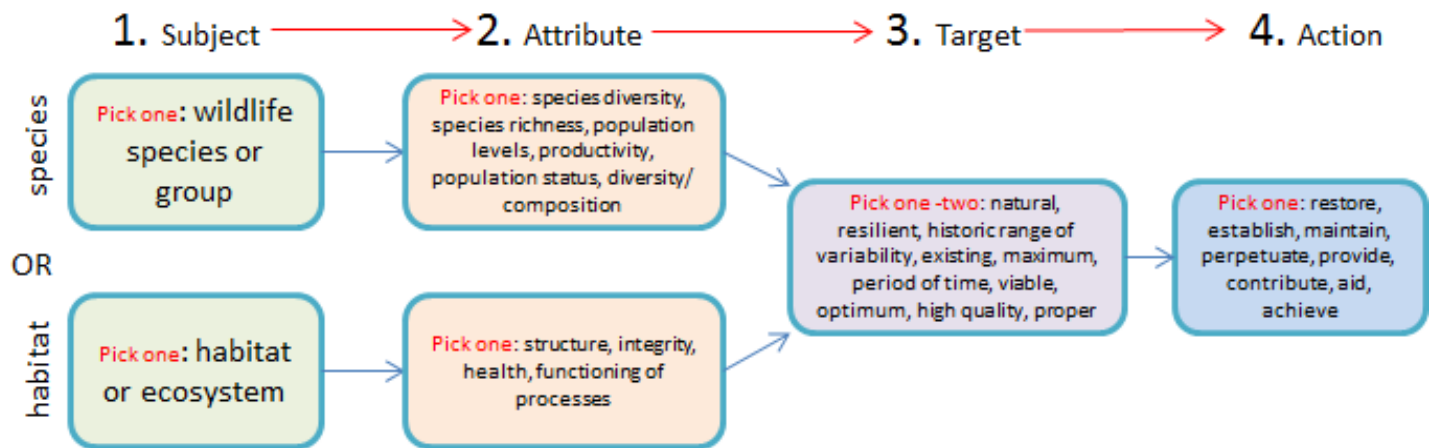
Goals must:

- direct work to meet the hierarchy of goals and purposes,
- state desired condition,
- be descriptive, and
- be clear and understandable to all, not just to those at the table developing them.

Figure 9.2b serves as a guide for developing and assessing biological goals. Each biological goal should contain these four elements:

1. the key **subject** of concern (e.g., a particular species or guild, a biotic community, or a habitat type);
2. the **attribute** of interest for that subject (e.g., population size, physical area covered, species composition);
3. the **target** or condition for the attribute (e.g., a number, period of time, historic condition). In selecting this, keep climate change considerations in mind, since depending on the situation and timeframe for the HCP, it may or may not make sense to for the target to involve the historic range of variability or existing conditions; and
4. the **action** or effort (e.g., restore, provide) that will be made to achieve the target.

Figure 9.2b Four Elements of a Biological Goal



HCP goals should address the broad biological need of the species. They can be focused on a number of species needs or reducing threats, such as:

- maintaining a specific species life history characteristic,
- providing conditions necessary for an important life history characteristic, or
- restoring something to historic or more desirable conditions, or establishing desirable conditions that facilitate transformation in response to climate change impacts or other stressors that cannot be addressed using traditional restoration approaches

All of these examples should be based on the specific needs of species in the plan area, but contribute to broader species needs.

These goals need to be forward thinking and “truthed” with a reasonableness of likely future climatic conditions. Depending on the local situation and time period covered, future-oriented goals can vary along a continuum from managing for persistence to managing for transformation, and shift over time from persistence to transformation. With climate change in mind, are the goals still achievable? If not, consider adjusting them to make them achievable with future climatic conditions in mind.

Example Goals:

Example goal 1: Bogus Bat: self-sustaining population of bogus bats in the preserve system that can withstand threats, is genetically representative of neighboring populations, and contributes to the overall recovery of the species.

Example goal 2: Swamp habitat: hydrologic integrity of the Mucky Swamp within the natural state of variability and function maintained within future climatic constraints.

9.2.2.1 Habitat-Based Goals vs. Species-Based Goals

HCPs that use habitat as a surrogate for species impacts can express conservation goals in terms of habitat area trends (objectives), but there must be an established correlation between species numbers, reproduction, and/or distribution and its habitat. In addition, there must be some way to reliably determine how effective the mitigation is for covered species.

For example: a species based goal might set specific population or life history targets for a covered species, such as percent of nestlings fledged or over-winter survival. In a habitat-based approach, the goal would be based on protecting, restoring, and establishing a specific type or amount of habitat for a covered species. In the case of the habitat based goal, the connection between habitat and covered species is really important to understand. As a rule, protecting unoccupied habitat for a covered species does little for the species.

Habitat-based:

Example habitat based goal: Maintain and enhance functional grassland communities that benefit covered species and promote native biodiversity.

Example habitat based goal: Improve the quality of streams and the hydrologic and geomorphic processes that support them to maintain a functional aquatic and riparian community to benefit covered species and promote native biodiversity.

Example habitat based goal: Maintain a functional riparian forest and scrub community at a variety of successional stages and improve these communities to benefit covered species and promote native biodiversity.

Considerations for inclusion with or as goals:

- building in fire resiliency for an area and covered species affected by increased fire
- connectivity to important habitat or populations
- climatic refugia for climate sensitive species/habitats
- building in resilience to extreme changing conditions (e.g. vegetative buffers against storm surge, restoration to stabilize habitat prone to flooding, etc.)

Species based:

Goal: Swainson’s hawk: maintain or increase population size and distribution of Swainson’s hawk in the inventory area

Goal: foothill yellow-legged frog: protect, maintain, or increase populations of foothill yellow-legged frog

9.2.3 Responsibility for Developing Biological Goals and Objectives

Development of goals and objectives should be done jointly with the Service and the applicant. Field Office staff should be involved and engaged in the process to develop goals and objectives as the goals and objectives will be used to guide development of the entire plan.

9.2.4 When to Develop Goals and Objectives

Once the applicant and the Service have completed the ‘Getting Started Questionnaire’ or similar guiding document, they should start developing the hierarchy of goals and purposes. Maintaining the order of the hierarchy is important in building a strong foundation for the HCP.

9.2.5 Number of Biological Goals

There must be sufficient specificity in the articulated goals to guide the conservation strategy development and implementation. In some cases, goals will be needed for each covered species. In other cases, groups of covered species can fall under the umbrella of a single goal. Each plan will be different.

9.3 Biological Objectives

Objectives are the incremental steps taken to achieve a goal. Objectives are derived from goals, and they provide a foundation for determining conservation measures, monitoring direction, and evaluating effectiveness of the conservation strategy. The number of objectives per goal will vary, but there should be enough to adequately describe how to achieve the goal. Where there are many objectives, it may be good practice to develop an implementation schedule.

Objectives potentially have many applications, and they must be accomplished during the life of the HCP.

9.3.1 SMART

All objectives must be SMART:

- Specific
- Measurable
- Achievable
- Result-oriented
- Time-fixed

Specific: Avoid ambiguity by phrasing objectives clearly. A clearly phrased objective is easy to understand and the meaning is difficult to misinterpret. Be as specific as possible. Who will do the action? WHAT will they do? WHEN and WHERE will they do it? WHY will they do it? Avoid phrases that are subject to interpretation, like “maintain high-quality habitat.” “High-quality habitat” can be interpreted in many ways.

Measurable: Objectives should contain a measurable element that we can readily monitor to determine success or failure. In evaluating measurability, ask, “What would we monitor to assess progress toward achieving this objective?” For example, you could not determine progress toward “high-quality habitat” unless you have measurable criteria for “high quality.” The nature of the measurable element may vary, as might the difficulty in measuring it. Still, you must have something to indicate progress. While evaluating a water depth objective may only require gauge readings, monitoring a component of vegetative structure may require systematic surveys of vegetation density or composition.

Achievable: Objectives must be achievable. If you cannot determine how to achieve an objective, you must discard or rewrite it. Do not ask more of the land or wildlife than it can deliver, and use sound professional judgment to develop reasonable expectations of time, staff, and funds available to pursue the objective. Goal and objective development should be based on biological need and insulated from other pressures.

Result-oriented: Objectives should specify an end result. For example, a habitat objective that is result-oriented will provide a detailed description of the desired habitat conditions expected. We should be able to envision the result of achieving the objective.

Time-fixed: Objectives should indicate the time period during which they will be achieved, and not to be open-ended. It is acceptable to include a range of completion dates to provide some degree of flexibility. Consider developing an implementation schedule for objectives or strategies, perhaps in 5-year increments.

The development of conceptual models to lay out hypotheses for how the system works and what the relationship is between species and threats can be extremely helpful in linking objectives to species needs. See Table 9.3a below for examples.

Examples of objectives:

Goal: Bogus Bat: self-sustaining population of bogus bats in the preserve system that can withstand threats, is genetically representative of neighboring populations, and contributes to the overall recovery of the species.

Objective 1: Preserve 50% of hibernacula and all maternity roosts of the bogus bat „in the plan area during the permit term

Objective 2: Enhance roosting habitat by protecting any abandoned mine, cave, or building in the Preserve System and, if feasible, creating artificial hibernacula

Goal: Swamp habitat: hydrologic integrity of the Mucky Swamp within the natural state of variability and function maintained within future climatic constraints.

Objective 1: preserve all area within 2500 feet of the 1900 high water line of Mucky swamp within 10 years of permit issuance

Objective 2: restore historic contours and elevations of Mucky swamp to increase retention and infill within 3 years of land preservation

Objective 3: restore vegetation on preserved lands to increase infill into the Mucky Swamp from Stinky Creek and Curvey Creek within 20 years of permit issuance.

9.3.2 Considering Climate Change in the Development of Goals and Objectives

There are different ways climate change may affect the process of developing goals and objectives, but the key is to make sure the goals and objectives are evaluated with future climate in mind. The approach taken will vary depending on local conditions, the geographic scope and time period covered by an HCP, and the nature and extent of projected climate change and related impacts in relation to the climate sensitivity of the species and its habitat. The ways that climate changes and related effects can interact with other stressors (e.g., habitat fragmentation, spread of invasive species, risk of wildfire) also may be important in some situations. Assessments of the likely impacts and responses of species and habitat to climate changes may be available or can be conducted to help make better decisions about selecting goals and objectives.

Consider asking questions like the ones below during the development of goals and objectives:

- How might climate change affect the likelihood of success in achieving goals and objectives? Are they achievable with climate change in mind?
- Are there already assessments of climate change effects, or climate change projections associated with the species, habitats, or communities affected by the HCP?
- What can be done to increase the likelihood of success given the expected effects of climate changes?
- Are they forward thinking in that they anticipate changing conditions?
- Which management tools may be affected by climate change? Are they all still appropriate with the expected effects of climate change?

The absence of detailed, climate change specific information is not a sufficient reason to ignore consideration of climate change. Available information is usually sufficient to at least start evaluating whether or how species and habitat are sensitive to climatic variables. For example, a covered trout species that relies on cold water for many stages of its life cycle may be in an area where unsuitably warmer water temperatures are expected; this could lead to an objective for managing streamside conditions that will help retain suitable water temperatures.

9.4 Conservation Measures

Conservation measures are where conservation is applied. They describe the specific actions that the permittee will implement to achieve the objectives in support of the HCPs goals. There may be multiple conservation measures associated with each objective. Conservation measures can be any of the avoidance, minimization, or mitigation actions taken to meet the goals and objectives of the HCP.

Conservation measures can take many forms, but in all cases must be based on the biological needs of covered species. Conservation measures implemented in HCPs usually take one of the following forms:

- avoiding the impact through project design
- minimizing the impact through best management practices
- minimizing the impacts of the taking by reducing or eliminating other threats
- mitigating impacts through:
 - a. restoration of degraded habitat
 - b. enhancement of functional habitat
 - c. preservation of habitat
 - d. creation of new habitat
 - e. translocating or repatriating species

HCPs often combine these measures to meet the needs of species.

An example of actions the applicant can take: conduct surveys prior to implementation of a covered activity to determine where the species or important habitat elements occur. These surveys provide valuable information so implementation of covered activities can be modified to avoid or minimize effects that could not have been done without the survey information.

9.4.1 Avoidance

Avoidance of take of individuals or habitat is an important component of every HCP. Avoidance generally occurs by siting and designing the project in a way that avoids impacts to covered species. Avoidance should be the first step in minimizing project impacts on covered species. In some instances, it may be possible to avoid all project impacts so there is no need to develop an HCP.

Examples of avoidance measures include:

Seasonal Restrictions: If the species or important habitat elements are present, the applicant restrict covered activities during specific times of year to minimize impacts to individuals or habitat elements. Such seasonal restrictions may occur during courtship, nesting, fledging, dispersal, or migration periods. Restrictions may also minimize impacts to forage resources, such as during the blooming or fruiting period of an important food source.

Reduction of the Extent of the Covered Activity: An applicant may reduce the extent of the covered activity to avoid the effects of the activity. For example, reducing the density of

development, or not developing a portion of the project that contains an important habitat element may avoid the impacts of the taking from that project.

9.4.2 Minimization

Minimization measures are actions that will reduce the impacts of the taking that have been identified during the development of the HCP.

Examples of minimization measures include:

Establishment of Buffer Zones: Applicants may minimize impacts from covered activities by establishing adequate buffers around occupied areas (e.g., nest sites, dens, riparian areas, etc.) or around important habitat elements (e.g., caves, burrows, cavities, limited forage resources, etc).

Maintenance of Habitat Connectivity: If a covered activity is proposed in or adjacent to large areas of important species habitat and the proposed activity would increase fragmentation of that habitat, the maintenance of habitat linkages is important to facilitate the use and movement of individuals moving between populations. Movement of individuals between populations will help preserve genetic diversity. Also, since individuals of many species adjust their geographic ranges to track shifting areas of climatic suitability (culminating in range shifts for the species as a whole), providing habitat connectivity with climate corridors in mind may be an important consideration for some HCPs.

9.4.3 Mitigation

The range of mitigation options is huge, but the mitigation measures in the HCP must be based on the biological needs of covered species. Some of the major categories of measures frequently in HCPs are:

- restoration of degraded habitat to natural condition/function, or to a condition likely to be resilient to projected changes (e.g., in response to ongoing and projected climate change impacts)
- land preservation (e.g., buy and protect, place conservation easements on land) of areas threatened by development
- enhancement of habitat (e.g., increase specific function of habitat)
- creation of new habitat or new populations
- threat reduction or elimination (e.g., management of non- native species)
- translocation of affected individuals or family groups
- repatriation of species (or important resources) to formerly occupied and still suitable or enhanced habitat

These measures are often combined to meet biological goals.

When thinking about offsetting the impacts of the taking, the duration of the mitigation should be considered. The duration of the mitigation should be based on the biological value of what is lost. There are a couple considerations:

- If habitat will be lost forever, alternative habitat should be protected forever to offset the loss.
- If the temporary loss of habitat has long-term consequences to the species that uses that habitat, then the mitigation must account for the long-term consequences. Some species are more susceptible to temporal impacts, which must be accounted for in the plan. In this case, additional or permanent mitigation may be required to offset impacts.

9.4.3.1 Restoration of Degraded Habitat

Restoration is usually focused on returning habitat to its natural or historic integrity, diversity, and environmental health to a former or more functional state. For the purpose of tracking gains, restoration may be divided into two categories- re-establishment and rehabilitation. Re-establishment involves manipulation of a former resource to return natural and/or historic structure and function, and, for habitat, results in a net gain of acreage. Rehabilitation involves manipulation of a degraded resource to return natural or historic structure and function, and does not result in net gain of acreage. In light of ongoing and projected impacts of climate change, restoration may need to be more forward-looking to achieve a functional state, even though it may involve different habitat components (e.g., different composition of plant species) than were present in the past. Restored habitat should be protected through legal mechanisms discussed below in 9.4.3.2 Land Preservation.

9.4.3.2 Land Preservation

Land preservation, which is also called protection or maintenance, is the removal of the threat of development to covered species and their habitats. It does not result in a net gain in acreage, but protects what is already occupied and functional (unless other management actions will increase conservation value of the land preserved). Typically, land preservation in HCPs takes three forms:

- land set-asides within the permit/HCP area that are protected and managed for the species' benefit, followed by recording a conservation easement on that portion of the permit area;
- purchase of land specifically for HCP conservation, followed by recording a permanent conservation easement on that land and permanent management for the species' benefit, and
- permanent conservation easements placed on lands not owned by the permittee, but through the easement, the landowner agrees to manage the land for the purposes of conservation.

To manage and monitor the land being preserved, funds are needed to ensure they maintain their biological value. Preserved lands should either have their own management plans or follow the HCP if it is specific enough.

Applicants must acquire sufficient control of the land to achieve mitigation objectives. The land preservation tool is important in making sure those objectives are met. To express this, consider all the resources in the area: access rights, mineral rights, hunting rights, water rights, cropping rights, etc. Which resources need to be protected to ensure that HCP goals and objectives will be

met? If water quality is critical to the success of the mitigation project, yet acquisition of the mitigation property would have little effect on the quality of water entering the property (e.g., from the neighboring land), then the applicant should acquire enough of an interest in the neighboring land to safeguard the quality of water entering the mitigation land. This could be the case for all production functions. Are there existing easements that could affect a conservation easement or the ability to protect wildlife? Then the applicant may need to conduct some alternate form of mitigation.

If a land preservation tool doesn't achieve mitigation objectives, then the land cannot be credited toward meeting mitigation obligations until it meets the stated purpose. Even if the land is sufficiently protected, if it's not managed in a way that is compatible with the mitigation objectives per the HCP it does not count toward meeting the stated purpose.

When developing a conservation easement, make sure to:

- build in flexible management options that can change through time to continue to meet species needs;
- include access for surveys in the easement. Right of access means Service staff; or other persons we designate evaluate whether easement restrictions are being adhered to (50 CFR 13.47);
- right to enforce easement restrictions by wildlife agencies;
- have legal counsel/solicitor help develop and review the conservation easement;
- start with the correct State-specific conservation easement template;
- ensure that the easement is granted only to an entity allowed under State law to hold conservation easements;
- accurately delineate in the field all conservation easement boundaries and provide a legal description;
- list allowable actions on the property; and
- list prohibited actions that would be incompatible with the mitigation property's primary function as habitat for species.
- Identify ITP in the easement document as the legal basis for the conservation easement.

9.4.3.3 Creation of New Habitat

Creation of new habitat is intended to develop a population or habitat condition that did not previously exist on a site. Establishment usually results in a net gain in population or acreage. Another term used for establishment is "creation." Creation involves the conversion of an area into useful and beneficial habitat that did not previously exist. This approach may be particularly appropriate as a climate change adaptation measure for areas where habitat transformation already is beginning or is likely to occur due to climate change impacts. For example, in some situations it may be appropriate to facilitate transformation to shrublands by replanting with scrub plants rather than trees in response to increasing temperatures drought condition. Another example is establishing new wetland or estuary habitat in coastal areas, slightly inland of current habitat that is becoming submerged or eroded due to sea level rise and storm surge impacts.

9.4.3.4 Habitat Enhancement

Habitat enhancement usually involves manipulation of the physical, chemical, or biological characteristics of a resource and is intended to increase specific habitat functions. Such manipulations can cause other resource functions to decline, so care is needed in using this approach.

9.4.3.5 Threat Reduction or Elimination

This option usually involves removal or reduction of non-native or invasive species to improve the health of the system or reduce direct effects on covered species. For certain species or habitats, non-native species may be the primary driver of population declines. In these situations non-native removal can be an extremely important part of the conservation strategy. Conceptual models (discussed in depth in Chapter 10) can be used to help identify conservation measures to implement as part of the conservation strategy. The discussion of threat reduction could also be expanded to include other examples beyond control of non-native species, including managing land to prevent certain uses, protection of a historic hydrologic regime, fire management prescriptions, predator control, resilience to increased drought, etc.

9.4.3.6 Translocation

Impacts to certain species can be mitigated by removing the affected individuals from a project area and placing them into suitable protected habitat that has been enhanced or restored, as long as that habitat is unoccupied, or under-utilized by the covered species. In the case of gopher and desert tortoises, for example, the affected individuals are excavated and moved. In the case of red-cockaded woodpeckers, fledgling young are removed once a year for a certain period and moved to a new location so that a new nesting territory is established. In light of climate change impacts, there are a number of conservation programs considering “assisted migration” which involves moving individuals outside their historic range to cope with impacts of climate change. However, note that not all species can be successfully translocated. Moving animals is a tool with many implications and should be used sparingly.

9.4.3.7 Repatriation

If a species has been extirpated from an area, a permittee may work with the Services and State wildlife agencies to reintroduce them if the habitat is still suitable or suitability has been restored, and is expected to remain suitable. For example, in the case of black-footed ferrets, ecosystem linkages (i.e., their prey base) were first re-established before ferrets could be viably reintroduced to formerly occupied parts of its range.

9.4.4 Putting Goals, Objectives, and Conservation Measures Together

Well-written goals, objectives, and conservation measures should flow from general to specific and should ultimately provide a clear vision for conserving species. The culmination of this hierarchy is the conservation measures that will lay out the actions needed to meet the objectives. See Table 9.4a where we continue the example used previously.

Goal: Bogus Bat: self-sustaining population of bogus bats in the preserve system that can withstand threats, is genetically representative of neighboring populations, and contributes to the overall recovery of the species.

Objective 1: Preserve 50% of hibernacula and all maternity roosts of the bogus bat „in the plan area during the permit term

Objective 2: Enhance roosting habitat by protecting any abandoned mine, cave, or building in the Preserve System and, if feasible, creating artificial hibernacula

Measure 1: acquire property x, y, z following the HCP conservation implementation schedule

Measure 2: place conservation easements on property a,b,c following the HCP conservation implementation schedule

Objective 2: Enhance roosting habitat by protecting any abandoned mine, cave, or building in the Preserve System and, if feasible, creating artificial hibernacula

Measure 1: enhance sites 1, 2, 3 to improve roosting habitat to naturally functioning levels

Measure 2: create artificial habitat at sites 4, 5, 6 to increase the quantity of hibernacula sites

Goal: Swamp habitat: hydrologic integrity of the Mucky Swamp within the natural state of variability and function maintained within future climatic constraints.

Objective 1: preserve all area within 2500 feet of the 1900 high water line of Mucky swamp within 10 years of permit issuance

Measure 1: acquire property x, y, z following the HCP conservation implementation schedule

Measure 2: place conservation easements on property a,b,c following the HCP conservation implementation schedule

Objective 2: restore historic contours and elevations of Mucky swamp to increase retention and infill within 3 years of land preservation

Measure 1: using mechanical means, regrade and resurface the contours and elevation of mucky swamp to match historic elevation data

Objective 3: restore vegetation on preserved lands to increase infill into the Mucky Swamp from Stinky Creek and Curvey Creek within 20 years of permit issuance.

Measure 1: with the assistance of botanists revegetate the preserved area around mucky swamp to match historic density and diversity of appropriate plants, shrubs, and trees to stabilize soils and restore hydrologic condition to historic levels

How complex the plan is will dictate how many and how detailed the goals/objectives/measures hierarchy needs to be.

9.5 Mitigation Implementation

Who does the mitigation? There are a few general ways responsibility of mitigation implementation can be approached:

- permittee-implemented mitigation or permittee responsible mitigation,
- conservation banks, or
- in-lieu fee mitigation.

In each of these, the permittee is responsible for meeting issuance criteria, which includes insuring impacts of the taking are offset through implementation of mitigation.

9.5.1 Permittee-Implemented Mitigation

The applicant may use their own contractors, funding, and long-term management to provide mitigation to offset incidental take. Essentially, the permittee is responsible for the completion and success of the required compensatory mitigation. Permittee-implemented mitigation may provide the applicant with a management or economic advantage. Examples include an applicant hiring a vendor to take measures to augment populations (i.e., to replace lost recruitment), or an applicant acquiring and directly managing land for the benefit of covered species and to offset their impacts.

9.5.2 Conservation Banks

Conservation banks are sites, or suite of sites, established under a conservation bank instrument that are conserved and managed in perpetuity and provide ecological functions and services expressed as credits for specified ESA listed species, candidates for listing, or other at-risk species. Habitat conserved in a conservation bank may include restoration of damaged or degraded habitat, enhancement of existing habitat, establishment of new habitat, preservation of existing habitat not already protected, or some combination of these. Standards and requirements are species-specific, but generally the habitat:

- is of high quality,
- is occupied,
- excludes developed areas or other areas that cannot be restored,
- restricts activities that would interfere with the function of the habitat for the species
- the bank was created for, and
- is buffered from outside influences so the bank maintains ecological integrity.

Credits are based on a defined unit of trade representing the accrual or attainment of ecological functions and/or services at the bank site (e.g., one credit for each acre of high quality habitat occupied by the species) and released as performance criteria for the bank site are met. The bank sponsor may sell the credits, with Service approval, to permittees to offset impacts of their actions covered by an incidental take permit. Often additional land is included within the bank's boundary that is not credited when the bank is established, but may be credited after restoration when habitat becomes suitable.

Conservation banking offers opportunities for a variety of landowner. Lands used for ranching, farming, and timber operations or similar agricultural purposes can often function as conservation banks under a conservation bank instrument where the landowner agrees the lands

will be permanently managed as habitat for the species. Degraded habitat, such as retired croplands or orchards, may be restored. Linear areas or corridors, such as stretches of streams and their associated riparian habitat that link populations of species, may also qualify as conservation banks. Private, Tribal, State, and local government lands are eligible to become conservation banks. Generally, lands previously designated for conservation purposes through another program are not eligible unless designation as a bank provides an additional conservation benefit to the species.

Conservation banks function to offset adverse impacts to a species that occurred elsewhere, sometimes referred to as off-site mitigation. Developers or other project proponents who need to compensate for the adverse impacts their projects have on species may purchase a designated number of credits from conservation bank owners to mitigate their impacts, depending on the conservation strategy for the species and mitigation ratios.

To approve an applicant's purchase of credits from a bank, we must determine that the bank's management plan, management assurances, monitoring, and adaptive management measures will meet the HCP's conservation standards. Conversely, if there is an existing bank in an area where an HCP is being developed, the HCP should strive to meet the same conservation standards and approach to conservation as the bank. In accordance with Department policy (600 DM 6.7) all mechanisms for compensatory mitigation (e.g., conservation banks, in-lieu fee programs, permittee-responsible mitigation) used to offset unavoidable impacts should be held to high and equivalent standards. The bank's service area must also encompass the HCP's plan area so that the bank will serve the biological goals of the HCP. It may be helpful to look at the bank's established management plan and evaluate its measures as if they had been written into the applicant's HCP. In a typical applicant-banker transaction, the banker assumes the ongoing conservation obligations on behalf of the applicant. Once an applicant receives an incidental take permit and closes a sales contract with a banker, we will, assuming all mitigation is handled through a conservation bank, oversee the banker rather than the permittee to ensure the bank is maintained and to coordinate circumstances that may change.

As the Services advise municipal applicants developing programmatic HCPs, we should tell the applicant about any existing conservation banks in the HCP's plan area and encourage them to consider incorporating the banks into their HCP. An applicant for a programmatic HCP could choose to use banks as one of several mitigation options; they might "buy out" the bank for their own use, or HCP applicants might choose to develop their own conservation areas.

Programmatic HCPs can complement conservation banks because they facilitate individual landowner incidental take authority via certificates of inclusion. We should encourage a complementary, cooperative relationship between applicants and bankers. The Service encourages development and use of conservation banks as effective mitigation mechanisms, and bankers rely upon the technical support of the Service when they make the investment to establish a bank that satisfies our conservation banking standards. However, applicants for incidental take permits are not obligated to use conservation banks if they can otherwise satisfy issuance criteria. While an applicant ultimately decides whether or not to use a conservation bank in their HCP, the Service's role is to assist them in making a well-informed decision. Conservation banks are just one option that they can use to meet their mitigation needs.

Conservation banks are protected in perpetuity by legally binding conservation bank instruments, conservation easements, and endowments for long-term management that are consistent with

state laws. Bank owners are responsible for ensuring the efficacy of the bank and are held to the same standards for monitoring, reporting, and adaptive management that are required for HCPs. Credit sales usually have a clause that releases the purchaser from any future obligations or liabilities for their mitigation.

Implementing small-scale and low-effect HCPs that require the permittee to acquire, restore, and manage listed species habitat in perpetuity can be daunting and costly for the permittee who often lacks the knowledge and experience to fulfill these responsibilities themselves. The ability to purchase credits from a Service-approved conservation bank that has biological goals and objectives that are compatible with their HCP instead of implementing permittee-responsible mitigation lifts this burden from the permittee and usually reduces their mitigation costs. In addition, the use of conservation banks for this purpose provides effective compensatory mitigation that is much more likely to be located on the landscape within high priority conservation areas than permittee-responsible mitigation. This approach will increase regulatory certainty for all parties.

Applicants who are writing large HCPs may also purchase credits from a conservation bank, but because of the economy-of-scale, these applicants tend to develop their own land protection and management infrastructure.

Additional information on conservation banks can be found at:
<http://www.fws.gov/angered/landowners/conservation-banking.html>

9.5.3 In-Lieu-Fee Mitigation

In-lieu-fee mitigation occurs when a permittee provides funds to an in-lieu-fee sponsor instead of completing project-specific mitigation themselves or purchasing credits from a mitigation bank. In-lieu fee mitigation typically involves the restoration, establishment, enhancement, or preservation of natural resources and may consist of a single project or a group of projects. The in-lieu fee program is responsible for the completion and success of the compensatory mitigation associated with permits that provide funds to that program. An in-lieu fee program instrument (similar to a conservation banking instrument) governs the use and operation of an in-lieu fee program. Under an in-lieu-fee agreement, a mitigation sponsor collects funds from an individual (or a number of individuals) who are required to complete compensatory mitigation. The sponsor, in cooperation with the regulatory agency and permittee, directs the funds to one or a number of projects authorized by the instrument to satisfy the permittees' mitigation obligations. Additional information on in-lieu fee mitigation can be found at
<http://www.epa.gov/owow/wetlands/pdf/inlieufee.pdf>.

In-lieu-fee mitigation can be effective, but there are potential pitfalls service staff must be aware of before agreeing to this type of mitigation. If the funds paid to a sponsor do not result in on-the-ground conservation within a certain period of time, there could be temporal impacts to the species. Therefore, development of an in-lieu fee program agreement must be carefully crafted as a safety net for the species. The agreement should be time-limited. If the sponsor cannot get conservation on-the-ground according to the agreement, the sponsor must report this to the Service immediately. If the agreed-upon conservation cannot be accomplished in a timely fashion, the permittee may have to pay additional fees to offset those temporal impacts or, as was

the case of the Natomas Basin HCP, we cannot allow new development unless fees for acquisition are collected in advance of development. If the conservation cannot be accomplished because there are no suitable lands to purchase, the applicant must use another mitigation method.

Usage of in-lieu-fee varies across the nation: check with your Regional HCP Coordinator before proposing this to applicants.

9.5.4 Dealing with Uncertainty in Goals, Objectives, and Conservation Measures

The development of an HCP’s conservation program, including goals and objectives, is based on assumptions using current understanding. Conceptual models articulate this understanding by depicting the hypothesized relationships between species populations, habitat conditions, and various biotic and abiotic variables that are of known or presumed importance to the conservation target. Because even simple models can identify multiple potential threats and stressors to the conservation target, one of the reasons to develop a conceptual model is to help identify SMART objectives and prioritize where to focus management actions based on the hypothesized strength of those relationships. We then monitor and analyze data to validate the efficacy of those actions at achieving plan goals. When implementing the HCP, it may become necessary to change objectives and measures to best achieve conservation biological goals and offset the impacts of the taking. This is not a task to be taken lightly in the regulatory context of HCPs, where permittees are held accountable for achieving goals and objectives. The potential for future changes to the objectives and measures should be built into the HCP. Changes to the measures needed to accomplish goals and objectives may not require a plan amendment, but applicants should build this understanding into the plan. In the context of no surprises regulations, changes to objectives and measures should be voluntary and within the original estimate of budgetary and staffing needs unless explicitly identified as changed circumstances in the plan.

If the plan needs to be changed, we need to consider updates to effects analyses. If the proposed changes are within the scope of what has already been analyzed, the changes may be fine and not require updating analyses. If the effects of the changes are outside of what has already been analyzed, updates to the analyses may be needed. See Table 9.5a.

Table 9.5a- Summary of Changes to Goals and Objectives and Amendment Requirements

what to change	plan amendment required?
biological goals	yes, in all cases
biological objectives	yes, unless built into the plan
conservation measures	no, should be specified in the plan to meet the

	same goals and objectives. Approval process must be spelled out.
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Note: changes to the HCP that result in physical changes to the environment that were not addressed in the original analyses may trigger updates to NEPA/BO/Findings documents.

9.5.5 Determining Location for Mitigation Projects

On-the-ground mitigation occurs on high-priority sites for ecological restoration as defined by recovery plans and other appropriate guidance documents. However, not all projects will necessarily involve habitat restoration, enhancement, establishment, or preservation.

Permittees use on-site mitigation when the mitigation occurs in very close proximity to the covered activities (typically on the same parcel). Covered species will remain in the plan area. On-site mitigation may include restoration of disturbed areas temporarily impacted by covered activities (e.g., revegetation of equipment staging areas), best management practices for recurring activities, or operation standards for houses in habitat used by the covered species (i.e., feral pet control). Connectivity to other conservation lands (i.e., the need to avoid isolated populations) may override the possible value of on-site measures which may be important in situations where a species is expected to undergo a range shift in response to climate change. The applicant would normally be expected to retain ownership of the on-site mitigation areas. Where ownership is retained, mitigation assurances must be provided by easements or other approaches common to off-site mitigation areas.

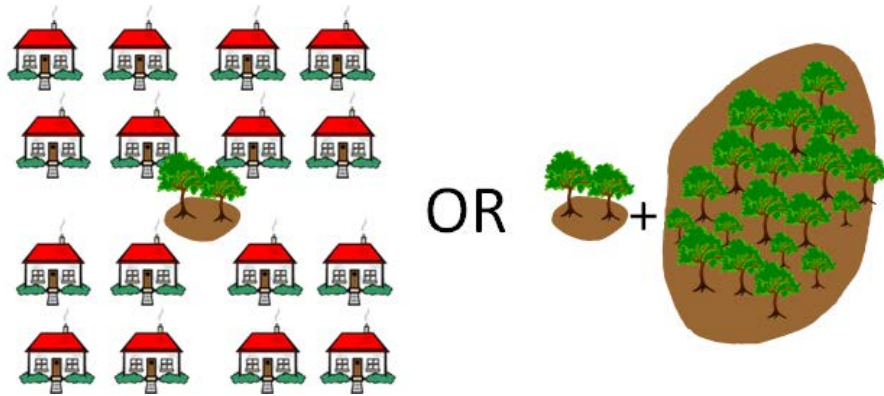
Off-site mitigation is when the permittee implements conservation (mitigation) measures away from the impact site. Off-site mitigation may be preferred when:

- it is better for the species,
- there are not opportunities to mitigate on site,
- it is easier to buy credits at a bank.

Off-site mitigation should be connected to the impacts, and the populations impacted, to offset the impacts of the taking. In most cases, the mitigation should be in close proximity to the impacts to ensure conservation is applied to the population impacted. Finding the balance of proximity of conservation to proximity of impacts is done on a case-by-case basis, but in each case must ultimately offset the impacts of the taking.

In limited cases, it may be appropriate to mitigate off-site in an area that is not close in proximity to the impacts. For example: if the impacted population is considered secure in status, applying the mitigation to a nearby population may provide more benefit to the species. Another example: if applying the mitigation onsite protects isolated habitat it may be more beneficial to the species to apply the mitigation in an area of contiguous habitat.

Figure 9.5a: Illustration of Off-site Versus On-site Mitigation



9.5.6 Planning for Inflation

HCPs must plan for today's and future costs. How much will it cost to do the same activities in 20 years? Generally, inflation is factored into plan costs: for fee-based plans, the fees must rise to meet costs. An inflationary index is often tied to the HCP cost estimates. Market values of land, services, etc. may change differently than inflationary costs, so the estimates must factor that in and funding must be adequate to meet them.

For example, the Florida scrub-jay general conservation plan has periodic adjustments to the in-lieu fee based on State data on agricultural land values. The Natomas Basin HCP also requires periodic reviews and adjustments to fee components to account for changes in land values/acquisition costs, management costs, and to meet endowment requirements. Another example is the Alabama Beach Mouse HCP, where they built in management fee adjustments for homeowner/condo association requirements in anticipation of rising costs of HCP implementation.

9.5.7 Conservation Design

The following principles of conservation design are all useful to consider when developing and acquiring a preserve system in an HCP.

- **Buffer urban areas:** These areas protect preserve land from the impacts of urban areas. The size of the buffer depends on topography, the intensity of adjacent urban development, the natural community being separated from the development, the condition of the buffer lands, and whether covered species are or will be present in the area.
- **Ecological diversity:** The preserved land should include ecological diversity (e.g., species composition, dominant species, physical and climatic factors) to maintain sufficient habitat diversity and species and population interactions.
- **Environmental gradients:** Diverse topography, elevation, soil types, geologic substrates and slopes, allow for shifting species distributions in response to catastrophic events (e.g., fire, prolonged drought) and a changing climate. ,,
- **Management needs:** Management of preserves must be feasible. Management treatments (e.g., livestock grazing, prescribed burning, or exotic species control) must be feasible in the places needed or it isn't viable.

- **Maximize size:** The preserve land should be as large as possible within funding and management limits. Large preserves tend to support more species for longer periods of time than small preserves. Large preserves are also generally easier to manage on a per-acre basis because a large preserve reduces conflicts that may arise when managing for covered species with very different habitat requirements. Large preserves also better allow for large-scale management treatments such as prescribed burning and grazing and the maintenance of natural disturbance regimes such as flooding. ,,
- **Minimize edge:** the preserve land should minimize the amount of edge habitat exposed and unprotected to non-preserved land. Edge habitat generally exposes species to more threats than areas insulated by other protected areas. In some cases, it may be appropriate to protect linear features such as streams, riparian woodland, valley bottoms, or ridgelines.
- **Protected land linkages:** Consider the value to covered species of protecting land between existing and proposed protected areas inside and outside the HCP area. These linkages can help the species move between protected areas, and increase the integrity of the network of preserves. Consider climate gradients when assessing the quality of land linkages. For example, ensure the linkages involve projected climate gradients/conditions the covered species are considered likely to tolerate, and that the linkage habitat is likely to remain suitable.
- **Protect the highest-quality habitat:** The Preserve System should preserve the highest-quality habitat for covered species in the HCP area. Higher quality habitat tends to be more ecologically intact, resilient, and of more value to covered species.
- **Watersheds:** When possible, protect entire watersheds, subwatersheds, and headwater streams that are not already in protected status to maintain ecosystem function and aquatic habitat diversity.

Checking with local experts is a good way to identify regionally and locally-based tools and guides for conservation planning, including many that incorporate climate change considerations. For more information on the general topic of conservation design click [here](#).

[These references will be in the HCP Handbook Tool Box; links provided in the final version.]

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9.5.8 Permittee Responsibilities: Meeting Goals and Objectives, or Specific Actions in the HCP

The permittee is responsible for meeting goals and objectives. However, the goals and objectives have to be expressed in the HCP and permit in terms of specific actions, potential adaptive measures, or procedures to develop adaptive measures. We must advise applicants on the HCP contents, and supplement the HCP with permit conditions so that when a permittee satisfies permit conditions, the HCP's goals and objectives are satisfied. The permit conditions are the primary legal obligations placed on a permittee. As we guide the development of HCPs, the Services must remember that in the worst possible case a permittee could fulfill all ESA obligations under the permit and HCP, but still fail to meet the HCP's goals and objectives.

9.6 Providing for Changed Circumstances

Circumstances may change in an HCP area during the permit term that can be reasonably anticipated and planned for. There are also unforeseen circumstances for which we can't plan. Remediation in response to changed circumstances is the responsibility of the applicant. Changed and unforeseen circumstances usually have to do with events (e.g., natural disaster, introduction of non-native species, etc.) that occur during the permit term that cannot be controlled. The degree or frequency to which the events occur is generally what separates changed from unforeseen circumstances.

9.6.1 Changed Circumstances

The HCP must include a section on changed circumstances that can potentially affect a covered species or geographic area covered by a conservation plan and that can reasonably be anticipated by plan developers and the Services (e.g., the listing of new species, invasion of a non-native species, fire or flooding in an area prone to such events, or where future increases are highly likely, etc.). Changed circumstances should include any significant event that would change the conditions or add threats in the plan area that the applicant can reasonably predict to occur during the permit term. See the changed and unforeseen circumstances worksheet for help identifying them. The HCP should describe the modifications in the project or activity that a permittee will implement if such an event occurs during the permit term, with cost estimates (and assured funding) associated with those events.

Helpful Hint: it is critical the HCP identifies a suite of potential changed circumstances, the specific response to each, the costs of implementing the response, and the funding assurances for those responses.

Changed circumstances and plan responses are treated as part of the operating conservation program. Like other aspects of the conservation program, effectiveness of management actions in reducing the effects of changed circumstances can be improved through implementation of the monitoring and adaptive management programs.

If additional or alternate conservation measures are necessary to respond to changed circumstances, and such measures are not part of the responses to changed circumstances provided in the plan, the Services and the permittee should work together to shift priorities to best meet goals and objectives within the original resource commitments in the HCP. We cannot require additional actions or funds be expended without the permittee's consent; so it is important to identify upfront in the plan all reasonably foreseeable changed circumstances that may occur during the permit term and feasible responses to them. The no surprises regulation prohibits us from requiring mitigation involving any additional commitment of land, water, or financial resources or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed on in the HCP. If a condition arises that should have been-but was not identified as a changed circumstance in the HCP, we cannot require the permittee to address it. This makes the process to identify changed circumstances during plan development extremely important.

9.6.2 Unforeseen Circumstances

Unforeseen circumstances are changes in circumstances affecting a species or geographic area covered by an HCP that could not reasonably have been anticipated during HCP development, and that result in a substantial and adverse change in the status of the species (e.g., the eruption of Mount St. Helens) or conditions upon which the species rely.

In such cases, the permittee is not *required* to come up with additional resources or funds to remedy unforeseen circumstances, but the Services and the permittee should work together to determine an appropriate response within the original resource commitments in the HCP. It may also be necessary for the Services to attempt to come up with additional resources to help remedy the situation.

The Services must demonstrate that an unforeseen circumstance has occurred using the best scientific and commercial data available, and the permittee must notify us if they think unforeseen circumstances have been triggered. These findings must be clearly documented and based on reliable technical information regarding the status and habitat requirements of the affected species. Our considerations include, but aren't limited to, the following factors:

1. size of the current range of the affected species,
2. percentage of range adversely affected by the conservation plan,
3. percentage of range conserved by the conservation plan,
4. ecological significance of that portion of the range affected by the conservation plan,
5. level of knowledge about the affected species and the degree of specificity of the species' conservation program under the conservation, and
6. whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

The "unforeseen circumstances" section of the HCP should discuss the *process* for figuring out how to address those future changes in circumstances surrounding the HCP we may not reasonably anticipate. When unforeseen circumstances happen, we cannot require the permittee to provide additional land, water, or financial resources or additional restrictions on the use of land, water, or other natural resource otherwise available for their use under the original terms of

the permit. However, there may be other approaches we can use to respond to the needs of the affected species, including increasing the effectiveness of the HCP's operating conservation program (without raising costs), Government actions we can take to meet species needs, or voluntary conservation measures the permittee can take.

Key points:

- stick to the regulatory language for changed and unforeseen circumstances,
- identify a comprehensive list of circumstances,
- identify thresholds to make it clear when something is changed vs. unforeseen (e.g., 100-year flood in a long duration HCP vs. 500-year flood),
- develop a plan for how we or the permittee will respond to each circumstance, and
- secure funding for responding to changed circumstances.

In the event that continuation of the permit in the face of a changed or unforeseen circumstance would result in jeopardy to a listed species, and the jeopardy cannot be avoided through the response to the changed circumstances provided in the plan or voluntary actions of the permittee in response to the change circumstance or unforeseen circumstance or through the actions of the Service or others, then the permit must be revoked.

9.6.3 Steps to Identify and Plan for Changed and Unforeseen Circumstances During HCP Development

1. Identify all changed circumstances using the changed circumstances checklist (Table 9.6.4a) or similar.
2. Develop thresholds for clearly identifying when circumstances are changed vs. unforeseen.
3. Develop response for each- what will be the response to ensure goals and objectives are met if circumstance X happens to Y degree?
4. Develop funding estimate for each response.

9.6.4 Differentiating Between a Changed and an Unforeseen Circumstance

One way to differentiate between a changed and unforeseen circumstance is to use a risk assessment or probability of that condition occurring.

- For example, you might consider that the probability of a 100-year interval flood event is likely to occur within the life of a long-term permit, but a 500-year flood is not. Keep in mind, however, that in some locations the risk of what previously was considered a 500-year or 100-year flood event may now be expected to occur much more frequently due to climate change.
- Similarly, you may find that fire up to a certain acreage or with specific return frequencies are likely to occur during the permit term, but fires above that size or at more frequent intervals would be unforeseen circumstances.
- Weather events such as tornadoes, tropical cyclones, and blizzards, can be expected to recur in certain regions and models may help understand the expected changes of frequency and intensity from climate change.

It is possible that no response will be needed for a particular changed circumstance, such as flooding in a healthy river system or fire in a fire-adapted community, if vegetation is likely to regenerate naturally and covered species will recover and possibly benefit from the event. However, it is key that the applicant carefully consider potential changed circumstances and that the HCP includes a robust set of plan responses to those changes. Changed and unforeseen circumstances apply to the mitigation lands and also to the administration and operation of an HCP.

The changed and unforeseen circumstances checklist may be useful to ensure the HCP includes the appropriate information and planners ask the right questions (see Table 9.6.4a). Like other aspects of the conservation program, effectiveness of management actions in reducing the effects of impacts from elements identified as changed circumstances can be improved through implementation of the monitoring and adaptive management programs.

Table 9.6.4a: Changed circumstances checklist.

Element	Condition within which will be considered a 'changed' circumstance				If changed circumstance occurs, remedial actions will include:	How will remedial action be funded?	Cost estimate for remedial action	If threshold for changed circumstance is surpassed then:
	Size	Frequency	Duration	Intensity				
Contaminant spill								
Disease								
Drought								
Dramatic economic change								
Earthquake/tsunami								
Expansion/succession of vegetation community								
Fire								
Flooding								
High winds								
Invasive species introduction								
New species listing/ designation of critical habitat								
Sea level rise								
Temperature <ul style="list-style-type: none"> ● Excessive heat ● Excessive cold 								
Tornado/Hurricane								
Volcanic eruption								

Not all of these will apply to your HCP, and some may be missing.

9.6.5 National Environmental Policy Act (NEPA) and Changed Circumstances

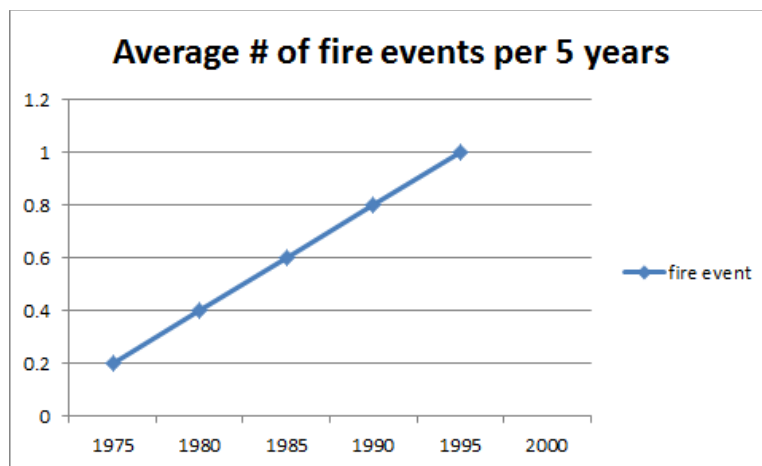
The NEPA analysis conducted on the issuance of the section 10(a)(1)(B) permit should include the realm of changed circumstances and all resulting activities to avoid the need for a future amendment to the NEPA document associated with the Services' issuance of the permit.

9.6.6 Considering Climate Change in Changed Circumstances

When developing the list of changed circumstances and the remedial actions to reduce their effects, changing climatic conditions need to be considered. Of the elements considered for changed circumstances, what is their current trajectory or trend? If the current trend continues, or if projections indicate an acceleration in the trend, how might that affect the management response at year xx? For those elements that you're not considering as changed circumstances, does thinking about their trend or trajectory bring them into the realm of changed circumstances?

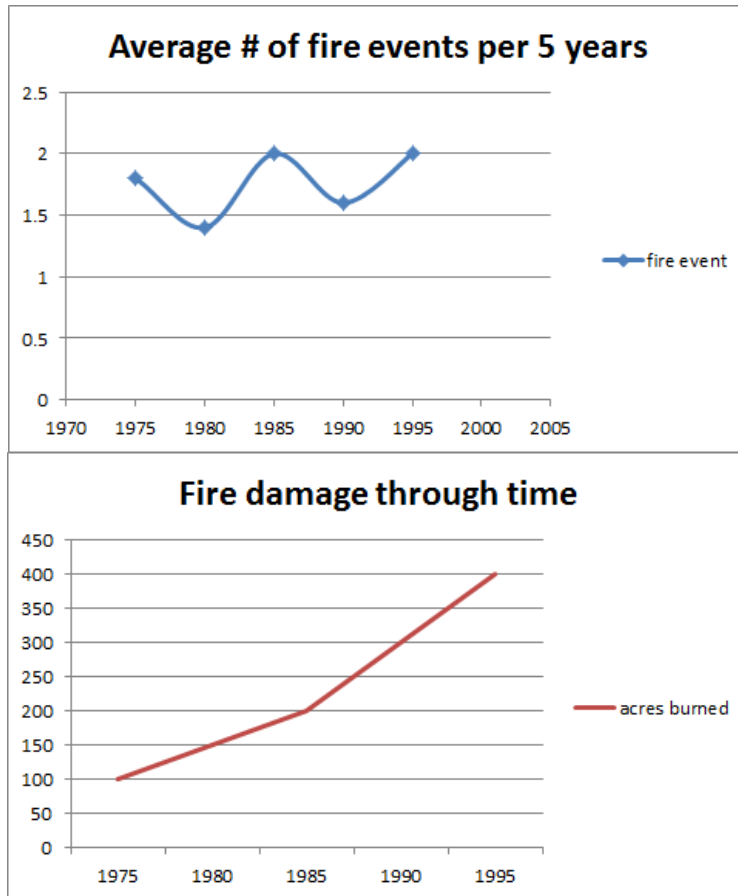
For example, looking at the frequency of fire events over the last 25 years may be all you need to understand fire trends in the area. See Figure 9.6a.

Figure 9.6a Example 1: Fire events



This figure suggests an increased frequency of burns. Sometimes the situation takes more examination to really understand meaningful trends:

Figure 9.6a Example 2: Fire events



In the second example, the average number of fire events doesn't tell the whole story. Only after looking at the number of acres damaged from those same fire events do we see a significant trend in fire activity. This is an indication of increased intensity of burns rather than increased frequency. In this case and others, the average is probably not the best threshold for demonstrating changed circumstances have been exceeded, as it is possible that the average would be exceeded at least half of the time.

Climate change on its own is not a useful way to frame changed circumstances. Examining how climate changes predicted to affect specific variables like fire or flooding is much more useful. For example, scientific modeling of fire and climate change has projected a substantial risk of increase in conditions for very large fires (the top 5 - 10 percent of the largest fires) across many parts of the United States in the coming decades, as well as an extending the "fire season." When assessing climate change effects in changed circumstances, it is important to consider the best available scientific information, including the historical record, the recent trajectory or trend, and the projected future trajectory for specific variables that are relevant for the region and timeframe of interest (see 9.6.7).

9.6.7 Timing of Changed Circumstances

Changed circumstances can occur during the permit term. Changed circumstances do not apply after the permit term ends. After the permit term ends, management changes needed to ensure performance of conservation land should be memorialized in the conservation easement or similar governing document and funding provided to address post permit management needs must be provided (usually from an endowment).

9.6.8 Information Needs for Changed and Unforeseen Circumstances

The HCP needs to include enough information to:

- identify potential elements that may be encountered during the permit term
- identify when changed or unforeseen circumstances are triggered
- make clear when an element is changed vs. unforeseen (e.g., intensity, size, duration, frequency)
- identify what the management response(s) will be to reduce the effects
- provide a cost estimate of the remedial action
- understand where funding will come from to remediate changed circumstances and assure such funding

9.6.9 Determining Changed vs. Unforeseen Circumstances

Changed circumstances must be reasonably anticipated. Any source of information that is useful for anticipating potential conditions can be used as the basis for determining changed vs. unforeseen circumstances. Specific sources include:

- weather records over the past xx years,
- disease trends,
- population trends,
- proximity of species to the plan area,
- historical fire data,
- sea level rise models,
- projections of drought and megadrought, etc.

For climate change considerations, past events may not always be useful, but they may help predict future events. The Services have specialists who can help provide the best available scientific information regarding relevant trends and projections and how to interpret and use them in the context of changed vs. unforeseen circumstances.

9.6.10 “No Surprises” and Changed Circumstances

The no surprises regulations provide the permittee with assurances that, assuming the plan is being properly implemented, the Services will not require additional measures or funding beyond what was agreed to in the HCP without the permittee’s consent. Changed circumstances must be written into the plan, including remedial measures and funding for those measures. If we determine that continued implementation of the plan will jeopardize the existence of a covered species or adversely modify its critical habitat, there are two options:

1. the Service can revoke the permit coverage for that species, or
2. the permittee can voluntarily implement additional measures beyond what they committed to in the HCP if they are sufficient to remedy the pending jeopardy of the species/adverse modification (permittee retains permit).

If we determine that continued implementation of the plan would take, jeopardize the existence of a non-covered species or adversely modify its critical habitat, there are three options:

1. the Service can revoke the permit coverage for those activities that are taking the species,
2. the permittee can voluntarily implement additional measures beyond what was committed to in the HCP if they are sufficient to remedy the pending jeopardy of the species/adverse modification (permittee retains permit), or
3. the permittee can amend the HCP to include the species at risk as a covered species and reduce the impacts to a level less than jeopardy/adverse modification (permittee retains permit).

HCPs should identify the listing of non-covered species and designation/revision of critical habitat within the plan area during the permit term as changed circumstances. This upfront thinking helps make clear what the steps are to react and accommodate a newly listed species or critical habitat designation while keeping the permit in good standing. While we do our best to include all the species that may be ESA listed as a covered species and to protect essential species habitat in HCPs, it isn't always predicted when such a situation will arise, especially over a long permit term.

In order to receive an ITP with no surprises assurances, the permittee must do their part to keep their permit in good standing. The permittee must ensure they are properly implementing the permit, including the HCP and Implementing Agreement (if applicable).

The no surprises assurances do not prevent a Federal agency from exercising its reserved water rights. They also do not limit or constrain the Services; any Federal, State, local, or tribal government agency; or a private entity from taking additional actions at its own expense to protect or conserve a species included in an HCP.

Chapter 10: Monitoring and Adaptive Management

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10.0 Introduction

Monitoring, reporting, and adaptive management are mandatory elements of all Habitat Conservation Plans (HCPs) (See 50 CFR 17.22, 17.32, and 222.307; 65 *Federal Register* 32242, 35253 [June 1, 2000]). When properly designed and implemented, they should provide us with the information we need to determine whether or not:

- a permittee is in compliance with their incidental take permit and HCP;
- progress is being made toward meeting an HCP's biological goals and objectives;
- the HCP's conservation program is effective at minimizing and/or mitigating impacts; and
- there is a need for implementing additional measures to improve the HCP's conservation strategy.

The scope of an HCP's monitoring, reporting and adaptive management program should be commensurate with the scope, duration, and certainty of the HCP's conservation program and project impacts. Monitoring programs for large-scale or regional planning efforts may be elaborate and track more than one component of the HCP (e.g., habitat quality or collection of mitigation fees). Conversely, monitoring programs for HCPs with smaller impacts of short

duration might only involve filing simple reports that document whether the HCP has been implemented as described. The Services must be involved with the development and approval of monitoring plans for HCPs.

To learn as much as possible from monitoring programs and to improve management actions, the two must be integrated. The integration of these two parts of an HCP's conservation program is essential to the success of them both. As discussed in depth in Chapter 9, the conservation program must be oriented toward achieving biological goals and objectives. The monitoring program must help inform us if those biological goals are being met and to improve our understanding so we can improve future management actions.

10.1 Monitoring

The Endangered Species Act (ESA) emphasizes the necessity for “reporting requirements ... for determining whether [incidental take permit] terms and conditions are being complied with” (section 10(a)(2)(B)(v)). An applicant's HCP must include steps to monitor the effects of take (50 CFR Part 17.22(b)(1)(iii)(B), 17.32(b)(1)(iii)(B), and 222.307).

Monitoring should be viewed as an integral *component* of the HCP's conservation strategy, not as a separate piece. As with the goals and objectives of the HCP, monitoring goals needs to be explicitly tied to the hierarchy of goals and purposes of the HCP. Clearly defined monitoring goals and objectives will drive the usefulness of the monitoring program.

We use monitoring results to assess the status of systems or populations and efficacy of management and restoration efforts, and they can provide early warning of impending threats and a basis for understanding and identifying meaningful change in natural systems.

The HCP monitoring program should broadly:

- identify specific monitoring objectives;
- evaluate competing hypotheses about the effectiveness of management actions;
- assess the state of the system or species;
- provide a means to track progress toward meeting biological goals and objectives, as well as and general compliance with the HCP's conservation strategy (including any avoidance or minimization measures to be implemented);
- focus on crucial information needed to resolve uncertainty and improve management effectiveness;
- explicitly show monitoring data's purpose and use in the adaptive management processes established in the HCP;
- make data and reports transparently available to the public using existing information systems;
- track implementation of covered activities to ensure the effects of those activities analyzed in the HCP, the National Environmental Policy Act (NEPA) document, and the Services' decision documents remain accurate; and
- increase understanding of the system being monitored.

Collecting detailed information is not helpful in and of itself—data needs to be collected with a purpose in mind. Consultation with a statistician is recommended to maximize sampling efficiency. Nichols et. al. 2006 make a strong case for designing a monitoring and implementation program based on hypotheses and associated models of system responses before management actions are implemented instead of designing monitoring programs without laying out possible system results before implementing the management actions. They argue monitoring that is collecting without a *specific* purpose is an extremely inefficient way to gather information for improving management practices. Understanding the effectiveness of management actions means we have to get updates on the status of the system or species in mind, which will allow us to update our models or understanding of how the system works (by proving or disproving our hypothesis about effects of management actions and system function).

The development of a monitoring program should be tailored to answer specific questions needed for the decisions that need to be made. What are the decisions? What are the consequences of uncertainty? These are key questions to think about when developing the objectives of an HCP monitoring program.

Monitoring and reporting could be divided into three categories for HCPs:

- monitoring for baseline information,
- effectiveness monitoring to support ongoing conservation decisions, and
- reporting compliance with permit terms and conditions.

10.1.1 Monitoring for Baseline Information

The temptation is to always ask for more data. It is what we do as biologists, but you should give careful consideration to identifying specific data necessary to support decision making. Baseline information about abundance or distribution in a plan area can be critically important, or not so much, depending on the specific decision to be made. There are many cases where baseline information collection is critical to developing a meaningful conservation strategy or deciding which management action should be implemented.

The need to collect more baseline information can occur both during plan development and plan implementation.

During plan development more baseline information may be needed because of circumstances such as:

- a species occurs within the plan area that has an extremely narrow range or is restricted to a rare habitat type in the plan area, where the protection or loss of any habitat could be important to the species;
- a critically imperiled species is in the plan area where the loss of any individual is significant and the species status in the area is unclear; and
- a critically imperiled species is in the plan area where the loss of a specific kind of habitat (e.g., breeding or rearing areas) is significant to persistence of the species.

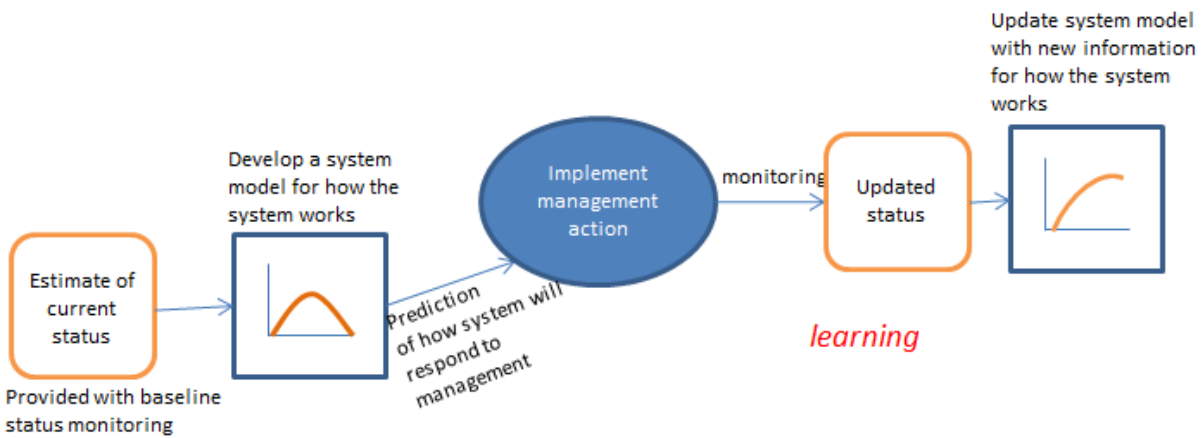
During plan implementation more baseline information may be needed because of circumstances such as needing key information about species occurrence or some form of habitat conditions to make a management decision.

In some instances, there's enough existing information to support planning or implementation decisions. For example, recent surveys revealed an ESA-listed species occurs in the plan area, so if the decision is whether to cover the species or not, the information on hand may be adequate. However, if the decision is about where development could occur and that species was critically imperiled (where the loss of even one individual was unsustainable), then focused surveys to document more precise occurrences may be warranted for the decision.

10.1.2 Effectiveness Monitoring to Support Ongoing Conservation Decisions

HCP monitoring programs should help decide which management actions are most effective in meeting HCP goals. This is done by developing competing hypotheses about how the system will respond to management actions taken through implementation of the conservation strategy.

Figure 10.1a: The Importance of Monitoring to Support the Learning Process of Management Decisions



10.1.2.1 Development of Competing Hypotheses in Management Decisions

To help us learn from our management actions, we develop detailed hypotheses and associated models of system response to those management actions. This information can be collected from expert opinion, research, gray literature, published works, or other useful sources. It's critical to decision making to organize our information in a manner that follows a consistent and clear process that:

- captures our understanding,
- makes our assumptions clear,
- highlights areas of uncertainty, and
- identifies critical gaps in our understanding.

Conceptual models can be a template or a process that documents our understanding of how the species or system works. You can then place our thinking and understanding in a conceptual

model. You can also use conceptual models to show different hypotheses about specific system or species functions that can be tested through monitoring. Conceptual models are a key foundation upon which the integrated approach to development of goals and objectives, monitoring and evaluation, and adaptive management systems are built: all of these tie into our understanding of the system and what we are going to do about it to conserve species.

Hypotheses about responses of populations or systems to management actions can involve many interactions and may be difficult to develop, but they are important. These models and their assumptions about system function guide our management efforts and focus our monitoring. The focus that comes from laying out our assumptions is essential to development of an efficient management and monitoring program. Even if we begin taking management actions with system models that have a high degree of uncertainty, laying out our hypothesis of system function explicitly will give us something to test and learn from to improve future system models.

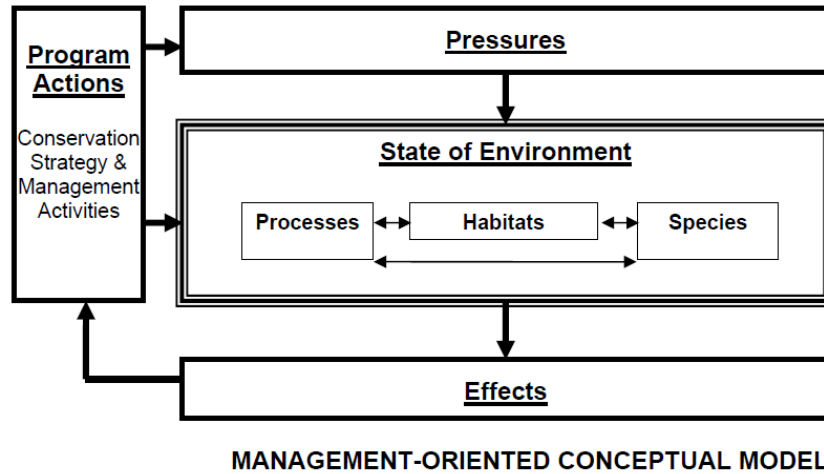
You can think of a system model as a hypothesis of how the system works. Where there is uncertainty with how the system works, you may need multiple models to test. A conceptual model may be an entirely adequate form to develop the hypothesis. The focus of the system or population models should be on those influences that are thought to be primarily responsible for the present state of the system or population.

Keep the following in mind when developing conceptual models about system function and hypotheses about management effects:

- They should not capture every detail.
- Focus on the major influences of the system or population.
- Multiple models may be strung together rather than one complicated model – models are difficult to make comprehensive and remain useful.
- Can be conceptual and qualitative (see discussion on conceptual models) but need to be illustrative of your assumptions.
- Develop the simplest model possible that represents the key population or system function processes/influences.

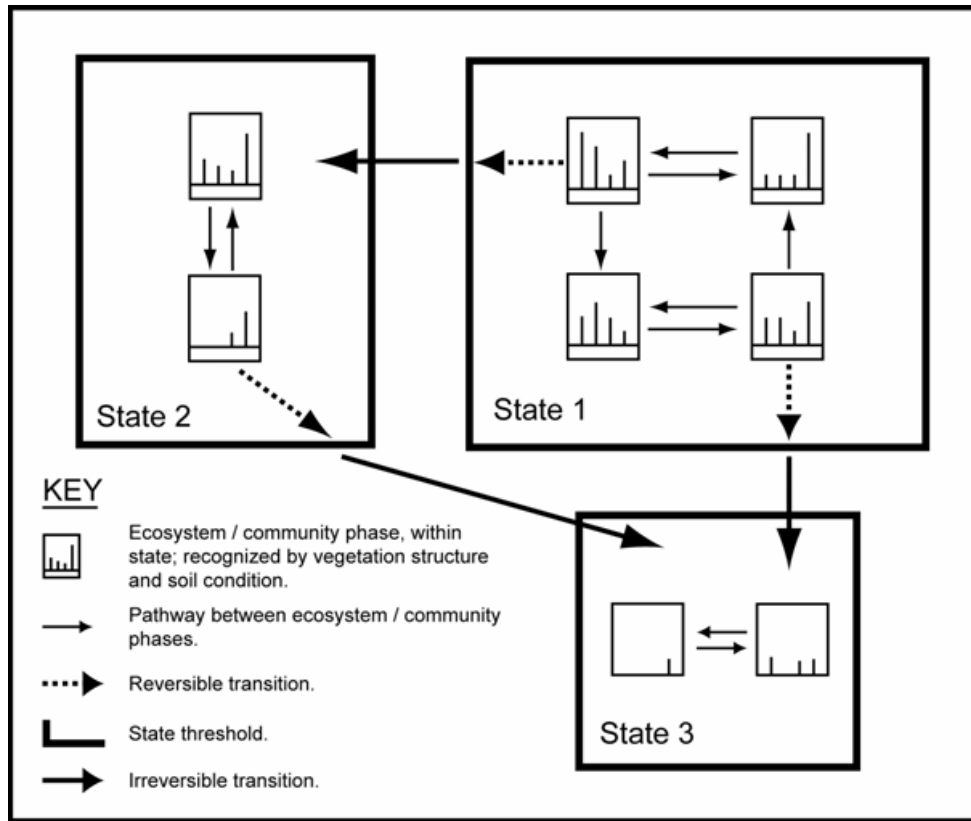
There are many good sources on conceptual models. Below are examples that may be useful for your HCP. Because different types of models are used for different reasons, the purpose of the conceptual model should be understood before you begin to develop it.

Figure 10.1b: A management-oriented conceptual model



You can use a management-oriented conceptual model to illustrate how the conservation strategy affects species or habitat of concern, and the stressors that affect them.
From: Atkinson et. al., 2004

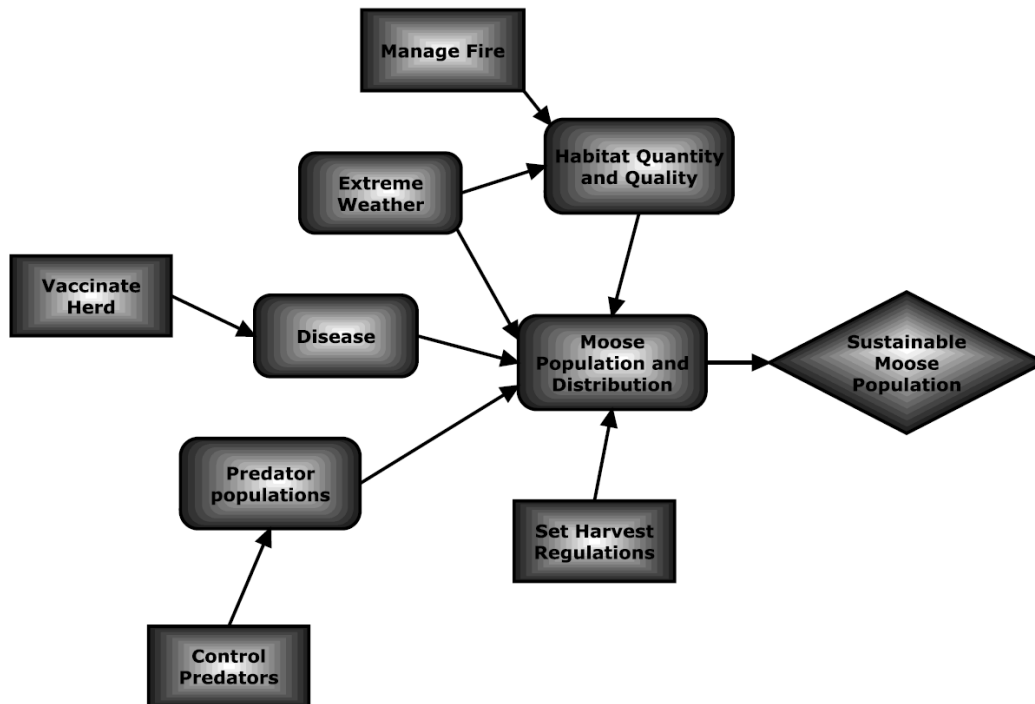
Figure 10.1c: State-and-transition models



You can use a management-oriented conceptual model to illustrate how the conservation strategy affects species or habitat of concern, and the stressors that affect them.

From: Gross, 2003.

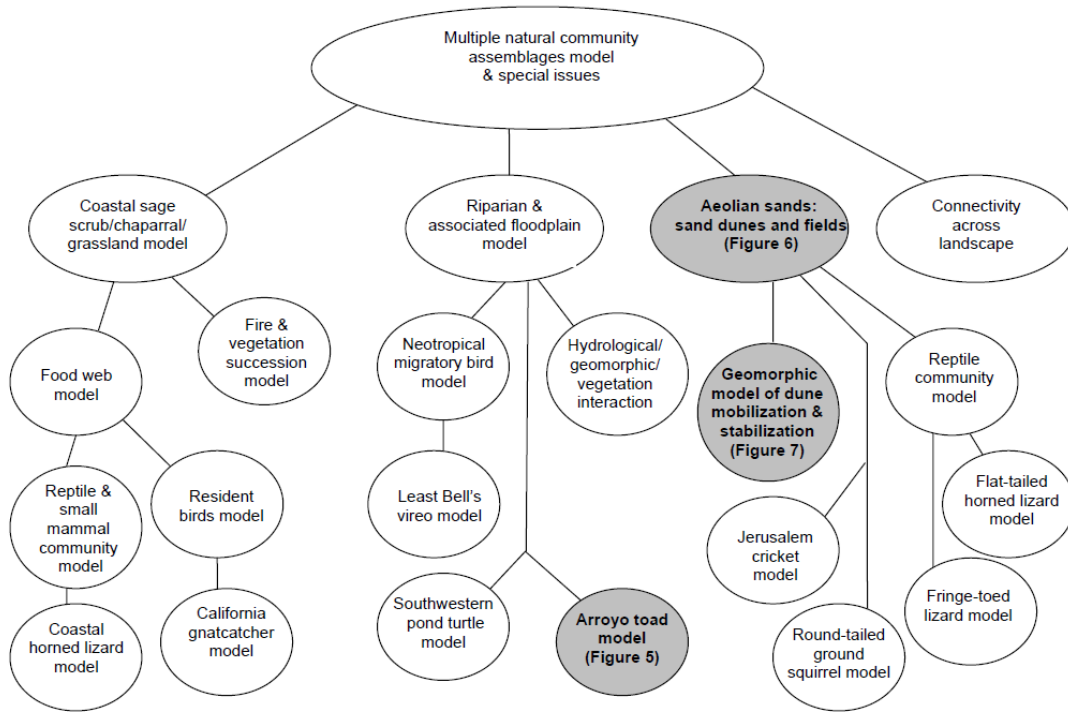
Figure 10.1d: An Influence Diagram



An influence diagram is a simple conceptual model that illustrates the ‘big picture’ associated with a problem and also indicates where decisions or actions could be applied. The objective of the action in the example above is to sustain the moose population (diamond). Factors are in rounded rectangles, and they are the things that contribute to the objective, including chance or stochastic variables (weather) as well as factors that may respond to actions or decisions (habitat quantity and quality, disease, predator populations). Potential management actions are shown as rectangles.

From: Designing a Monitoring Program A Road Map for Planning a Biological Monitoring Program. Reynolds et.al., 2015.

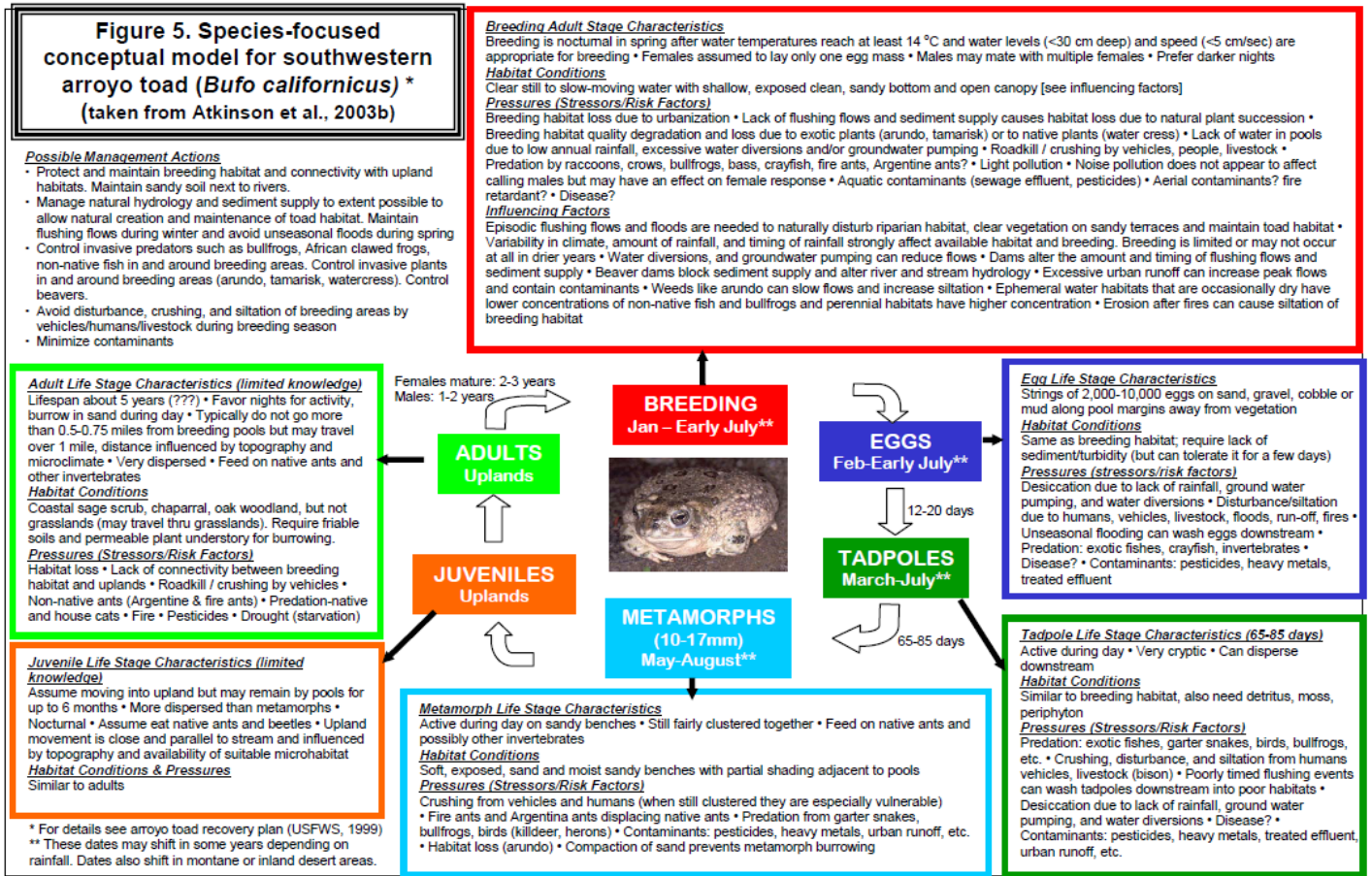
Figure 10.1e: Nested Conceptual Model



Models can be nested to accommodate different levels of detail while allowing you to see the big picture. This hierarchy includes an overarching multiple habitat model, a natural community assemblages models, various sub-models such as on processes (vegetation and food-web), and specific covered species models.

From: Atkinson et. al., 2004,

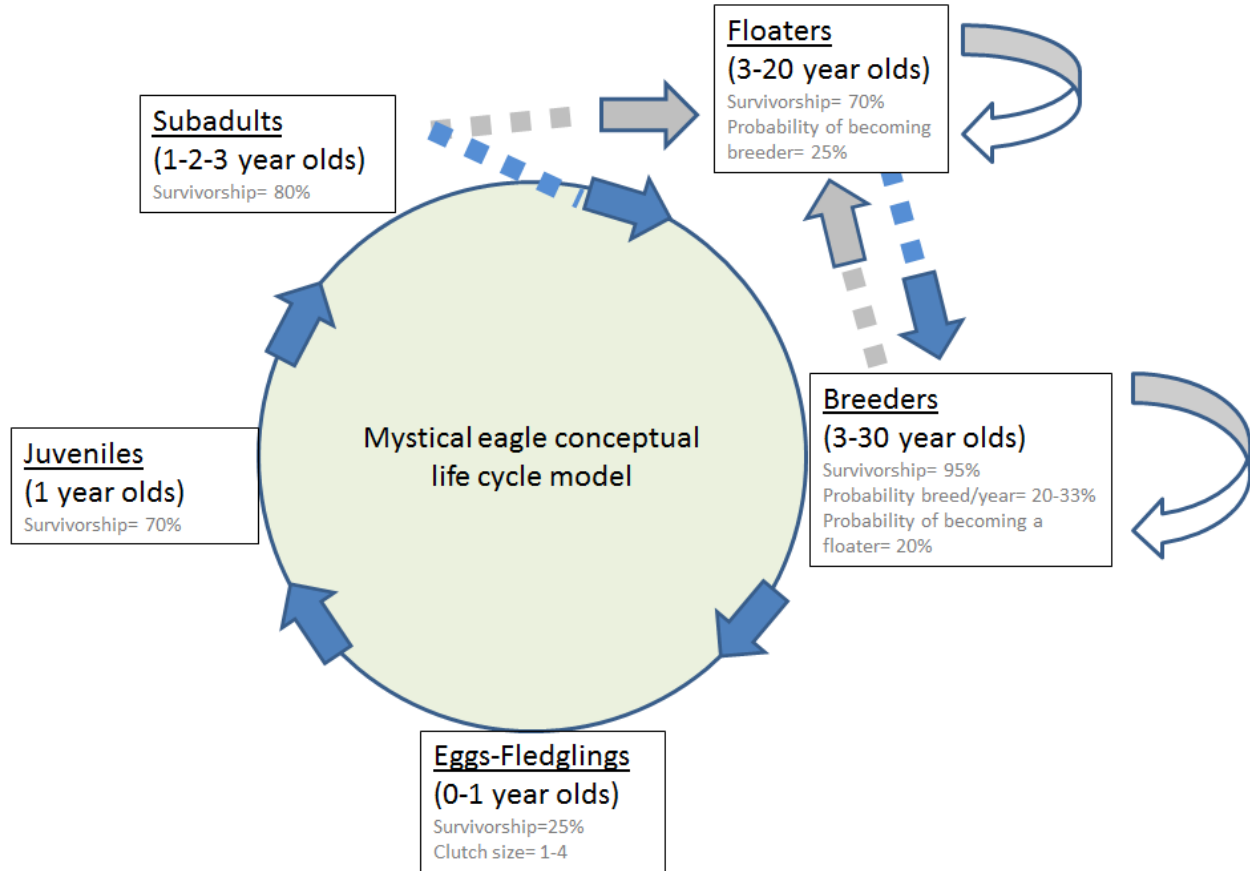
Figure 10.1f: Example 1/Species-Focused Conceptual Model



Species-focused conceptual models vary in complexity, but are a way to simply show a species life cycle and the factors that may affect each stage.

From: Atkinson et al., 2004.

Figure 10.1g: Example 2/Species-Focused Conceptual Model



A species focused conceptual model, such as this one can easily transition into a simple spreadsheet model to outline the life cycle of a species or population.

10.1.3 Reporting Compliance with Permit Terms and Conditions

In general, permittees report compliance, and the Services must evaluate if the reporting demonstrates compliance with permit terms and conditions.

Our staff must answer a key question: did the permittee implement actions consistent with the permit terms and conditions? We may need to follow up with field visits to verify the reports the permittee submits. Likewise, the use of remote sensing or aerial imagery may be an efficient approach to verifying compliance.

The Project Leader/supervisor should keep permittee annual reports and annually write a memo to the file describing our assessment of the permittee's compliance with the terms and conditions. Where lessons can be learned from management experience and results of monitoring or research, the Project Leader/supervisor should consider writing a "lessons learned" white paper to share with anyone who can benefit from it. Sharing these experiences will speed up learning and information exchange to improve conservation in other places and situations.

What must the permittee be in compliance with?

The report and memo should explain how the permittee is in compliance and include information on :

- implementing the HCP (e.g. avoidance, minimization, and mitigation measures that occur within the time period),
- specific reporting measures in the permit, and
- progress towards achieving the biological goals and objectives. Ultimately the permittee must meet the biological goals and objectives- developing a schedule of progress with interim goals in the HCP is a useful way to ensure there are clear expectations for progress and compliance with the permit.

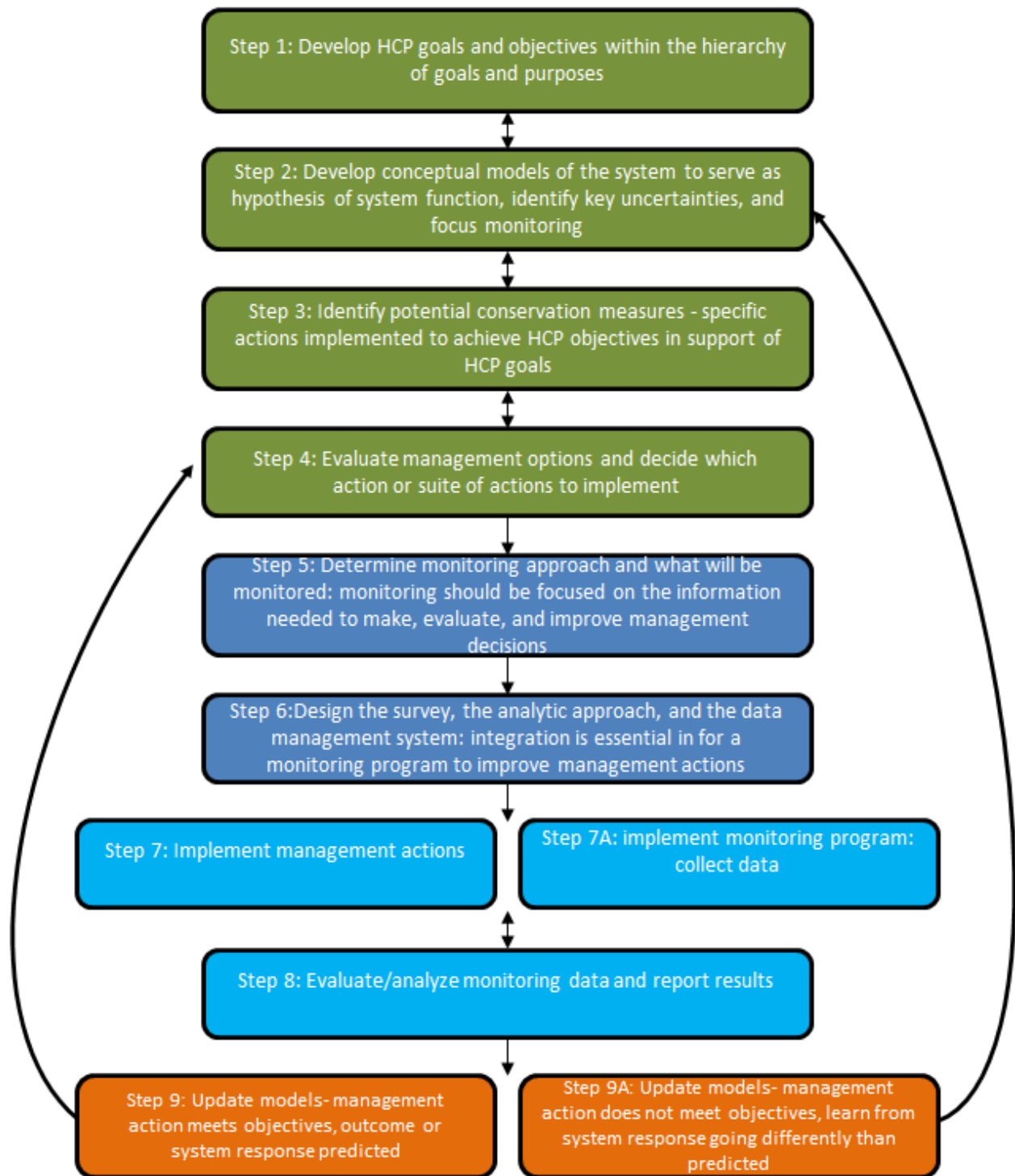
More information about reporting is in section 10.4.

10.2 Steps to Develop a Conservation and Monitoring Program

This discussion relies on the draft report "A Road map for Planning a Biological Monitoring Program" prepared by the FWS for the National Wildlife Refuge program.

Figure 10.2a, is a quick summary of the sequence and of the steps that should be considered when developing a conservation program, including designing a monitoring program (steps 5-8), implementing the monitoring program (steps 8-9), and implementing the adaptive management program (step 10).

The Integrated HCP Planning Cycle



10.2.1 Frame the Problem

Step 1: Develop the HCP biological goals and objectives within the hierarchy of goals and purposes (see chapter 9). As a part of our problem definition, we should have defined:

- the temporal and geographic scope of the problem (HCP plan area);
- management actions (conservation measures) that have been identified to address the problem;
- who decides what actions to take (and when);
- decision constraints; and
- key uncertainties where the value of information is high enough that monitoring is worth dedicating funds to reduce uncertainty. Reducing these uncertainties (management effectiveness, key information) is a large part of what the monitoring effort aims to address.

Describe the biological goals and objectives of the HCP (see chapter 9). Goals describe the desired future conditions of an HCP. Objectives are incremental and measurable steps we take to achieve the HCP goals.

Step 2: Develop conceptual models of the system components: To design monitoring, the conceptual model should make explicit the linkage between the system conditions/variables and the drivers of those conditions. We can use the conceptual system models as a hypothesis for how the system works and as a foundation upon which a monitoring program is built to prove/disprove or reduce key uncertainties needed to improve management actions. Information gained through monitoring should improve our understanding of how the system works and evaluate management effectiveness in moving the system toward the desired condition (accomplishing goals and objectives). The size and complexity of the conceptual models should scale with the size and complexity of the threats and of the plan, and with the available information about the species or system.

Step 3: Identify potential conservation measures: Conservation measures describe specific actions that the permittee will implement to achieve objectives in support of the goals. Conservation measures can be any of the avoidance, minimization, or mitigation actions identified to meet the HCP goals and objectives (e.g., restoring habitat, removing non-native species, etc.).

Step 4: Evaluate management options and decide: Evaluate the range of decision alternatives, project the outcome of each alternative action, use conceptual models to identify and understand the importance of key uncertainties, assess risk tolerance for potential consequences of decisions, account for future impacts of present decisions, and account for constraints. Decide which option best meets the desired outcome.

10.2.2 Design the Monitoring

Step 5: Determine the monitoring approach needed and what will be monitored: monitoring should be focused on precisely the information needed to support conservation management decisions. The broad kinds of answers we need from a monitoring program include: how well are

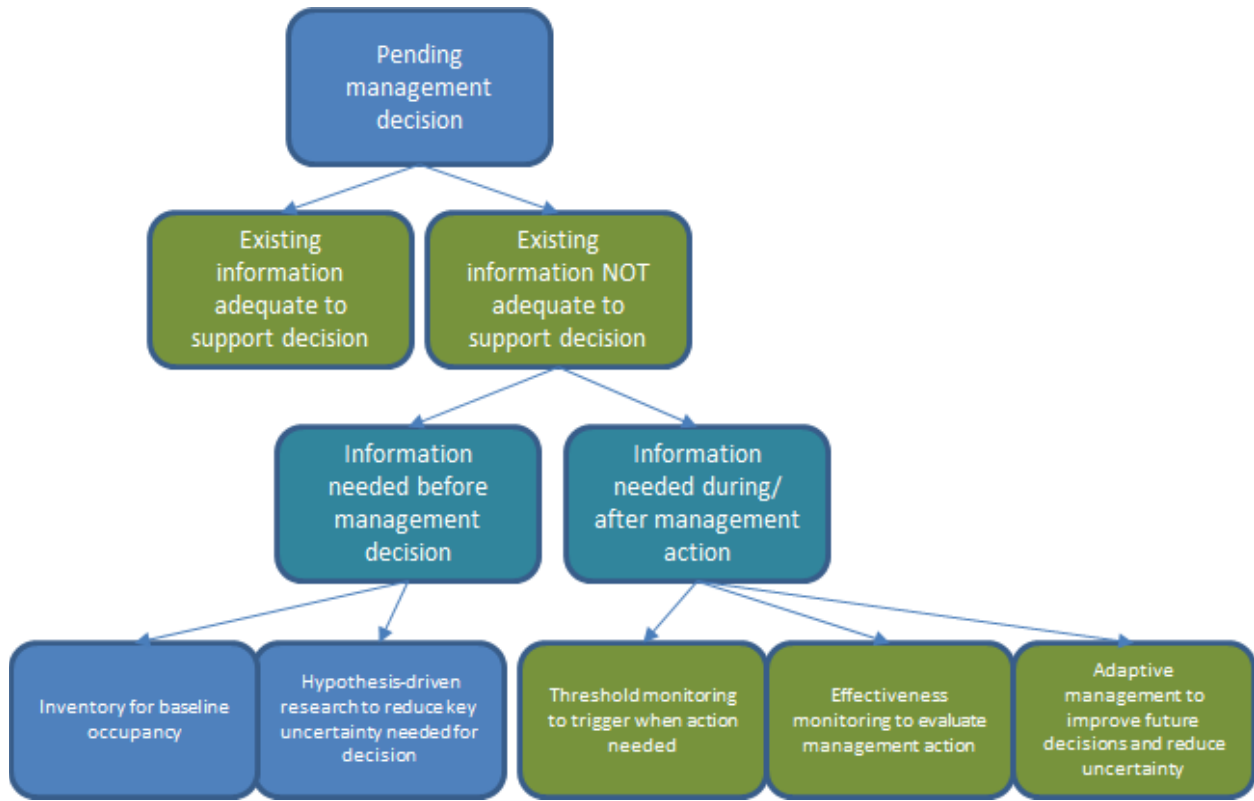
we doing in meeting biological goals and objectives? How can we improve effectiveness of management actions? What information do we need to support or improve future management decisions to meet goals and objectives?

The management decisions in question and the key uncertainties must be clearly articulated, as these will guide what is monitored. When thinking about the management decisions in question, we should evaluate information gaps or uncertainties to decide if the value of obtaining that information is important enough to invest resources to reduce the uncertainty. It may not be. For more information about how to analyze the value of information, the 2015 book *Decision Making in Natural Resource Management: A Structured, Adaptive Approach* by Conroy and Peterson is a good reference. In addition, the short chapter on “Tracking Action Effectiveness and Ecological Response” in *Climate-Smart Conservation: Putting Adaptation Principles into Practice* is a valuable resource (Stein et. al., 2014, chapter 11).

Compile and examine existing information and seek the help of experts to reduce or remove the need to conduct certain monitoring activities. In some instances the information may already be available or studies may have been conducted in the area/topic of concern. Making use of existing information can reduce monitoring needs, time, and costs.

Monitoring purposes can generally be put in two categories—monitoring for baseline information and monitoring of effectiveness to support active management. The uncertainty that needs to be addressed will drive which of these two is pursued for any monitoring question. Monitoring for baseline information gathers information needed before a management action is taken (e.g., establishing baseline occupancy information, providing key information upon which a management action is based, etc.). Monitoring for active management generally occurs during and after a management action is taken (e.g., evaluate the effectiveness of the action, adaptive management, etc.).

Figure 10.2.2a: Decision Tree to Assist with Selecting the Appropriate Monitoring Type



The FWS’s 2013 “*National Wildlife Refuge System’s Survey Protocol Handbook*” is a great resource for designing standardized survey protocols (<http://www.fws.gov/policy/SurveyProtocolsHB.pdf>).

The conceptual models developed in step 2 can be helpful in determining what will be monitored to measure success. Success could be: how well are we doing broadly or from a specific action in meeting biological goals? The conceptual models serve as hypotheses for how the system functions and how the system is expected to respond to management actions. This is the focus of what will be monitored and will help determine success of our actions and to improve future decisions.

When selecting what to monitor, consider these questions:

- *What objects or individuals will be measured?*

The decision of what to measure will affect cost, drive the sampling design, and may constrain the statistical analysis. Is it possible to consistently detect the object to be measured? If not, it may not be a good measure for the sampling design.

It may not be possible to measure everything, in particular for large-scale plans. Focusing monitoring on the key uncertainties and providing the information to

support decision making is helpful to develop a program of practical scale and cost.

- *What specific attribute of the object or individual will be measured and how?*

Table 10.2a: Examples of Attributes and Ways in Which They can be Measured	
Attribute	How attribute could be measured
abundance	complete counts, plot sampling, mark -recapture, distance sampling, occupancy models
occurrence	plot sampling, occupancy models, indirect counts (hair traps, photo traps, etc.)
reproduction rate	complete counts or plot sampling to estimate: number of births/unit of time/average population
sex ratio	complete counts or plot sampling
survival rate	complete counts, plot sampling, mark -recapture

In addition to the ideas in Table 10.2a, depending on what the question is, habitat or indices of species/population health may be an appropriate way to assess the status of a population or attribute. It's important to understand the relationship between the habitat or indices to the population or attribute that you're trying to understand. We can't rely on this relationship without understanding it. In addition, we need to consider whether and how habitat-species relationships may be altered in relation to climate change and its impacts, e.g. habitat conditions may change substantially. Changes in the types and abundance of predators and competing species may be likely to change over time and those changes can influence the status and trend of measures of attributes of species covered by an HCP.

Although oversimplified for this chapter, the examples below focus on the importance of validating our assumptions about relationships when using habitat or indices to assess the status of a species.

Example 1:

Assumptions: Pool filling depth is a good indicator of health of species x, so measuring pool depth is a good way to assess the status of species x in the area.

Validation needed: Study to understand the relationship between pool filling depth and status of species x.

- Are they related? Is the relationship linear between pool depth and health of species x?
Are there thresholds of pool filling that affect the status of species x?
- Does a full pool guarantee good status for species x?
- What does a half full pool mean to the status of species x?

- Are there other factors that need to be considered? For example, due to climate change, pool depth alone might no longer be a suitable indicator for species x if it has water temperature limitations for part of its life cycle. If that's the case, pool depth in combination with a certain range of water temperature may be important for species x.

Example 2:

Assumptions: Two species status are closely taxonomically related; therefore, monitoring the status of species 1 is adequate to understand the status of species 2.

Validation needed: Study to understand the relationship between the status of both species.

- How closely related is the status of both species?
- Are there conditions where their status is closely related (e.g., average weather)?
- Are there conditions where their status is not closely related (e.g., drought conditions and species 1 is more drought tolerant), or is species 1 in a location experiencing or likely to be impacted by spread of non-native invasive species, increases in competitors, or other responses to climate change or other stressors?
- *What is the appropriate level of effort for monitoring?*

In general, there are two ways to determine the appropriate level of effort for monitoring:

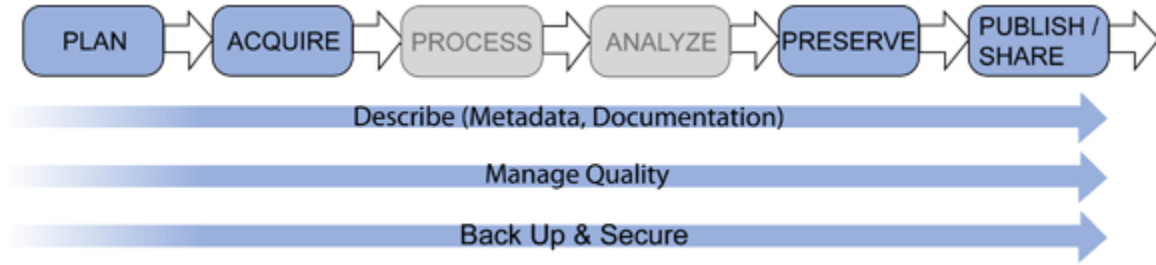
- Focus on the statistical analysis and use the needs of the analysis (e.g., sample size) to determine the level of effort needed for monitoring
- Focus on what is feasible for monitoring and adjust the expectations regarding anticipated results of statistical analysis to fit the expected level of data collection.

Focusing on the data needs for the statistical analysis is the more robust way to approach this decision. If more accurate data is needed, focusing on statistically robust methods is the preferred approach.

Step 6: Design the survey, the analytic approach, and the data management system: Integration of all of the above is essential in executing a useful monitoring program that yields information to improve management actions. If a statistician has not been consulted by now, this is probably a good time to bring one in as the world of analysis can be overwhelming.

As part of step 6, a data management and delivery plan should be developed. This plan is critical to ensuring data is collected and managed in a way that it can be efficiently accessed and utilized. See Figure 10.2c.

Figure 10.2c; U.S. Geological Survey (USGS) [data lifecycle diagram](#)



As shown in the above diagram there are many aspects to data management, each is important, and how they will be handled should be described in each HCP's data management plan.

10.2.3 Implement the Conservation Program and Learn

Step 7: Collect and manage data and implement management actions. Knowing what data will be collected, why data is being collected, and how data is being collected is crucial in making the data useful. Documenting the implementation of management actions (who, what, when, why, where, how) will be useful for repeating successful actions and understanding why those actions weren't effective in accomplishing the desired outcome. It could be the action was correct, but implemented in a manner that was ineffective, and documentation of how that action was implemented may be key to understanding the results later. Thus, the monitoring design and collection of data will need to include relevant information about changed circumstances that we expect will occur, and information about unforeseen circumstances, since these could account for or contribute to understanding the relationship between the HCP management actions and their effects, especially if the effects are not as expected.

Step 8: Analyze data and report results: Now that data has been collected in a certain way for a certain purpose, we must analyze it to answer the question(s) for which it was collected. Monitoring implemented for baseline information is used to understand fundamental questions about how the system works or to establish a specific system state (e.g., how many of species x are there in this area). Monitoring data collected to support active management decisions should be collected and data analyzed to evaluate the assumptions and hypotheses about the predicted system response. Just as we monitor for a specific purpose to make better informed management decision, reporting data in a way that is useful for managers to access them is really important! The utility of the monitoring and evaluation effort will suffer if reports aren't timely (within the decision timeframe) or in a format that isn't easy to use.

Step 9: Update models and plan action: Information gathered and analyzed must now be plugged back into our conceptual and quantitative models to improve our understanding of the system and how it responds to management actions. Updating the system models with the latest information on what we have learned is important to improve future management decisions.

To check if the HCP is on track or why something may have succeeded or failed, you should:

- consider your results in the context of your conceptual models,
- review your assumptions of how the system works,

- evaluate progress towards meeting goals and objectives,
- review the conceptual models to determine if there are important factors that were not included or monitored and that may have affected the outcome,
- identify and document what was learned about the system, and
- identify new information needs.

10.2.4 Changes to the Monitoring Program

One of the issuance criteria for an incidental take permit is that the applicant will assure adequate funding to implement the HCP and respond to changed circumstances. This generally results in a monitoring program developed at the same time as the HCP with an estimate of how much it will cost to implement the monitoring and evaluation program. In some cases, years into HCP implementation, the permittee and the Service may agree that the monitoring program is not on track to provide useful information to evaluate and provide the information needed to improve management decisions. What do you do next?

For small scale plans, or plans that are short in duration, developing the monitoring strategy during plan development may be feasible, but for regional plans or plans with long-term permits, it may not be feasible. Adjustments to the monitoring program are inevitable and should be planned for during HCP development.

For regional plans, consider writing a summary of the monitoring program, or a “monitoring framework”, that outlines the general components of the monitoring program (not detailed or specific monitoring protocols), including the biological goals and objectives and the estimated costs of the monitoring program in the HCP. The detailed information about how to implement the monitoring program could be developed as a companion document either when developing the HCP or subsequent to permit issuance, depending on the plan and species. A process for how the monitoring program will be developed and amended should be included in the HCP. The Service must be involved in the development of the monitoring plan, and we have final approval before it is completed. How to make adjustments to the monitoring program should be part of the original cost estimates (including inflation), so that a plan amendment isn’t necessary.

10.3 Evaluation

As focused monitoring data becomes available, it must be analyzed. As with the selection of monitoring methods, you should make sure the level of analysis matches the information needs to support better decision making. You should determine the level and type of analyses deliberately before monitoring begins and evaluate them as the monitoring program is being developed. Don’t leave it until the end when you have a pile of data sheets that you now must figure out what to do with. Understanding the analytical framework will make it easier to observe and understand changes, solve problems, and make project improvements.

Any statisticians, analysts, data managers, and data collectors you involve in the process must understand the data being collected, stored, and how it will be analyzed. Adjustments are often needed to monitoring and analysis, and ensuring everyone understands the entire data cycle is valuable as each party has a unique perspective and insight for keeping the effort on track.

When you are preparing for and executing the data analyses, it is important to ensure continued involvement of the entire project team. Input from outside experts could also give useful perspective and insight into your analyses of monitoring results.

Depending on the type of data that you have and your information needs, these analyses can range from formal statistical studies to simple qualitative assessments. Just as with developing a monitoring program, finding the appropriate analysis to answer the question at hand is essential. The range of analytical techniques is staggeringly big and ever growing.

Key to the success of the evaluation process is thoughtful design of the analysis that occurs before the monitoring. Issues like sampling design and sample size can determine what can be evaluated.

Keep the following suggestions in mind when considering the evaluation phase of an HCP:

- Consult a statistician early in the development of a monitoring program.
- Efficient learning can be promoted by focused, hypothesis driven studies vs. unfocused exploratory evaluations where data is collected without clear purpose.
- Correlation is not the same as causation. Understanding causation often requires focused studies.
- Randomization of sampling points can help remove sampling bias.
- Stratification of sampling design by habitat type or priority level will improve efficiency in uncovering trends and inferences.
- Opportunistic sampling can *complement* systematic sampling efforts.
- Species surveys have imperfect detection probability; factoring in those that are missed can be important for evaluation of population trends.
- Traditional evaluations may not always work. For example, using a “proportion area occupied” approach may get enough information about population status with less effort.
- Consider conducting a power analysis to determine the minimum sample size needed to detect trends with an acceptable level of confidence.
- Thresholds suffer from:
 - uncertainty in establishing appropriate thresholds,
 - needing management before the trigger is tripped,
 - over-reaction if a threshold is exceeded, and
 - temptation to manage to the threshold rather than more biologically-valid goals.
- Statistics and models should assist with decision making, but are not a replacement for common sense in decision making.
- Take advantage of extreme circumstances to learn more about the system. How often does a major flood event happen?
- Take advantage of monitoring data available from efforts that are at a larger scale than the HCP and relevant to understanding conditions in the HCP area. For instance, monitoring at landscape scales is increasingly common as a means of tracking and understanding changes in habitat and plant-animal species composition, distribution, and abundance in relation to climate change. If such large-scale monitoring encompasses the HCP area (or is relevant for other reasons), it may be very useful for design, evaluation, and interpretation of the HCP monitoring.

10.3.1 Dealing with Uncertainty in the Evaluation Process

Uncertainty is a given in any ecological condition and is important to address in the evaluation process. However, there is not a prescription that will completely solve the challenges of uncertainty.

As an example of how to deal with uncertainty, if there is a high degree of uncertainty associated with evaluation of impacts, there may be two choices the Service and the applicant should consider:

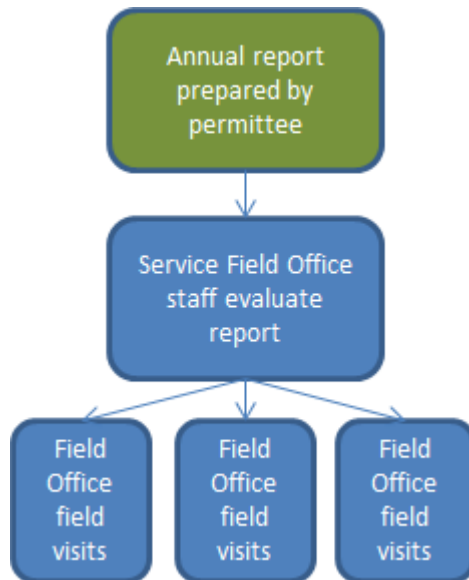
1. increasing levels of monitoring, or
2. making assumptions of impacts that err towards the highest potential impact.

Improved confidence in survey and evaluation data can reduce the need for assumptions, but may come at the cost of increased surveys. Balancing these factors is tricky but important. It is important to be transparent about sources of uncertainty and any relevant assumptions made in the evaluation process.

10.4 Reporting and Compliance Evaluations

An important element of annual reporting is for the permittee to demonstrate compliance with the HCP. As shown in figure 10.4a, our field office staff must review reports to ensure they contain the information required to ensure the permittee is complying with the HCP and terms and conditions of the permit, and to evaluate whether or not the HCP is meeting biological objectives.

Figure 10.4a Service Role in Evaluating Annual Reports



Typically, all reporting requirements should be described in the HCP and the permit. In most cases the reporting requirements in the permit are the same as those found in the HCP. The Service and the applicant should determine and specify during HCP development the level of

detail required in the reports. Coordinate timing of HCP reports with other external reporting requirements to help streamline multiple requirements that permittees may have, such as those for State wildlife agencies.

Information and data that the permittee is **required** to share at least annually with the Service includes:

1. Summarize or list the covered activities executed during the reporting period.
2. Quantify the impacts from covered activities.
3. Quantify and describe the extent of take for each covered species as a result of the covered activity.
4. Describe how the conservation commitments of the HCP were implemented and their results.
5. Describe the monitoring results and survey information.
6. Describe any circumstances that made adaptive management actions necessary and how it was implemented.
7. Describe any changed or unforeseen circumstances that occurred and explain how they were addressed.
8. Quantify funding expenditures, balance, and accrual.
9. Summarize any minor or major amendments.
10. Describe any non-compliance issues and how they were resolved.
11. Include any other information as required by the permit or HCP.

10.4.1 Data Sharing

The Service and applicant should transmit data per the data management and sharing plan that was developed early in the process. Data shared should include any relevant information for helping us understand compliance, habitat conditions, and the status of covered species. This data is not only important to document compliance, but it is also useful in linking conservation efforts across bigger scales.

Table 10.4a: HCP data sharing requirements

Data to be shared*	When to share data			
	draft HCP	final HCP	annual update	required element
Plan area boundary	X	X		X
Conservation areas	X	X	X	X
Impact areas	X	X	X	X
Permittee HCP tracking and reporting			X	X
Species impacts (what was impacted-	X	X	X	X

habitat/individuals)				
Species survey information (locality, presence/absence, abundance, etc.)	X	X	X	X
Habitat restoration data			X	
Models inputs and outputs	X	X		
*not all elements will be developed for each plan.				

Traditionally, HCP annual reports come in paper copy at roughly the same time each year. These reports demonstrate compliance and lay out basic plan implementation information. However, we can do more with the information if it is collected and transmitted with the full data lifecycle in mind, not just that for one particular HCP, but also for regional conservation efforts for the species.

- All data delivered to FWS should have fully compliant metadata that meets Federal Geographic Data Committee (FGDC) or ISO 19115 metadata standards
- What are the survey protocols? Are there other ongoing efforts to monitor the same species? Are the methods compatible with this HCP?
- How is the data going to be housed? Can data collected for this HCP be combined with data gathered from other ongoing conservation efforts?
- Was there geospatial information gathered for this HCP? How/where is it housed?
- Is the data going to be analyzed? What techniques will be utilized? Where will the analysis be kept? Can it be combined with other ongoing analyses? How robust is the analysis? Could it be improved by combining with other ongoing efforts?
- Be especially careful if the Service is going to replicate analyses independently of the applicant (or their consultant). In this case, more data will likely be transferred and more specific information about how the analyses were conducted should accompany the data.

The Services and applicant should think carefully about the full data lifecycle for how and what the permittee will collect, and the plan should identify, at a minimum, the required data deliverables. Consider the following:

- If there are multiple efforts ongoing in an area that cover the same species or habitat types, is there a way to link the efforts through standardized protocols and a centralized database?
- Has a data management plan been developed (<https://www.dataone.org/data-management-planning> or <http://www.usgs.gov/datamanagement/plan/dmplans.php>)?
- Are there adjoining HCPs in an area, or other relevant efforts? Is there a benefit for them to work together on conservation and data collection/housing/ analysis?

In some instances linking the monitoring to ongoing monitoring efforts outside the plan area will allow for better quality information at reduced effort and cost. USGS has prepared a useful

summary of the full data life cycle: <http://www.usgs.gov/datamanagement/why-dm/lifecycleoverview.php>.

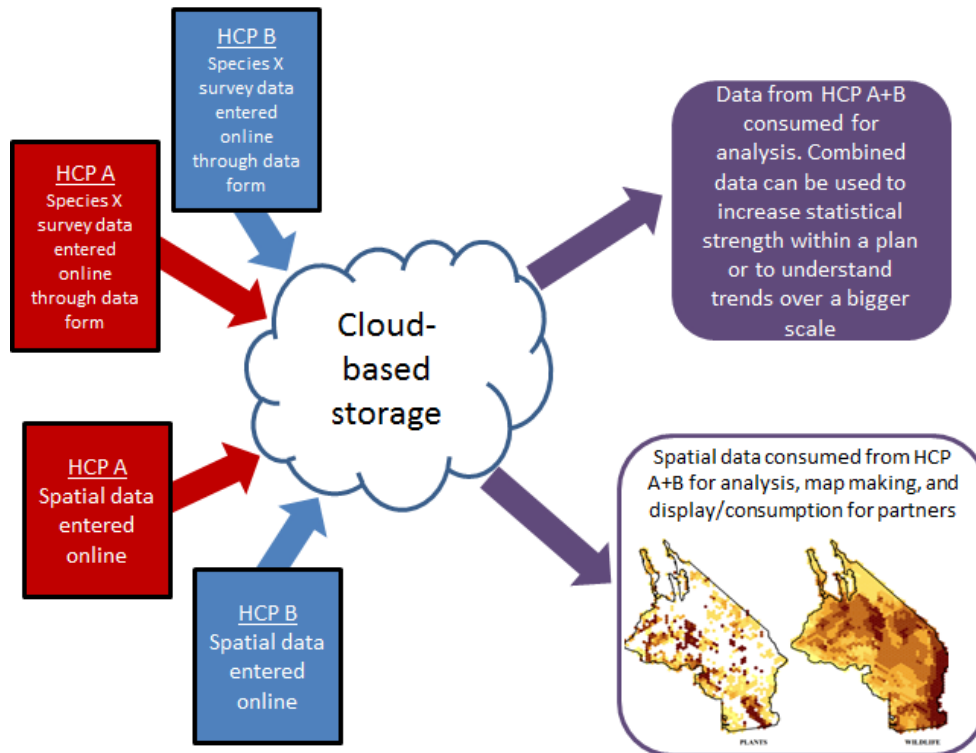
Key Data Points

- Data are valued assets: We need to manage data over their entire lifecycle beyond the immediate need.
- All delivered datasets should have fully compliant metadata.
- The goal of managing over the data lifecycle is to eliminate waste, operate efficiently, and practice good data stewardship
- By linking to other efforts, we can be more efficient and improve conservation efforts.
- A good data management plan can help organize and plan for all phases of the full data lifecycle (see the HCP Handbook Toolbox [*Link will be added in final version*] for additional materials pertinent to management plans).

10.4.2 Technology and Reporting

The emergence of cloud-based data housing opens up a world of options for sharing data and for improving how information collected or developed in the HCP can be consumed by the Services and partners. Systems like USGS ScienceBase (<https://www.sciencebase.gov/about/>) present opportunities to house and manage data online in a Federal data repository where it can be made discoverable and usable by other applications such as data.gov. Web map services like Databasin and ArcGIS offer online map making and collaboration services. These tools should be an integral part of sharing data between the permittee and the Services and increasing transparency.

Figure 10.4b: Data Sharing and Collaboration Using Cloud-Based Services



Ideally, the Service office (Regional or Field) will have developed a system for the applicant/permittee to directly enter data through an online portal or an online database. Setting up an online data system with proper data quality controls, allows for easy information exchange, facilitates coordination with other HCPs and protected areas during plan development and implementation, and allows us to roll up of many spatial analyses into landscape level planning for species and ecosystems.

10.4.3 Outputs from Monitoring and Evaluation in Annual Reports

Annual reports must document the status of *plan compliance* including:

- land acquisition/protection activities implemented,
- management activities implemented,
- monitoring activities implemented, and
- funds expended for implementation.

Annual reports should document the effectiveness of plan implementation in meeting stated biological goals and objectives, including:

- status and trends of resources (e.g., quantitative data on covered species, biodiversity, vegetative composition and structure),
- status and trends of known threats, and
- effects of management actions in achieving the desired condition.

Annual reports should document *targeted research or studies* implemented to provide information we need to support management decisions including:

- resolving critical uncertainties to improve understanding of species or system function, and
- results of experimental management treatments.

10.4.4 Evaluating HCP Compliance

It is incumbent on the Services to read and evaluate the annual reports that the permittee submits. Field office staff resources should be dedicated to compliance monitoring, especially for the larger HCPs, including the development of guidance for site visits by staff on a regular schedule and the use of periodic independent audits for compliance reporting. Field offices should develop HCP monitoring plans to determine staff requirements and to ensure the actions are assigned to appropriate individuals. They may include line item budget items to ensure resources are allocated for this important task.

See Chapter 17.2 for more information about what to do if the permittee is out of compliance during plan implementation.

Permittee-conducted monitoring should also include checks on when and if changed circumstances have been triggered. For plans that have a long permit duration, the status of fire, drought, floods, etc. provide context for implementation of the entire conservation program.

10.4.4.1 Field Office Preparation to Monitor Compliance of the HCP

Once an HCP is completed, field office staff and managers should meet to discuss how they will monitor that specific HCP for compliance. Consider addressing the following to define the approach to monitoring compliance of an HCP:

1. Estimate time needed to track plan compliance.
2. Assign staff to track compliance.
There are a couple different ways to approach the staffing decision. You can assign:
 - a. an intern,
 - b. the staff lead who developed the HCP, or
 - c. separate staff.
3. Use existing or develop a tracking tool (e.g. spreadsheet, database, etc) to keep tabs on plan compliance. Consider tracking the following areas:
 - a. plan commitments:
 - i. funding,
 - ii. timing of implementing specific tasks or expending funds, and
 - iii. rough step of conservation and impacts;
 - b. conservation and impacts (habitat or individuals impacted);
 - c. species status in the plan area; and
 - d. progress/milestones in achieving goals and objectives.
4. Develop a compliance check timeline. Schedule will outline when the field office lead needs to evaluate compliance throughout the year.

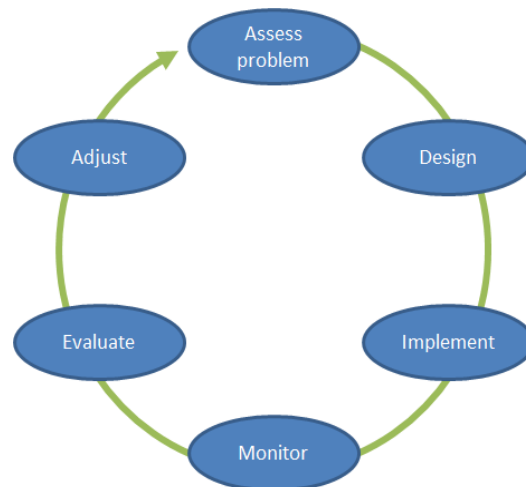
5. Evaluate compliance:
 - a. read annual reports,
 - b. verify annual reports:
 - i. field visits,
 - ii. remote sensing/ aerial imagery;
6. Enter appropriate compliance information into tracking tool (from #3 above).

It is important to keep in mind that each HCP is different, and the approach to evaluating compliance of HCP implementation varies between HCPs.

10.5 Adaptive Management

The purpose of adaptive management is to deal with uncertainty of information in management decisions. The end goal is to improve decision making related to management actions. The process of reducing uncertainty and learning by doing is what can make an adaptive management framework succeed or fail.

Figure 10.5a Conceptual Adaptive Management Process



What exactly is adaptive management? In its simplest form adaptive management is learning by doing, but that definition sells short the process and thought that goes into it. Adaptive management is more than monitoring and changing management actions; as the 2009, Department of the Interior *Adaptive Management Technical Guide* describes it:

An adaptive approach involves exploring alternative ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of management actions, and then using the results to update knowledge and adjust management actions. Adaptive management focuses on learning and adapting,

through partnerships of managers, scientists, and other stakeholders who learn together how to create and maintain sustainable resource systems.

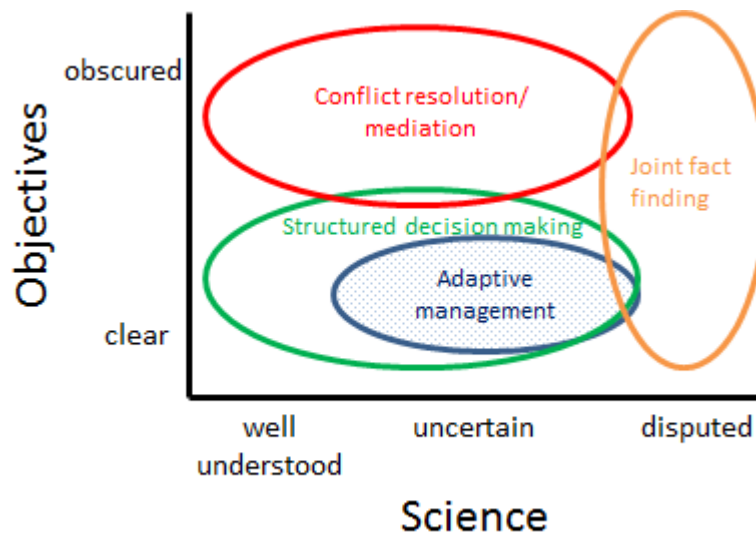
The outcome is better management decisions, but the process of learning and making more informed future decisions is what adaptive management is all about.

Increasing attention is being given to understanding, adjusting, and applying the concepts of adaptive management in the context of climate change and its impacts (see *Climate-Smart Conservation*, Stein et. al., 2014, and *Informing Decisions in Changing Climate*, National Research Council, 2009). This may be particularly important in light of climatic conditions changing at rates different than current and historical trends. We must evaluate if the expected changes are significantly different enough to require more detailed modeling and detailed responses than if we assumed the past or current rate of changing continuing. In some cases, greater emphasis on proactive adaptation management to alleviate the effects of a changing climate may be more efficient and effective than reactive management that takes place after impacts have occurred.

Before we issue a permit, there should be a clear understanding and agreement between the Services and the permittee as to the range of adjustments to the management actions that might be required as a result of any adaptive management provisions. We should work with the applicant to develop, in advance, a mechanism for determining the magnitude of strategy change to be employed based on the results of the monitoring and the level of deviation significance from the desired condition. This will help to ensure all parties are clear in this regard and can react at the appropriate time.

Not everything can be fixed through adaptive management. Deciding when to employ adaptive management is an important step in the process.

Figure 10.5 Employing Adaptive Management



Adaptive management is best employed when the objectives are clear, but there are some uncertainties in the science about how to reach those objectives. Structured decision making

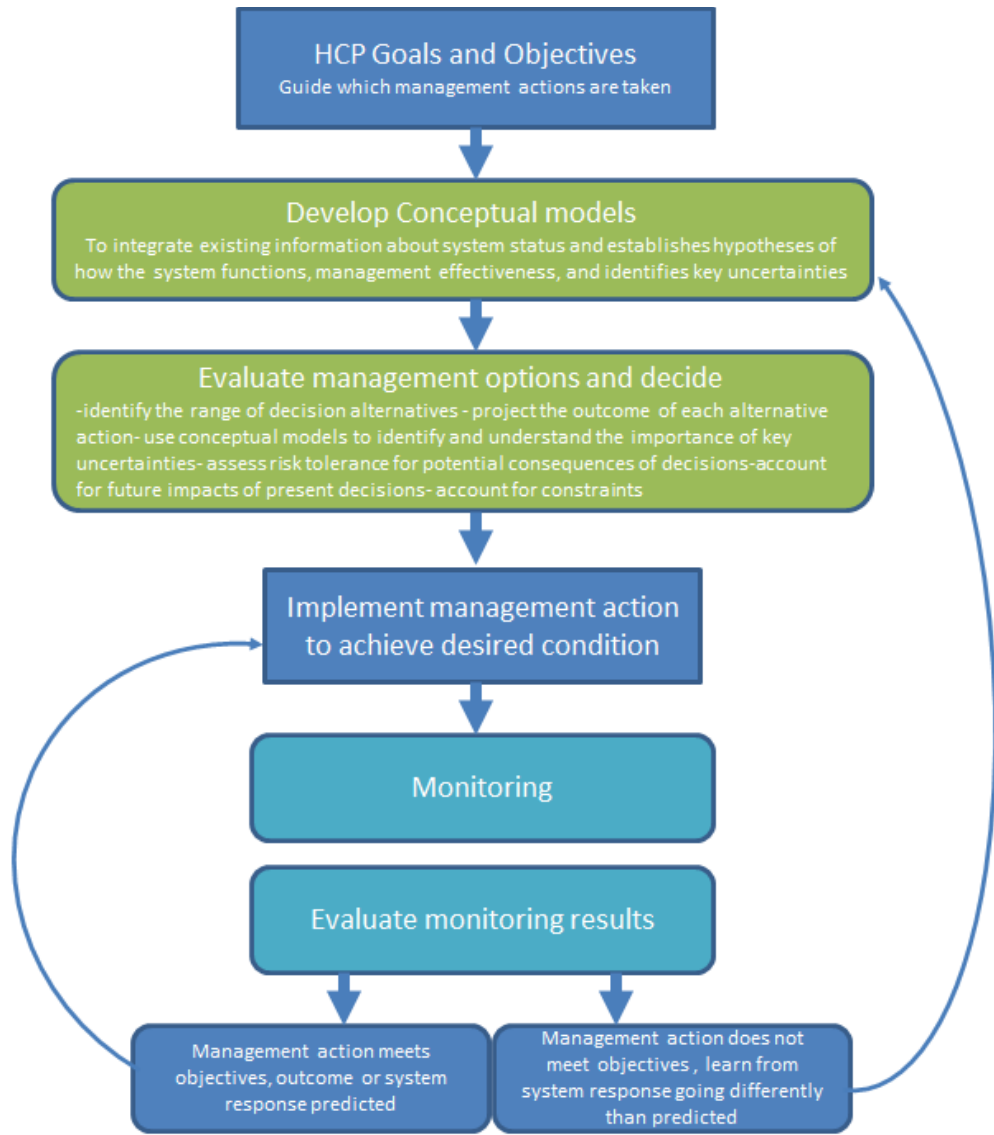
requires a commitment to a rigorous process to analyze and make decisions. More information about structured decision making is in Chapter 3, section 3.10. There is considerable overlap between structured decision making and adaptive management. At their best, combining these two processes can lead to a robust decision making process and set the stage for efficient learning and improved management decision making.

10.5.1 How to Incorporate Adaptive Management into an HCP

Much of what we need to develop an adaptive management approach relies on the integrated approach to developing the HCP. This integrated approach is described in depth throughout this Handbook and can be summarized in the following way:

1. Define goals.
2. Develop conceptual models to serve as hypotheses for how the system works and to identify key uncertainties.
3. Evaluate management options.
4. Develop a monitoring and evaluation program capable of answering questions to reduce uncertainty.
5. Implement management action and monitoring.
6. Evaluate information, and incorporate it into decisions to improve system models.
7. Use updated system models for future decisions.

Figure 10.5c: Integrated Approach to Adaptive Management and HCP Implementation



This integrated approach to goal development, monitoring plan development, data evaluation, and adaptive management is the key to each piece working efficiently to support the entire conservation strategy and improve future decisions. See Figure 10.5c above.

Adaptive Management Triggers

The Services should work with applicants to specify thresholds that trigger implementation of a particular adaptive management strategy or open reassessment of an adopted strategy. For example, Montana's Native Fish HCP requires mitigation actions if stream temperature increases by 1.0° C. When possible, the HCP should trigger specific actions that must be taken, not merely a general review of strategies.

10.5.2 Uncertainty in Management Decisions

Very few, if any, management decisions have 100% certainty. The adaptive management framework allows managers to explicitly acknowledge uncertainty through our conceptual models, and lays the foundation to evaluate the importance of those uncertainties and reduce them when appropriate. In any decision, each variable is not equally significant, so focusing on those variables that are significant, but have associated uncertainty, can focus models or monitoring to reduce the uncertainties and make better management decisions.

10.5.2.1 Accounting for Uncertainty

There are many types of uncertainty that can influence the management of natural resources. Some general sources of uncertainty commonly encountered in HCPs include:

- *system process*; limited understanding of how the ecosystem works
- *effectiveness of management action*; limited understanding of how effective the management action will be in having the desired outcome
- *basic biology*; limited understanding of basic biological needs or functions of a species
- *occupancy*; limited information/understanding about species presence in an area
- *survey strength to detect individuals/trends*; uncertainty of accuracy our survey methods have to capture information about species
- *model uncertainty*: uncertainty inherent in models, which are simplifications and involve assumptions about processes and relationships

Each one of these sources of uncertainty can affect or obscure the quality of information that goes into any decision making process in an HCP. We need to identify these uncertainties so they can be evaluated and reduced where appropriate.

Adaptive management can help us deal with uncertainty by explicitly recognizing it and bringing uncertainty into the decision making process. For example, for environmental variation, we can include environmental conditions in the resource models and assign probabilities or ranges to those that are relevant. This gives decision makers either a probability of the information being accurate or a range of possibilities the variable is thought to cover. If the probability is low or the range is wide, and this particular variable is extremely important, it can be factored into the decision making when determining how to proceed.

A few steps worth considering when dealing with uncertainty are:

1. Identify sources of uncertainty through models or relevant logic structure.
2. Characterize each source of uncertainty by type.
3. Identify which sources of uncertainty are important enough where the value of obtaining more information is worth the investment of staff time and funds.
4. Identify appropriate solutions for dealing with the specific type of uncertainty.

Also see Table 10.5a below.

Table 10.5a: dealing with uncertainty

Type of uncertainty	Potential solutions for dealing with uncertainty	Repeat decision?
<u>basic biology or system function</u> : limited understanding of biological or system function <u>effectiveness of management action</u> : limited understanding of how effective the management action will be in having the desired outcome	-evaluate if those uncertainties are important to the decision making process -focus research before decisions are made to resolve key uncertainty OR -implement management actions as an experiment with hypotheses about response, monitor and evaluate, update models	yes
<u>occupancy status</u> : limited information/understanding about species presence in an area	-evaluate if those uncertainties are important to the decision making process -make assumptions about occupancy -if important enough, conduct baseline surveys to establish occupancy status before making management decisions	no
<u>detectability of individuals/trends</u> : uncertainty of accuracy of survey methods to capture information about species or system	-evaluate if those uncertainties are important to the decision making process -make assumptions about detectability -make assumptions about trend -if important enough, conduct research to reduce uncertainty of survey method	no

Where can I learn more about adaptive management and an integrated approach to development of a conservation strategy?

Climate-Smart Conservation: Putting Adaptation Principles into Practice.

http://www.nwf.org/pdf/Climate-Smart-Conservation/NWF-Climate-Smart-Conservation_5-08-14.pdf

Designing Monitoring Programs in an Adaptive Management Context for Regional Multiple Species Conservation Plans, U.S. Geological Survey:

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=6386>

Guidance for designing an integrated monitoring program. National Park Service:

<http://www.nature.nps.gov/publications/nrpm/>

Miradi: a user-friendly program that allows nature conservation practitioners to design, manage, monitor, and learn from their projects to more effectively meet their conservation goals:

<https://www.miradi.org/>

The Department of the Interior Adaptive Management Technical Guide:

<http://www.usgs.gov/sdc/doc/DOI-%20Adaptive%20ManagementTechGuide.pdf>

The Open Standards for the Practice of Conservation: <http://cmp-openstandards.org/>

The San Diego Management and Monitoring Plan:

http://www.sdmmp.com/Libraries/Management_Plans_and_Reports/Framework_Management_Plan_to_distribute.sflb.ashx

Chapter 11: Implementation Costs and Funding

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11.0 Introduction

When figuring how to fund a Habitat Conservation Plan (HCP) the applicant must first estimate what the costs of implementing the plan will be. The applicant should use a comprehensive process to identify and estimate costs over the life of the plan, and where necessary, estimate costs in perpetuity (e.g., preserve management). Cost estimates should include adjustments for inflation.

There has to be funding for the implementation to be successful, so demonstrating funding is secured is a requirement of an incidental take permit. The applicant must develop a

comprehensive funding plan early in the planning process and secure concrete funding sources before the plan is approved.

The Endangered Species Act (ESA) guides us on funding HCPs in the following way:

Section 10(a)(2)(A): “the applicant therefore submits to the Secretary a conservation plan that specifies... (ii)“... the funding that will be available to implement such steps” (the HCP).

Section 10(a)(2)(B):

– (iii) “the applicant will ensure that adequate funding for the plan will be provided.”

The permitting regulations for both of the Services also provide specific language on funding HCPs: 50 CFR 17.22 and 17.32 for FWS, and 50 CFR 222.22 for NMFS.

HCP applicants can fully fund their plan themselves or seek funding from other sources, but all sources of funding relied on in the HCP for implementation must be assured. For regional plans, building a broad coalition to obtain funding from diverse interests, such as infrastructure projects, can be useful in securing adequate funding to implement the HCP.

Service offices should work with solicitors/general counsel to review and negotiate the financial assurance instruments the applicant uses to support the mitigation actions proposed in the HCP or general conservation Plan (GCP).

11.1 Implementation Costs

The issuance criterion to “ensure adequate funding for the plan will be provided” means that the applicant must calculate what the costs of implementing the plan will be. The complexity and size of the plan usually dictates how many different types of HCP costs will be incurred and how much the plan will cost to implement. In general, all plans must:

- thoroughly document the cost estimate (show your work),
- be paid for or assembled (and guaranteed) by the permittee,
- be paid for during the permit term, and
- include an estimate of costs that will be incurred in perpetuity (e.g., endowment fund to provide for management of mitigation lands).

The applicant must include in the HCP detailed estimates of the various categories of plan implementation, including mitigation and how each type of mitigation will be implemented, and which:

- require out of pocket costs, such as hiring biologists, monitoring, management, road decommissioning,
- are secured through exactions, such as land set asides, easements, and
- are a part of on-going operations, such as timber harvest plan costs, etc.

11.1.1 Estimating Costs

The applicant must clearly demonstrate how all aspects of plan implementation will be adequately funded, so they must first estimate the costs of the elements of plan implementation.

The following worksheet is an example of how an applicant could estimate costs of plan implementation. This example includes the minimal amount of information needed, and most HCPs will require additional detail where the breakdown of costs and more tables are necessary. See Worksheet 11.1a.

Worksheet 11.1a Funding Worksheet to Estimate all HCP Costs

Applicant	Funding area	Annual Cost estimate										Total Cost estimate	
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
		a	a	a	a	a	a	a	a	a	a		
		1	2	3	4	5	6	7	8	9	10		
	Public Outreach:												
	Public meetings												
	Written information/mailings												
	Other activities, as required												
	HCP Administration:												
	Annual reporting												
	Meetings												
	Permit processing												
	Other needs, as required												
	Minimization measures:												
	Pre-construction surveys												
	Biological monitors												
	Exclusion fences												
	Other measures, as required												
	Mitigation:												
	Land acquisition/conservation easements												

Purchase credits at mitigation bank											
Restoration											
Other measures, as required											
Monitoring											
Compliance											
Effectiveness											
Targeted research											
Adaptive management											
Reporting											
Time to develop											
GIS											
Printing/publication costs											
Preserve management											
Day to day management											
Endowment											
Signage											
Changed circumstances											
Remedial actions											
Total											

For plans that require land acquisition throughout the permit term, it may be more cost-effective in the long run to front load funding for the acquisition earlier in the plan. This strategy anticipates long-term fluctuations in the value of land, while minimizing the chance that various stakeholders will be unable to meet their long-term commitments. Greater funding at earlier stages in the plan more likely allows to ensure better integration of later stages. HCPs with ongoing land acquisition costs should include a mechanism requiring that, for example, permittees regularly revisit and adjust fees to make sure mitigation costs can be met throughout plan implementation. See the Natomas HCP, and the East Contra Costa HCP for good examples of adjusting fees throughout plan implementation.

11.1.2 Preserve Management Costs

Applicants must prepare a detailed property analysis record (or a similar type of analysis) to calculate the costs of land management. Cost analysis must be detailed, specific, and thorough. Software like the one developed by the Center for Natural Lands Management can be useful tools to help estimate these costs (<http://cnlm.wpengine.com/about-cnlm/property-analysis-record/>).

11.1.3 Adjusting Funding

HCPs must also plan for future costs. How much will it cost to do the same activities in 20 years? To answer this question, applicants generally factor inflation into plan costs. For fee-based plans, the fees must rise to meet costs. An inflationary index is often tied to the HCP cost estimates. Market values for land, services, etc. may change at a different pace than inflationary costs, so estimates must factor that in and funding must be adequate to meet those costs.

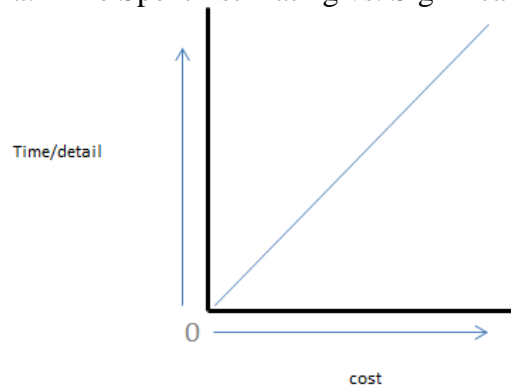
The HCP must also consider specific remedies to deal with changed circumstances (including climate change) by including an estimate of their cost and a description of how they will be funded. Applicants must build funding strategies with the long term in mind to ensure sufficient resources are available to respond to changing climates, economic changes, and uncertainty in management effectiveness, among other things.

Long-term HCPs must build rising costs into their estimates. For plans that collect fees, the applicant must establish a process in the HCP with regular adjustments so the fees keep pace with costs. There have been many attempts over the years to include funding caps in HCPs to limit the adjustments to funding for land acquisition or other costs. They're not always successful. In particular, for long-term plans, caps may impede the ability to collect adequate funds to meet commitments made in the HCP, so we don't advise using caps in these situations.

11.1.4 Estimating HCP costs

Estimating costs for HCPs can be a daunting task. Encourage applicants to use commonly held assumptions rather than trying to estimate every pen each employee might need over a 30-year period. Instead, they should assume x% for office supplies. Spend more time estimating the high dollar costs and less time on those that aren't significant. See Figure 11.1a.

Figure 11.1a: Time Spent Estimating vs. Significance of Cost



We also encourage applicants to use case studies to estimate the costs of actions (e.g., mitigation), and compare costs of similar plans to estimate the cost of implementing their plan.

11.1.5 When a Mitigation Project Doesn't Perform as Proposed

When there is risk of mitigation not going as planned, additional assurances may be needed to ensure the mitigation project can be remedied. These additional assurances are needed when there is risk an applicant will complete their development project without completing their functional mitigation requirements. For example: a five-year, development HCP requires acquisition and restoration of a wetland. The acquisition and initial restoration of the wetland occurs before the impacts, but it may take six years to know if the restoration is meeting performance targets. In this case, it makes sense to require contingency funding to remedy the restoration if it does not meet the performance targets. The funding would need to be assured through a letter of credit, performance bond, or similar funding assurance (to a third party beneficiary). If the restoration meets the performance standards, the funding assurances would be released back to the applicant. If the performance targets are not met, the contingency funds would be applied to remedy the restoration to meet performance targets. These funding assurances need to be part of the HCP's development, not something that is added later.

Each mitigation project should have a monitoring program funded as part of the project budget. In the example above, the monitoring would be essential in determining if the performance targets are met for the wetland restoration, or if more actions are needed to meet the performance targets. In addition, a permanent maintenance and management endowment must be created for the program to ensure permanent site protection and continued achievement of performance targets.

11.2 Funding sources

Applicants should look broadly for potential funding sources to meet their statutory funding requirements. Land acquisition is a significant expense for many HCPs and contributes to implementation delays for many. Table 11.2a provides examples for sources of funding.

Table 11.2a: Potential Funding Sources for HCPs

Source of funding	Examples	Good for:		
		small/ simple plan	project level/ medium size	regional/ large
Up front lump sum payment based on number of acres disturbed from project development	Alabama Beach mouse GCP	X	X	X
Developer fees collected per acre	Natomas HCP		X	X
State, county, city, or other governmental general fund	San Diego County Water Authority HCP- funded as a capital cost under the Capital Improvement Program Mitigation Program approved by Water Authority Board and/or annual operating budget		X	X
Voter approved bond measures	Western Riverside MSHCP, a condition for local agencies to access funds from a voter-approved transportation bond measure was to "participate" in the HCP; this "participation" equals \$121 million in HCP funding.			X
Energy, sales, and development taxes	San Diego County's TransNet consists of a half-cent sales tax that funds HCP mitigation. To offset impacts caused by the construction of transportation projects, the TransNet EMP set aside \$40 million for the first 10 years for implementation, management, and monitoring of the San Diego HCPs.			X
Infrastructure funding e.g., transportation bond money	The Federal Highway Administration and the Secretary of Transportation have expressed interest in facilitating area-wide HCPs because the plans enable the prompt delivery of large-scale infrastructure, particularly transportation projects. Recently, Title V of the Water Resources Reform and Development Act of 2014 authorized a pilot Water Infrastructure Finance and Innovation Act, which included a provision for loans and loan guarantees for habitat conservation plans in conjunction with otherwise eligible water infrastructure projects.			X
Special assessments	Perdido Key HCP- development with Perdido Key beach mouse habitat will be required to pay the annual \$201 per unit special assessment payment, hotels would be assessed \$201 annually per room, commercial developments will be assessed \$201 per designated parking space annually.		X	X
Annual appropriations/ annual funding	Stanford HCP, East Bay Municipal Utility District HCP		X	X
Landfill tipping fees	Coachella HCP		X	X
Water management fees	The Edwards Aquifer HCP (EAHCP) is an effort to balance the need to protect threatened and endangered species that are known to only exist in the Edwards Aquifer and springs fed by that Aquifer and the region's reliance on the same aquifer for its water needs. The costs		X	X

	associated with implementation of the EAHCP is funded through the assessment of a program aquifer management fee on EA municipal and industrial permit holders. Additional funding is provided from downstream interests including the Guadalupe-Blanco River Authority, the San Antonio River Authority, the City of Victoria, the City of San Antonio's City Public Service Board, the Guadalupe Basin Coalition, Union Carbide, and the Nueces River Authority.			
Private foundations	The Doris Duke Charitable Foundation administers grants in cooperation with the National Fish and Wildlife Foundation, Wildlife Conservation Society, and the National Council for Science and the Environment. Most projects funded are broad scale Statewide or regional efforts that help implement objectives of State Wildlife Action Plans (SWAP). Unsolicited proposals are not accepted and a letter of inquiry must first be submitted. Multi-year grants range from \$125,000 to \$3 million.		X	X
Federal - U.S. Department of Agriculture (USDA) Forest Legacy Program	The Forest Legacy Program (FLP) is a voluntary private land conservation program between the USDA Forest Service, states, land trusts, private landowners, and others. It provides financial assistance to ensure important forests remain intact and on the tax rolls, and that they continue to contribute to the community, the local economy, the landowner, and the environment. The program provides up to 75% of the funds needed to acquire (fee or easement) forestlands used for timber production that are threatened by development. Goals of the program are to promote forestland protection and other conservation opportunities; to maintain traditional forest uses; protect water quality; prevent development along pristine lakes, ponds and streams; provide public recreation opportunities; maintain productive forests; and to prevent the fragmentation and conversion of private forest land. FLP-funded acquisitions include protection of important scenic, cultural, fish, wildlife and recreational resources, riparian areas, and other ecological values.	X	X	
Federal - USDA Farm and Ranchland Protection Program (FRPP)	FRPP is a voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to State, Tribal, or local governments and non-governmental organizations to purchase conservation easements. Participating landowners agree not to convert their land to nonagricultural uses and to develop and implement a conservation plan for highly erodible land. Grant amounts vary but the land protected by easement must be privately owned, be part or all of a farm or ranch, and contain prime, unique or other productive soils. Additional requirements apply.	X		

11.3 Funding Assurances

Incidental take issuance criterion:

“the applicant will ensure that adequate funding for the plan will be provided”

The Services must find that funding sources and levels proposed by the applicant are reliable and will meet the purposes of the HCP, and that measures to deal with changed circumstances are adequately addressed. Without such findings, we cannot issue an incidental take section 10 permit. The applicant must assure us that funding is available for HCP implementation and that

avoidance, minimization, and mitigation measures can be implemented to avoid, reduce, and offset impacts to covered species from HCP covered activities.

Assurances are also required to ensure that mitigation occurs and that it meets the performance standards for which it was implemented. Specific assurances are called out for:

- mitigation that will occur post-take,
- future out of pocket costs,
- permanent management,
- monitoring,
- responses to changed circumstances, etc.,
- any requirements that continue after the permit ends (i.e., in perpetuity).

If projects do not meet their performance standards, the funds available from funding assurances can be used to correct deficiencies or to provide alternative compensation.

Although funding the HCP is the responsibility of the permittee, the permittee often assembles various funding strategies from others to meet that obligation. To receive “no surprises” assurances and to keep their permit in good standing, the permittee must fully fund and implement the HCP. Because HCPs vary widely in scope, duration, and types of take mitigation and minimization measures, there have been many different strategies to assure funding in HCPs.

It is important to highlight measures in the HCP that will require increased funds to fully implement. The applicant must explain the different types of costs in the HCP and require security assurances for those costs that result in out-of-pocket outlays beyond those that can be reasonably considered as normal business costs. In general, if there is a risk of secondary impacts that may occur later (e.g., after ground disturbance), then the applicant may need to make further assurances about how those secondary impacts are remediated. Examples of secondary impacts include:

- Road work near a riparian area: The road bank may erode later and damage important riparian habitat.
- Development near a wetland area: Development may later be found to have altered the hydrologic basin to the point that it changes the volume and refill rate of the wetland in a way that is significant to covered species
- Fragmentation from development: Development may take place later that could impact the connectivity of the covered species’ population in a significant way.

11.3.1 Types of Plans and the Types of Assurances That Are Frequently Used

Development HCPs

These HCPs usually combine land already owned with land that must be acquired. The conservation land is assembled into a preserve with management requirements into perpetuity. Cost of management, both short- and long-term, must be estimated in the plan. Applicants should call out costs born during development activities to minimize effects (e.g., exclusion fencing) separately from costs associated with those requiring additional funding, such as acquisition of

mitigation land and associated restoration, management, and monitoring costs. The latter category requires additional assurances of funding. This may be in the form of an upfront endowment fund to pay for permanent management and monitoring. If the mitigation land will not be purchased prior to take, it should include enough secured funding to pay for reasonably identified mitigation land by a certain date, or a requirement that mitigation credits in a Service-approved mitigation bank be purchased prior to development.

- Method to fund: These most often include landowner funds, development fees, and tipping fees.
- Methods to assure funding: Development HCPS often use a mix of land they own and land they must acquire. In both cases, financial commitments are required for the cost of the land or easement, management costs, and restoration costs. Methods to assure funding include:
 - endowments for long term management,
 - up-front payment before development occurs,
 - performance bonds,
 - letters of credit, and
 - commitments by companies to implement the HCP, including tools like a financial test coupled with a “corporate guarantee.” Note these tools are not always appropriate, in particular when there is risk of bankruptcy. This tool may only be appropriate for long-standing, established companies where the HCP implementation costs are small compared to the company’s operating budget and should only cover relatively small funding needs (e.g., no land acquisition needed).

Regional HCPs

Regional HCPs can be viewed as a subset of development HCPs. The method to fund and methods to assure funding are different than those used for development HCPs as the scale of impacts and conservation is usually much greater.

- *Method to fund:* These include tax assessments, bond measures, developer fees, general funds, and transportation funds.
- *Method to assure funding:* These assure funding through stay ahead provisions, specific ordinances or bonds passed for the sole purpose of HCP implementation, conservation easements, non-wasting endowments for management, and demonstration of ability to collect fees.

Timber HCPs

With important exceptions, the minimization and mitigation measures of timber HCPs are connected to timber harvests and carried out as part of their timber harvest plans as they go forward (i.e., survey requirements, tree marking, minimum stream buffer zones, requirements for leaving large woody debris, avoiding steep slope areas prone to mass wasting). Applicants may consider such measures as operating expenses to be factored into the costs of each timber harvest plan. Other costs, such as road storm proofing and HCP compliance and effectiveness

monitoring, are not tied to specific timber harvest plans and must be separately funded and generally must have more rigorous assurances.

- *Method to fund*: These plans are usually considered “pay as you go” HCPs.
- *Method to assure funding*: Because timber plans generally don’t acquire land, their main financial commitments are in the:
 - a. Manner in which they harvest, and
 - b. Infrastructure improvements to reduce effects of harvesting (e.g., bank stabilization, culverts, etc.). Funding is usually out-of-pocket and require additional assurances.

An annually authorized letter of credit or establishment and proof of sufficient funds in reserve accounts are methods applicants use to assure funding in timber plans.

11.3.2 Categories of Funding Assurances

HCP costs can be divided into three different categories based on the type of funding assurances needed (depending on the size and complexity of the plan):

1. program administration;
2. implementation of avoidance, minimization, and mitigation measures; and
3. long term management.

Each plan may not need to break out each of these categories. For example, small plans often purchase credits at a bank, where the bank builds long-term management costs into their fees. Each category does not necessarily have or need the same type of funding assurances. Before discussing assurances, the applicants must first estimate the costs of implementing the plan (see section 11.1 for more information).

1. **Program administration** costs include items such as:

- staffing,
- office space,
- insurance,
- equipment, and
- overhead.

Types of plans where this applies: These costs typically apply to all plans with implementation commitments longer than five years.

Way to assure funding:

For businesses: consistent annual appropriations, financial tests with “corporate guarantees”

For municipalities: credit worthiness test, consistent annual appropriations, financial tests with “corporate guarantees,” demonstration that fees collected will be adequate to cover these costs and that they have the authority/ability to collect those fees, etc.

2. **Implementation of avoidance, minimization, and mitigation measure costs:**

- Funding for offsite mitigation,
- Ensuring performance of mitigation meets intended purpose;
 - performance bond, or
 - letter of credit;
- Habitat restoration/creation;
- Monitoring, research, and scientific review;
- Contingency funding (e.g., changed circumstances, climate change, etc.)
- Land acquisition- new land that is acquired (in fee or by easement) or permittee owned land that is managed to support biological goals and objectives; and
- Reserve management and maintenance, including adaptive management.

Types of plans where this applies: These costs apply to all HCPs, but the mechanisms to assure funding differs among them.

Way to assure funding:

The length of plans is an important consideration for funding assurances. They can be divided broadly in two categories: short-term plans with discrete activities that cause take, and long-term plans with ongoing activities that cause take.

Short-term plans: Generally these plans must describe how the applicant will secure all or most of their funding or conservation before we will allow impacts. The Services must require measures that ensure obligations are honored and conservation implemented meets its intended long-term purpose during the permit term. Even short-term plans can have long-term impacts (e.g., construction of a home, results in permanent loss of habitat), and long-term impacts require long-term conservation to offset those impacts.

Funding assurance instruments to consider: stay-ahead provisions, and performance based instruments to ensure conservation “worked” (e.g., performance bond, letter of credit, surety bond, certificate of deposit, etc). If there is a monitoring component needed for these plans, funding assurances may be needed to ensure the monitoring occurs as well.

Long-term plans: because of their ongoing need of a permit, it is in the permittee’s own interest to be in good permit standing, which can change how funding assurances are secured relative to a short-term plan. Funding assurances for long-term plans may be different for businesses than municipalities.

Municipalities often fund plans through use fees collected or by bond measures. In general, municipalities are not a high risk for insolvency. Assurances from municipalities often take the form of “stay ahead

provisions” (see section xxxx for more on stay ahead provisions) combined with demonstration of authority/ability to collect fees. They must also describe how bond measures have already been passed on which they can draw funds to implement the HCP.

Businesses with long-term permits are more complicated when it comes to assuring adequate funding because the diversity of industries, the types of impacts through time, and that they can go out of business.

Conservation measures for businesses (e.g., land acquisition): stay-ahead provisions combined with a financial test and corporate guarantee, and annually renewed letters of credit.

Avoidance and minimization measures: letters of credit, performance bonds, surety bond, casualty insurance, cash in escrow, etc. These funds could be used if the avoidance and minimization measures either don't happen, or don't meet the performance standards.

3. Long Term Management (Post Permit) Costs

Types of plans: Most plans need to assess post-permit costs including long term management and monitoring. Timber plans typically do not include monitoring obligations after the permit ends and plans that use mitigation banks rely on the bank to meet the long term management obligations.

Way to assure funding: Endowments are established to secure and provide funding to manage and monitor reserves in the long term. These endowments must anticipate future management needs and future costs.

Remember what the purposes of funding assurances are while developing an HCP:

- to meet the issuance criteria so that the HCP is fully implemented, including avoidance, minimization, and mitigation measures; and
- that they perform as expected.

Situations where there is a higher risk of not having avoidance, minimization, or mitigation implemented generally require more funding assurances (e.g., letters of credit, performance bonds, etc.). Conversely, if we expect there's low risk of not having avoidance, minimization, and mitigation measures implemented, we generally require less stringent funding assurances (e.g., demonstration of solvency and commitment to implement measures over the long term). We have more control during the permit term to ensure the plan is implemented as required; if the terms and conditions of the permit are not followed we can pull the permit, when the permit expires we lose this leverage. We need to ensure activities occur during the permit term as planned, or that assurances are in place to ensure they take place after the permit term is over. Often the mitigation requirements, such as ongoing preserve management, outlast the permit

term, so it is important that long-term management, including funding for it, be in place well before the end of the permit term.

Figure 11.3a: Generalized Risk Model to Characterize Appropriate Funding Assurances During Plan Implementation

		Moderate risk	High risk
Permit length	short	<u>Assurances required:</u> -Credits at bank -Letter of credit	<u>Assurances required:</u> -Performance bonds -Credits at bank -Letter of credit -Cash in escrow
	long	Low risk <u>Assurances required:</u> -Demonstrate ability to collect funds -Annual appropriations	Moderate risk <u>Assurances required:</u> -Annual letter of credit -Performance bonds -Financial test + corporate guarantee
		low	high
Degree of risk conservation measures will not be implemented (based on applicant)			

Funding obligations are directly related to the mitigation option(s) that the applicant select and approved by the Services. If an applicant chooses to fulfill the mitigation requirements by buying credits from a Service-approved conservation bank, the conservation bank will be responsible for the management of the mitigation lands secured. If an applicant elects to fulfill the mitigation obligations through third-party mitigation lands or mitigation lands for which the applicant is responsible, all management responsibilities, including adaptive management procedures associated with those lands, must be fully funded and managed by the designated third-party entity, or the applicant, respectively.

11.3.2.1 The Affect of Stay-Ahead Provisions on Funding Assurances

Stay-ahead provisions often go together with funding assurances for conservation measures associated with land acquisition or restoration. At their simplest, stay-ahead provisions are a commitment to initiate conservation actions before impacts that result in take occur. Stay-ahead provisions do not replace the need for identifying costs and assuring funding, but they do reduce the concern that impacts will happen and conservation will not happen. Stay-ahead provisions generally work best for plans with discrete conservation actions (e.g., land acquisition, restoration).

11.3.3 Types of Funding Assurances

There are many different ways to assure funding, each with different pros and cons, not the least of which include cost and security. There is no one-size-fits-all for assuring funding with HCPs.

The size of projects (impacts and conservation), type of applicant (e.g., homeowner, company, or municipality), and activities for which funding needs to be assured (administration, implementation of avoidance, minimization, and mitigation measures, and long-term management) often dictate what the appropriate mechanism is to adequately assure funding.

Below is a list of tools that have been used to assure funding. Some of these terms and tools may be adjusted from their traditional use to meet the needs of HCPs.

As described more fully below in section 11.3.4, the Services lack statutory authority to accept directly, retain, and draw upon funds from performance bonds, letters of credit, etc. to ensure compliance with permit conditions. Because of this a third party is needed to act on our behalf as a beneficiary of some of the funding sources described below.

We wrote this discussion based on “Implementing Financial Assurance for Mitigation Project Success,” by Paul Scodari et. al. June 2011, Institute for Water Resources and U.S. Army Corps of Engineers. This is a good resource for short-term assurances. The paper can be found here: http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/Financial_Assurance.pdf

The most commonly used funding assurances include:

11.3.3.1 Commonly Used Short-Term Assurances

A. Cash in Escrow

Summary: For HCPs, an escrow is an agreement between a mitigation provider (the grantor), the Service (the grantee), and a third-party beneficiary to transfer ownership of cash from the grantor to the beneficiary if the grantor fails to meet the obligations specified in the agreement. A neutral third party, such as a law firm or financial institution (the depository), receives and holds the money and assures its transfer to the grantee’s beneficiary if the grantor fails to fulfill its obligations. Prior to a claim, legal title to the money in escrow remains with the grantor; however, after the money has been transferred to the depository, the cash cannot be returned to the grantor until the grantee notifies the depository that the grantor has fulfilled its obligations. In HCPs, the cash would be held as a security to ensure that certain measures are implemented and perform as expected, and if they do not, the third party beneficiary would draw from the funds to remedy the situation.

Pros-

- This is an excellent assurance because the money is readily available and the account does not expire.
- Money can be added to the account for a phased process, and funds can also be drawn down as mitigation is completed or returned to the permittee at the end.
- This has been used successfully in multiple HCPs.

Cons-

- Since the mitigation money is held in an escrow account there is no opportunity to invest those funds and generate revenue (to keep pace with inflation).

Appropriate for: short-term plans because they can be used to ensure monitoring or management actions are implemented, and ensure mitigation measures are implemented per the HCP.

B. Casualty Insurance

Summary: Casualty insurance is a contract between a mitigation provider (the insured) and an insurance company (the insurer) for claims against the policy made by the Service up to a specified dollar limit (limit of insurance) for a specified period of time. The insurer agrees to fulfill the obligations of the insured if the Service makes a claim on the policy after we notify the insurer that the insured has not met its obligations. The insurer may satisfy the claim by fulfilling the insured's obligations or by cash payment (up to the limit of liability) to a Service designee. The insured must repay to the insurer any costs that result from a claim up to a specific deductible amount.

Pros-

- This has an advantage over performance bonds in that the Services, not the insurance company, determine if the permittee is in default.
- Need to identify appropriate third party beneficiary.

Cons-

- FWS has not used this form of funding assurance for HCPs, so it is untested.
- The Seattle district of the U.S. Army Corps of Engineers refuses to accept them.

Appropriate for: small projects to ensure they perform as planned (e.g., restoration).

C. Letter of Credit

Summary: A letter of credit is a document that a financial institution issues on behalf of a mitigation provider (the account party) that provides for payment of the account party's obligations for the benefit of the Service (via a third party beneficiary). Payment is assured up to a specified dollar amount during a specified period of time (generally no more than 1 year). If we determine that the account party has failed to fulfill its obligations in the letter, we can demand payment of all or part of the dollar amount specified in the letter. Money is then drawn from the account by the third party beneficiary to take remediation actions where performance is insufficient. The account party then owes that amount to the issuer according to the terms of a loan agreement between the issuer and the account party established to secure the letter. These loan agreements often require the account party to post collateral with the issuer (e.g., maintain a certain cash balance at the financial institution). Typically, letters of credit are issued for no more than 1-year terms, but may be set up to be "evergreen," meaning they can be automatically extended for another term if necessary. But even with an evergreen letter of credit, the issuer always has the option not to renew the letter of credit at the end of the specified term. Such letters should be "irrevocable" (i.e. it cannot be revoked during its term without agreement from the Service) to ensure that the bank will honor all claims our third party beneficiary makes (on our behalf) during the letter term.

Pros-

- This tool has been used extensively in HCPs.

Cons-

- Irrevocable letter of credit is more expensive than a performance bond for the permittee.
- Must look carefully at the provisions in the letter of credit and the bank that is used.
- Duration is an issue as 5 years is usually the longest. Must be renewed prior to expiration if funding is still needed to complete mitigation.

Appropriate for: timber plans often use letters of credit to ensure minimization measures (e.g., road and stream protection) are implemented per the HCP, short-term plans often use it to ensure monitoring or management actions are implemented.

D. Performance Bonds

Summary: A performance bond is an assurance contract with a specified dollar limit (penal sum) for a specified period of time where a bonding company (the surety) assumes the obligations of a mitigation provider (the principal) for the benefit of the Service (via a third party beneficiary) in case the principal fails to fulfill those obligations. The surety may fulfill the principal's obligations either by performing those obligations up to the limit of the penal sum, or by paying an amount up to the penal sum (less any costs already incurred by the surety) to the Service-third party beneficiary. To secure a performance bond, the principal must enter into an indemnity agreement with the surety that requires the principal to reimburse the surety for any loss the surety may incur under the performance bond, and such agreements often require the principal to post collateral with the surety. The indemnity agreements can put at risk the personal assets of mitigation providers and their investors.

Pros-

- Minimizes FWS oversight (saves time).

Cons-

- Could be problematic if there is disagreement between the FWS and the insurance/bond company
- We do not recommended these funding assurances due to the problems associated with performance claims when the principal fails to fulfill their obligations

Appropriate for: small projects to ensure they perform as planned (e.g., restoration).

11.3.3.2 Commonly Used Long Term Assurances

A. Annual Appropriations

Summary: Annual appropriations refer to Governmental agencies establishing an annual budget where funds are dedicated to specific purposes. A government passes regular appropriations bills annually and the funding covers 1 fiscal year. For HCPs, local municipalities (e.g., city, county, water district, etc.) have used annual appropriations to fund HCPs. Stay ahead provisions are especially important for this funding source. One example of stay ahead provisions for annual appropriations: incidental take coverage is contingent on annual evidence that the budgets were approved and funded each year.

Pros-

- Relatively easy for the permittee to set up within their annual budget process.

Cons-

- Support for appropriations changes through time, with no guarantee that the appropriation will continue.
- Vulnerable to legal challenge unless strong stay ahead provisions (or other assurance) are in place and enforced.
- May require a suspension of the permit if appropriations are not passed in a given year (this should be described in the HCP)

Appropriate for: covering administrative costs, large municipalities may be able to cover conservation/mitigation actions in this manner

B. Endowments

Summary: Most often an endowment is established to fund the long-term management of a preserve created from HCP mitigation after the permit term. The endowment is an interest-bearing account in an amount big enough to generate adequate yearly income to fund the annual management of the preserve land. Many endowments are set up where only the interest is available for use and the principal is not withdrawn, providing a perpetual source of funding for management of the preserve. The endowment may be funded in full at the time of HCP approval or in increments, but should be fully funded within 5 years. While endowments are usually used for post-permit management, they can be established to ensure funds are available throughout the permit term for avoidance, minimization, and mitigation measures and HCP administration. Level of risk in investment portfolios is an important consideration. The applicant has to balance the risk against the certainty of the fund accumulating capital. Endowments are held by different third parties including: the non-governmental entity that holds the easement on the preserved land, by a non-governmental entity (e.g., National Fish and Wildlife Federation) separate from the preserved land, or by a community bank.

Pros-

- Endowments are a known instrument used often in HCPs and conservation banks.

Cons-

- May require a large initial investment by the permittee.

Appropriate for: post-permit management and monitoring, could be established to ensure funds are available throughout the permit term for avoidance, minimization, and mitigation measures, and HCP administration.

C. Legislatively Guaranteed Funding

Summary- Large municipal HCPs, cities, counties, or States can legislatively mandate funding be made available for and used by HCPs. These type of funding assurances also require stay ahead provisions to ensure conservation occurs before development occurs.

Pros-

- Strong commitment to fund and implement HCPs.

Cons-

- May not cover contingencies (e.g., changed circumstances) unless flexibility is built in.

Appropriate for: administrative and implementation costs of municipal lead plans (e.g., County, City, water district, etc.)

Other financial instruments that could be used to provide insurances, depending on the situation include:

D. Certificate of deposit (CD)

Summary: A CD is a certificate issued by a bank to a person or company depositing money for a specified length of time. It's essentially a savings certificate entitling the bearer to receive interest. A CD bears a maturity date and a specified fixed interest rate, and it can be issued in any denomination. CDs are generally issued by commercial banks and are insured by the FDIC. The term of a CD generally ranges from 1 month to 5 years. For HCPs, CDs have been used to demonstrate the applicant has sufficient funds to implement the HCP or some aspect of it. In a sense, funds are parked in a CD to prove funding is available and that it has been set aside for the purposes of the HCP.

Pros-

- Simple and straightforward to set up

Cons-

- Generally CDs don't have a 3rd party agreement, the permittee retains control of the release of funds

Appropriate for: demonstrating that proving money is available to implement the HCP.

E. Financial Test and Corporate Guarantee

Summary: A financial test is an evaluation to establish current financial condition of a business or municipality. The idea behind them is that based on the results of the financial test, the business or municipality will have the financial capacity to fund implementation of the HCP. A corporate guarantee is where the business or municipality agrees to be held responsible for terms of an agreement, often with funds held by a bank as a security. A financial test combined with a corporate guarantee represents a strong way to assure funding by businesses and municipalities.

Pros-

- Thorough financial evaluation and commitment to fund an HCP.

Cons-

- If funds are not held by a bank as security, the agreement may not be enforceable. Would require the Service to go through a permit suspension/revocation process.

Appropriate for: could be used to provide funding assurances for all aspects of an HCP.

F. Irrevocable Trust

Summary: An irrevocable trust is one that can't be modified or terminated without the permission of the beneficiary. Cash, annuities, CDs, stock, real estate or other valuable assets into the trust. The grantor (in this case the permittee), would transfer assets into the trust, which would effectively removes all of their rights of ownership to the assets and the trust. The implementing entity could be set up as the beneficiary, and they would draw funds from the trust to pay for plan implementation or post permit management. Irrevocable trusts are be set up with constraints on when and how funds can be drawn.

Pros-

- Since the permittee no longer owns the funds, it is removed from taxable assets of the permittee, so it's no longer liable for those taxes.

Cons-

- In addition to the initial fees to set up the trust, there may be an ongoing fee owed to manage the assets, as well as other accounting costs.

Appropriate for: demonstrating that funding is available to implement the HCP, funding post-permit management and monitoring.

G. Standby Trust

Summary: A standby trust is an agreement between a third-party beneficiary (approved by the Services), a financial institution, and the permittee to provide assurance that funds will be available if needed remedies are needed to fix a non-performing project or to ensure mitigation occurs if the permittee does not implement conservation activities as agreed. The trust is established to provide all or part of any financial assurance called upon. The specific areas or actions to be covered by the trust must be identified. It is called a "standby trust" because the owner (permittee) creates an investment plan and the manager of the trust (financial institution) carries out the plan based on the terms of the trust. The funds from the trust would be used to implement the HCP.

Pros-

- It is a known instrument as it is used by the U. S. Environmental Protection Agency (EPA).

Cons-

- Not all states have standby trusts.

Appropriate for: to ensure minimization measures are implemented per the HCP, for short-term plans standby trusts can be used to ensure monitoring or management actions are implemented and ensure that mitigation measures are implemented per the HCP.

H. Trust Fund

Summary: A trust fund is comprised of a variety of assets intended to provide benefits to an individual or organization. For HCPs, the permittee establishes the trust fund to provide financial

security that the plan will be implemented according to the terms of the agreement, and if it isn't, funds are released to a third party beneficiary that we select to remedy the situation. The trust fund can be used to both prove funds are available to implement the plan and as a security to ensure the terms of the agreement are followed.

Pros-

- This is a well-known and understood financial tool.

Cons-

- May require a separate agreement with a third party beneficiary.

Appropriate for: small projects to ensure they perform as planned (e.g., restoration), prove availability of funds for minimization and mitigation measures, and for post-permit management and monitoring.

I. Surety Bond

Summary: A surety bond is a contract among at least three parties. For HCPs, it would be signed by a third party beneficiary of the Service, the permittee, and a financial institution (usually a surety company) to ensure the permittee doesn't default. If the permittee defaulted or was unable to complete the mitigation actions, the surety company would be responsible for finding an alternate entity (using the funds paid into the bond by the permittee) to implement the mitigation actions as described in the agreement.

Pros-

- Surety company finds appropriate contractor to implement mitigation, which saves time for the Service.

Cons-

- expensive for the permittee as they would be required to place all of the funds necessary to implement the mitigation actions into the bond.

Appropriate for: small or medium sized plans to implement mitigation actions like restoration or acquisition

Table 11.3a Summary of funding assurance instruments

Short Term Assurances					Long Term Assurances	
- =pro + =con	Cash Escrow	Letter of Credit	Performance Bond	Casualty Insurance	Endowment	Annual Appropriations
Availability	* Readily implemented ⊖ May not be feasible due to initial costs	* May be difficult to secure (credit market)	⊖ Not standard for HCPs: surety may bond only construction, not performance	* New, but available in every state	* Available * Used in many HCPs	+ Readily available to municipalities
Cost	* Minimal to implement ⊖ High cost to establish	* 1% of credit limit per year * Opportunity cost of posted collateral	* ~1.5-5% of penal sum * Opportunity cost of posted collateral and time	* One-time premium 2-4% of annualized dollar limit of insurance	⊖ High cost to initially fund	+ No extra costs
Term & Renewal	* Flexible; can be indefinite	⊖ Issued for ≤ 1 yr; can set to auto-renew but is at issuer discretion	⊖ Limited (1-2 yrs)	+ Could cover time period of HCP life + Cannot be cancelled without agency consent	* Flexible; can be indefinite	* Annual
Claims & Performance	+ Ready source of cash when necessary ⊖ Provides means but not remedy itself, additional agreement needed	+ Guaranteed source of funds when necessary ⊖ Provides means but not remedy itself, additional agreement needed	⊖ Surety will remedy by most cost-effective means to them: possibility for disputes	+ Insurer will pay or remedy, as directed by agency	+ Interest is used and is available as needed, primary fund stays intact	⊖ There is no fund set aside to provide surety of performance ⊖ Provides a means to fund a plan, but additional agreements are needed to assure the funding
Duration appropriate for	* Short-term/project assurances * Could also use as "stay ahead" funding to ensure funding ins available for future years of plan implementation	* Short-term/project assurances	* Short-term/project assurances	* Short-term/project assurances	* Long-term assurances * Post permit assurances	* Long-term assurances
Projects appropriate for	* Risk of performance/ non compliance * Plans with impacts that may cause additional significant effects beyond the ground disturbance later in time (e.g. road building near a stream)	* Risk of performance/ non compliance * Plans with impacts that may cause additional significant effects beyond the ground disturbance later in time (e.g. road building near a stream)	* Risk of performance/ non compliance * Plans with impacts that may cause additional significant effects beyond the ground disturbance later in time (e.g. road building near a stream)	* Risk of performance/ non compliance * Plans with impacts that may cause additional significant effects beyond the ground disturbance later in time (e.g. road building near a stream)	* All plans with long-term costs	* Municipal led plans * Stable businesses (as proven through a financial test)
Useful for	* Assuring measures are implemented or meets performance standards	* Assuring measures are implemented or meets performance standards	* Assuring measures are implemented or meets performance standards	* Assuring measures are implemented or meets performance standards	* Post permit management and monitoring	* Municipality: admin costs, implementation costs * Business: admin costs
Other potential uses		* Can also be used for assuring funding for management and monitoring costs			* Endowments can also be used for funding implementation of the HCP during the permit term	

11.3.3.3 Determining Adequate Funding Assurances for a Specific Project

Any required funding assurances should also be sufficient to cover contingency actions (e.g., default by the permittee, non-performance, etc.) and should be based on the size and complexity of the project, the estimate required to remediate the proposed mitigation project, and monitoring of the site. The funding assurances may also include a reasonable amount to cover contingency costs or to account for the level of uncertainty associated with a successful action. If a site doesn't meet the biological goals for which it was acquired, the applicant may increase the funding assurance to provide funds for the land acquisition costs associated with the purchase of another mitigation site (e.g., if there's an absence of the species the original land was acquired to protect).

If mitigation is assured (e.g., mitigation is fully offset through purchase of credits from a Service-approved conservation bank), but assured funding for HCP administration, on-site restoration, operations and maintenance, etc. is still needed, the applicant must estimate the total amount of the outstanding funding need and use one or several of the funding assurance methods from section 11.3.3 to guarantee that funds are available. The applicant estimates should include the following:

Annual HCP administration costs X the number of years the HCP will be in effect,
+ the cost of restoration dependent on the covered area,
+ the cost of other outstanding funding needs.

Cost estimates should include adjustments for inflation.

11.3.4 Third-Party Beneficiaries

The Services lack statutory authority to accept directly, retain, and draw upon funds from performance bonds, letters of credit, etc. to ensure compliance with permit conditions. If funds were collected by the Services in this manner, they would be categorized as a “miscellaneous receipt” under the Miscellaneous Receipts Statute, 31 U.S.C. 3302(b). We’d have to deposit them in the U.S. Treasury without the assurance it would be used to ensure permit compliance. We can require these funding assurances if we are not positioned to accept funding directly, retain it, or draw upon bond funds if there’s a default.

11.3.4.1 Third-Party Beneficiary Structure

Funding instruments that require a third-party beneficiary should be executed with the signatures of an additional governmental or non-governmental environmental management entity (e.g., NFWF, Friends Group, state fish & game, etc.) as a bond “surety.” The third party must agree to ensure performance if we determine that the permittee, as the bond “principal,” has defaulted on any of its responsibilities. The permit should also specify that the Service stands as a third-party “obligee” to the principal and surety of the bond, having the full and final authority to determine the penal sum amount. The permit and bond must also state that the Service determines whether the permittee has specifically performed some or all of the obligations, covenants, terms, conditions, and agreements of the bond. Finally, the funding instrument should specify that if both the principal and the third party default in their responsibilities, the Service retains the full and final discretionary authority to identify new parties as additional surety(ies) to the bond.

11.3.4.2 Collecting Funds

Funding assurance are to be payable at the Service’s discretion to the designee of the financial instrument or to a standby trust agreement. The conditions under which funds are payable should be clearly stated in the financial instrument and, if possible, in the HCP and the permit (if needed). The decision to collect funds occurs in two situations—when actions were not implemented, or when actions do not meet performance standards during the agreed upon term. Depending on what the applicant established the assurances for, performance standards could be based on:

- implementation of an action or not, or
- ecological performance standards.

If the performance metric is simply whether or not the action occurred, consider developing an agreed on process and schedule that will make clear when actions must happen (by a certain date), and what actions will be implemented if they don't. Ecological performance standards should be based on the best available science to determine reasonable objectives that can be measured with an agreed upon amount of effort.

We must notify the permittee of non-compliance: if the permittee cannot come back into compliance funds must be called on from the financial instrument. After conditions have been triggered to collect funds, the Service must notify the third party beneficiary to collect funds and implement remedial actions.

11.3.5 Putting It All Together

Every plan is different. Every applicant is different. We developed this chapter to present options, not to dictate decisions. Use these tools when they make sense. The two graphics below are essentially decision trees. Figure 13.3b is for short-term permits and Figure 13.3c is for long-term permits. Not every scenario can be illustrated, but we've tried to represent the major ones.

Permit length:

- Short- generally purchase credits in a mitigation bank if not, increasing risk of non-performance/compliance during the permit term.
- Long- longer permit term gives applicant incentive to keep permit in good standing, additional assurances may be needed in situations where secondary impacts are a high risk.

Applicant type:

- Business- vary significantly based on industry and solvency.
- Individual- often single landowner conducting relatively few development activities
- Municipal- city/county/water districts have low risk of insolvency, often long permit terms for development activities.

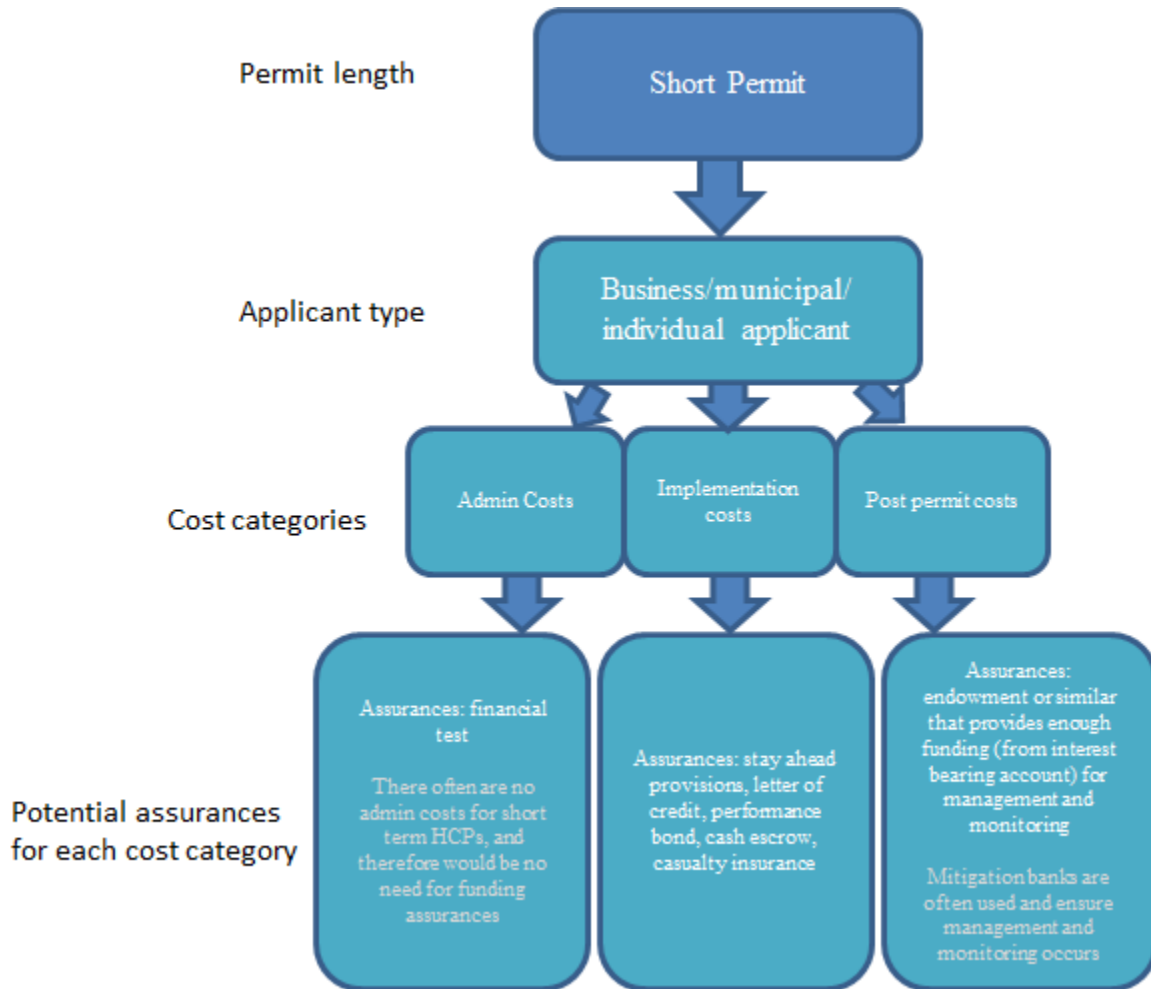
Cost categories:

- Admin- costs associated with staffing, office space, insurance, equipment, overhead, etc.
- Implementation costs- avoidance, minimization, and mitigation measure costs.
- Post permit costs- long term management and monitoring of reserves, remedial measures.

Potential assurances for each cost category:

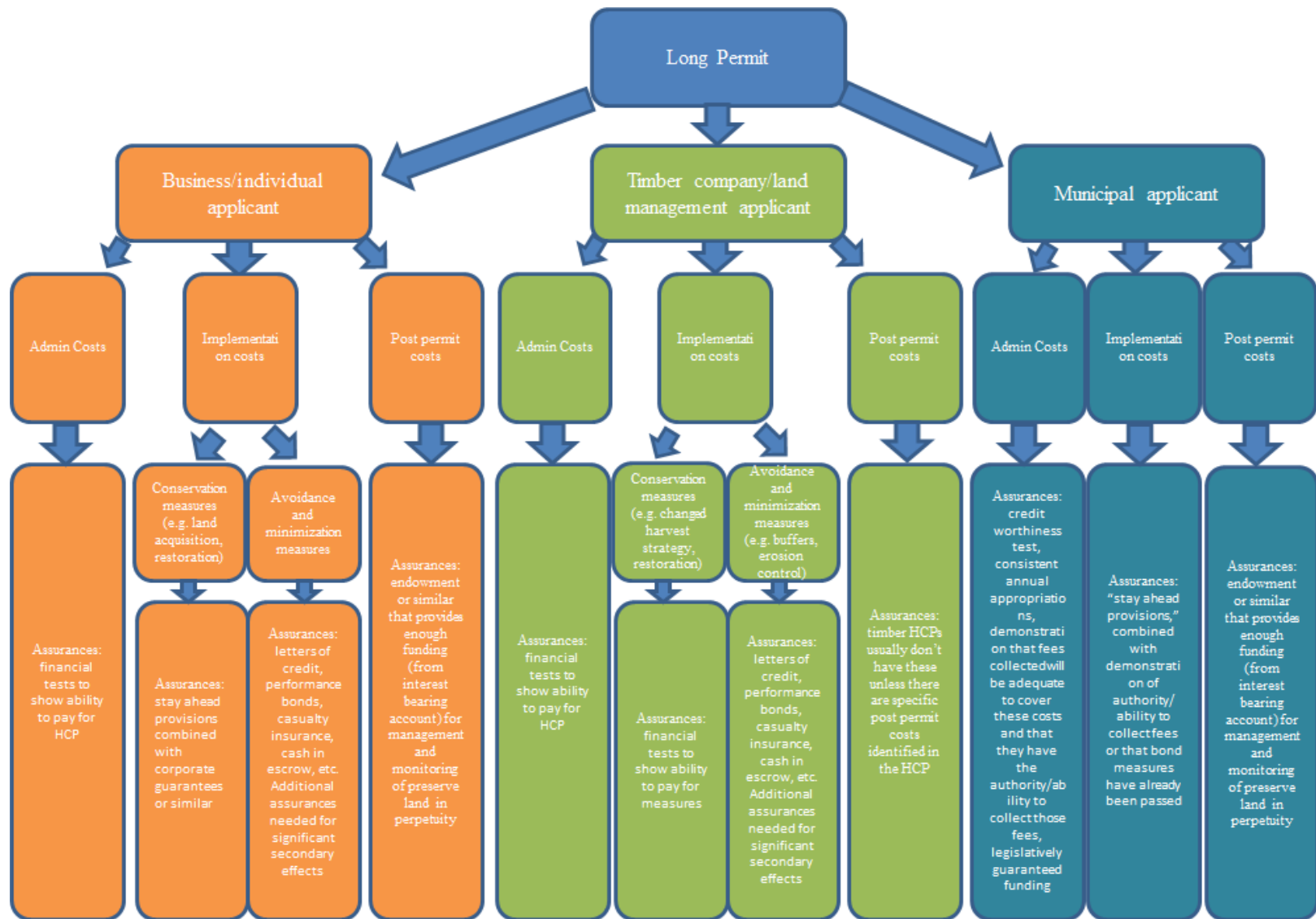
- Varies based on the above filters.

Figure 13.3b: Short-Term Permit Cost Categories and Assurances



Short-term permits often lack all the same cost categories as long-term permits, so not all three cost categories above apply in every short-term permit. Not all types of funding assurances are listed; we've only listed the most commonly used.

Figure 13.3c: Long-Term Permit Cost Categories and Assurances



Long-term permits have multiple cost categories, and funding assurances may be different for each. Additionally, each type of applicant may need different types and levels of assurances depending on the specific situation. All types of funding assurances are not listed; we've only listed the most commonly used.

Chapter 12: Net Effects and Permit Duration

12.0 Introduction

12.1 Determine the Anticipated Type and Amount of Take

12.2 Describe the Impacts of the Taking

12.3 Describe the Expected Benefits of the Mitigation Program

12.4 Determine the Net Effects to Covered Species

12.5 Effects Analysis and Permit Issuance Criteria

12.6 Comparison of HCP Impact of Take Analysis with Section 7 Analysis of Effects

12.6.1 Impacts to Covered Species

12.6.2 Impacts to Critical Habitat

12.7 Comparison of HCP Impact of Take Analysis with NEPA Analysis of Effects

12.8 Comparison of NHPA Section 106 Process and NEPA Analysis of Effects.

12.9 Permit Duration Considerations

12.9.1 Duration of Activities Covered

12.9.2 Determining if There is Enough Available Information

12.9.3 The Extent to Which the Conservation Plan Will Enhance the Habitat and Increase the Long-Term Survivability of Covered Species

12.9.4 How Well the Monitoring and Adaptive Management Program Addresses Uncertainty

12.9.5 Whether the Funding Strategy for the Conservation Program Is Adequate for the Proposed Duration of the Permit

12.9.6 Permit Duration Decision

12.0 Introduction

This chapter provides guidance on determining and describing the net effects to covered species. Net effects are the effects that remain after balancing both negative and positive effects associated with implementation of a Habitat Conservation Plan (HCP). This analysis is needed to fulfill the incidental take permit regulation which states that the applicant must specify in the HCP, the impact that will likely result from such taking [50 CFR 17.22 (b)(1)(iii)(A) and 17.32(b)(1)(iii)(C)(1) for FWS; and 50 CFR 222.307(b)(5)(i) for NMFS]. It is also used to help the Services deciding official determine if the permit application meets certain issuance criteria [50 CFR 17.22 and 17.32(b)(2) (B) and (D) for FWS and 50 CFR 222.307(c)(2)(ii) and (iii) for NMFS].

Determining net effects to covered species can be broken down into the following steps:

1. Determine the type and amount of take.
2. Describe the impacts of the taking.
3. Describe the expected benefits of the mitigation program.
4. Determine the net effects to covered species.

The Services will review the quality of and certainty associated with applicants' analysis of net effects to covered species, including:

- quality of the information used to support the effects analysis;
- transparency and repeatability of calculations associated with take and effects;
- whether the effects analysis used accounting related to species reproduction, numbers, and distribution;
- whether common accounting was used to quantify both positive and negative effects so that they can be compared;
- whether the net effects support recovery of the species in the wild; and
- strength of logical arguments used to reach conclusions.

In this chapter we also briefly compare and contrast the HCP effects analysis with that of the section 7 Intra-Service consultation processes as well as the NEPA and National Historic Preservation Act (NHPA) effects analysis.

The last part of this chapter addresses permit duration considerations. While permit duration discussions usually start early in the planning process, we waited until this part of the Handbook to bring it up because determining the appropriate permit duration is intertwined with the effects analysis.

12.1 Determine the Type and Amount of Take

The types and amount of take are initially determined (see Chapter 8) to help make better informed decisions during the development of the conservation program (see Chapter 9). It is better for species conservation and almost always less expensive for the applicant to reduce the amount of take, rather than mitigate for more take. Like many other aspects of the HCP planning process, determining anticipated take levels and development of the conservation program are a dynamic and iterative process. As the conservation program is developed, the applicant and the Services may find more ways to reduce take. Once efforts to minimize take have been exhausted, the applicant can determine the final amount of anticipated take. This is the amount of take that they anticipated will occur from covered activities after accounting for the minimization measures that they commit to implementing. Keep in mind that the conservation program, while intended to be beneficial overall, may also have some take associated with it such as harassment of individuals or temporary habitat degradation during restoration activities that rises to the level of harm. Take from implementation of conservation actions must be added to the total amount of take associated with the project.

For each covered species the description of anticipated take must include:

- both direct take and indirect take, e.g., bats being killed by a wind turbine blade; bat pups dying due to the loss of a parent bat;
- the type of take (e.g., injury, mortality, harm, harassment);
- the amount of take (e.g., number of individuals) or if this cannot be determined then another appropriate take surrogate such as acres of habitat or stream miles;
- the age and sex of individuals taken, if known;
- the specific causes or components of covered activities associated with take; and
- the duration of the take.

12.2 Describe the Impacts of the Taking

Once the final types and amounts of anticipated take of individuals has been determined, the Services and the applicant can analyze the impact of the taking on the covered species. As described in more detail in Chapter 8, the impact of the taking should be described in the HCP using accounting related to species reproduction, numbers, and distribution and should take into consideration the role of the plan area in the conservation of the species. Often it is necessary to assess the impact of the taking stepwise, first on the local population, then on a recovery unit or regional scale, and finally on the species as a whole. It is also necessary to consider the impact of the taking over the duration of the permit including consideration of current and anticipated future conditions and trends.

12.3 Describe the Expected Benefits of the Mitigation Program

In the HCP, the description of benefits to the species is an accounting of the expected results of the conservation program. To determine the benefits of the mitigation program it may be necessary to start by considering the benefits to individuals, then to the local population, and finally to the species as a whole. This is the same approach we use to determine the impacts of the taking on the listed entity.

Benefits associated with conservation measures that avoid or minimize take should already have been accounted for by reducing the amount of anticipated take. It is important not to double count them when describing the benefits of the mitigation program designed to offset impacts of that take.

You should also consider the timing of mitigation when assessing benefits. Mitigation that occurs prior to the taking is typically more desirable than mitigation that just keeps pace with it. As you do when assessing negative impacts, the benefits of the conservation program should be placed in the context of current and anticipated future conditions and trends over the duration of the permit.

Benefits accounting should be relevant to species numbers, reproduction, and distribution because these factors are associated with recovery of the species in the wild. Following are a few examples of accounting benefits related to species numbers, reproduction, and distribution.

Examples of benefits related to species numbers include: Increase in number of individuals or breeding pairs in a population; improved sex ratios, age distribution, or other demographics.

Examples of benefits related to reproduction include: Increase in acres of breeding habitat or numbers of breeding territories; increase in numbers of offspring or survival rates; reduction of threats to breeding areas.

Examples of benefits related to population or species distribution include: Percent reduction in habitat fragmentation; enhancement of species numbers at the edges of their distribution to allow for future expansion, providing for stepping stone habitat and populations that can interbreed; expanding a species range back into areas from which they were extirpated,

or into new areas that provide suitable conditions; achievement of recovery plan distribution goals.

12.4 Determine the Net Effect to Covered Species.

The net effects are an accounting of the impact of the taking in comparison with the benefits of the conservation program to come up with the expected end or net result of implementation of the HCP.

negative impact of the taking + benefits of the mitigation program = net effect of HCP

The applicant must include this accounting for each covered species in the HCP. The net effects calculations must be transparent, reasonable, and repeatable.

If the accounting used to describe negative effects to a covered species is different than that used to describe the benefits, you resolve this by establishing a common accounting system, which makes it possible to compare “apples with apples.” Habitat equivalency analysis (HEA) and resource equivalency analysis (REA) are examples of tools that applicants may use to assist with common accounting. Common accounting is needed to compare the negative impacts of take with the benefits of the conservation program, so the applicant can show whether the conservation program fully offsets the impacts of take.

The analysis of net effects must factor in the duration of the permit. Anticipated positive and negative impacts must be considered for the entire duration to determine net effects. Predicting species populations or survival needs into the future is very difficult and leads to greater uncertainty regarding effects associated with permits of long duration or for covered species of greatest concern. The conservation program, including the adaptive management strategy, needs to be particularly strong for these permits and should also always provide a benefit of the doubt to the species that the mitigation program is offsetting the impacts of the take as planned.

12.5 Effects Analysis and Permit Issuance Criteria

The Services must make an independent finding of all incidental take permit issuance criteria based on the evidence in the record. Our reasoning and conclusions are documented in the section 10 findings and recommendations memorandum. Two of the issuance criteria: (B) and (D) found at 50 CFR 17.22(b)(2)(i) and 50 CFR 17.32(b)(2)(i) for USFWS; and (ii) and (iii) found at 50 CFR 222.307(c)(2) for NMFS), are closely tied to the impact of the taking and net effects analysis in the HCP and the jeopardy analysis in the section 7 biological opinion.

“(B) The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking” (FWS); “(ii) The applicant will, to the maximum extent practicable, monitor, minimize, and mitigate the impacts of such taking” (NMFS).

The applicant decides what minimization and mitigation measures to include in the HCP. We determine whether the minimization and mitigation program proposed satisfies this issuance criterion. To make this decision, we have to take into account two factors:

- adequacy of the minimization and mitigation program, and
- whether it is the maximum that can be practically implemented by the applicant.

If the proposed mitigation program fully offsets the impact of the take, there is no need to address the second factor. If, however, the proposed mitigation program fails to fully offset the impact of the take, then the applicant must demonstrate to us that it meets the maximum extent practicable standard.

The impact of the taking and the net effects in the HCP, and the section 7 jeopardy analysis in the biological opinion, are an important part of the administrative record for the decision. How well these analyses support the findings regarding this issuance criterion is dependent on the quality of the analysis.

(D) (FWS) or (iii) (NMFs) “The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.”

The finding for this criterion is a summary of the biological and conference opinion conclusions regarding jeopardy. To avoid any surprises regarding these conclusions, we should include section 7 personnel and analysis throughout the development of the HCP so that issues can be addressed as early as possible.

12.6 Comparison of HCP Impacts of the Take Analysis with Section 7 Analysis of Effects.

12.6.1 Impacts to Covered Species

In accordance with the requirements of section 10(a)(2)(A) of the Endangered Species Act (ESA), the applicant must specify in the HCP the impact that will likely result from the take of a covered species. Our biological opinion on the permit action will also consider take-related impacts and any other direct or indirect effects of covered activities on each covered species and designated critical habitat that may be affected by those activities. The purpose of the biological opinion is to determine if the effects of the proposed action, when combined with other past, present, and future actions, are likely to jeopardize the continued existence of the covered species in the wild (also known as a “jeopardy determination”) or result in the destruction or adverse modification of critical habitat. Note, the biological opinion must also analyze the effects of the proposed permit on all affected listed species, whether covered under the HCP or not, and on all designated critical habitat affected by the HCP. If we conclude that the ITP would result in jeopardy or adverse modification,, we cannot issue an ITP. If the HCP development and the section 7 consultation processes are implemented simultaneously, the impact assessment can be developed for both processes in an efficient manner. Achieving such efficiency requires considerable coordination between the applicant and Service staff.

In accordance with the requirements of section 10(a)(2)(A) of the ESA, the HCP must also specify what steps the applicant will take to minimize and mitigate the impacts of the taking. Those measures must be reasonably certain to occur. The biological opinion also considers this aspect of the HCP in making the section 7(a)(2) determinations for jeopardy and destruction or adverse modification.

12.6.2 Impacts to Critical Habitat

The term “critical habitat” for a threatened or endangered species means:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species (ESA §3 (5)(A)).

Under section 7 of the ESA, Federal agencies must ensure that their activities, including activities that involve a Federal authorization or permit such as an incidental take permit, do not destroy or adversely modify critical habitat. To make this determination in cases where a formal consultation is required, our biologists evaluate the impacts that are likely to be caused by the proposed action to the physical and biological features or the intended recovery support function of the affected critical habitat. For multi-year HCPs, this analysis includes the extent to which there is rigorous monitoring to detect adverse effects to habitat and specific adaptive management measures to respond to those effects.

Starting the section 7 intra-Service consultation early in the HCP planning process and continuing it concurrently with HCP development helps applicants to avoid or minimize negative effects to critical habitat through project design or other measures. The applicant can then avoid a finding of destruction or adverse modification, which would prevent us from issuing an incidental take permit.

12.7 Comparison of HCP Impact of the Take Analysis with NEPA Analysis of Effects.

In the HCP, the applicant is responsible for addressing impacts associated with taking a covered species (e.g., impacts on reproduction, numbers, and distribution) that could result from the proposed issuance of the permit and implementation of the HCP (section 8.3). For example, for the Federally endangered Indiana bat, the most significant impact of take pertains to the lost reproductive contribution of individual bats taken (i.e., females killed), that is, the reproductive contribution female bats would have made to species numbers/distribution had they not been taken. Our analysis of effects in a NEPA compliance document address effects to covered species as well as effects to other aspects of the human environment (40 CFR § 1508.14) that could result from the proposed issuance of the permit and implementation of the HCP (i.e., proposed action). Under the NEPA, we also consider effects associated with alternatives to the proposed action (40 CFR 1505.1(e)), including effects associated with not issuing a permit (i.e., the “no action or status quo” alternative)(40 CFR § 1502.14(d)). For example, a wind energy facility currently avoids take of Indiana bats by curtailing their wind turbines at low wind speeds (i.e., “status quo”), which also avoids impacts to non-listed migratory tree bats. Issuing the facility a permit to take Indiana bats when operating their wind turbines at low wind speeds (i.e., proposed action) could significantly impact non-listed migratory tree bats, which are part of the human environment.

12.8 Comparison of NHPA Section 106 Process and NEPA Analysis of Effects.

The Services' responsibilities under section 106 of NHPA and associated implementing regulations (36 CFR 800) are to identify historic properties that may be affected and to take into account the effect of issuance of an incidental take permit and implementing the HCP conservation program on these properties (i.e., the Federal "undertaking"). The appropriate time to consider effects to historic properties is early in the HCP planning process when it may be possible to reduce or eliminate negative effects by modifying activities. The Services are also responsible for providing a project description as well as their effects analysis and determination to the State Historic Preservation Office (SHPO) and any affected Tribes. We have to give both parties a reasonable opportunity to comment on the project.

There is overlap, but there are also differences, in the implementing regulations for section 106 of the NHPA (36 CFR § 800) and the NEPA (40 CFR § 1500-1508; 43 CFR § 43) with regard to conducting an effects analysis. Section 6 of the NHPA addresses potential effects to historic properties associated with the Federal undertaking (36 CFR § 800.16(y)), while the NEPA considers a broader category of resources that includes historic properties and other aspects of the human environment (40 CFR § 1508.14). More information on analysis process and standards under each of these laws can be found in Chapter 13 (NEPA), Appendix A, and the HCP Handbook Toolbox [*Link will be added in final version*].

12.9 Permit Duration Considerations

The regulations for incidental take permits tell us to set the duration of permits for a period long enough so that the permittee has adequate assurances to commit funding the HCP covered by the permit, including conservation activities and land use restrictions. In determining the duration of a permit, the Services' decision makers consider:

- The duration of the planned activities;
- whether information available is sufficient to develop a conservation program and determine effects to covered species over the proposed permit duration;
- how much certainty there is that the conservation plan will enhance the habitat and increase the long-term survivability of covered species [see 50 CFR 17.22 and 17.32(b)(4) for FWS; and 50 CFR 222.307(e) for NMFS];
- how well the monitoring and adaptive management program addresses risk and uncertainty; and .
- whether the funding strategy for the conservation program is sufficient for the proposed duration of the permit.

12.9.1 Duration of Activities Covered

Applicants usually request a permit duration that spans the entire length of their planned activities. Planned activities may not take very long, such as construction of one commercial building; take a moderate amount of time, such as construction and operation of a wind farm during its expected 20-year lifespan; take place over a long duration, such as forest management; or they may take place into perpetuity, such as county regulated activities. Planned activities also

include the time needed to complete mitigation, monitoring, adaptive management, other requirements or conditions, and meet goals and objectives of the conservation program. Because conservation benefits must occur prior to the take, conservation activities will either precede or, at a minimum, keep pace with other planned activities.

12.9.2 Determining if There is Enough Available Information

Sufficient quantity and reliability of information is needed for all HCPs. In general, the longer the proposed permit duration, the more information is needed to be able to project take, analyze effects, and develop a conservation program for the duration of the permit. When analyzing the effects to covered species of implementing the HCP, we must do so in the context of other threats to the species, such as impacts of climate change, and anticipated environmental conditions over the duration of the permit. Because there is less certainty regarding predicting future conditions and effects of implementing the HCP over longer permit durations, highly reliable information and analysis is essential to adequately protecting covered species. Therefore, the amount and reliability of readily available information versus the time, money, and resources needed to gather additional information will be a factor in determining the appropriate permit duration. We must discuss with the applicant whether it is more important to them to obtain a permit as soon as possible for a shorter duration, or whether they'd rather spend the time and money that may be needed to develop an HCP for a permit that lasts longer.

12.9.3 The Extent to Which the Conservation Plan Will Enhance the Habitat and Increase the Long-Term Survivability of Covered Species

The longer the proposed permit duration, the less certain we are likely to be about take levels, impacts of the taking, benefits of the conservation program, and the status of the covered species over the entire duration of the permit. We gain more certainty that we are adequately protecting covered species if the applicant can add conservation actions to ensure the species is adequately protected over the entire permit duration, especially if it's for a longer period. However, for species that are critically imperiled, there may be too much uncertainty regarding their future status to meet the permit issuance criteria for permits of long duration regardless of mitigation commitments.

12.9.4 How Well the Monitoring and Adaptive Management Program Addresses Uncertainty

Longer permit durations require robust and scientifically sound monitoring and adaptive management provisions to address uncertainties that increase with the duration. Robust monitoring and adaptive management plans:

- identify uncertainties and the associated measurable parameters to be monitored;
- identify parameter thresholds or trends that indicate alternative actions are needed; and
- provide alternative actions to meet HCP conservation goals and objectives.

12.9.5 Whether the Funding Strategy for the Conservation Program Is Adequate for the Proposed Duration of the Permit

Funding assurances, which must be guaranteed prior to permit issuance, may become more difficult to ensure over extended periods of time due to changing economies or funding sources. This is less of a concern for permits of shorter duration or for plans where all mitigation is completed upfront before any take occurs. If, however, the mitigation will be implemented over a long period of time, then the funding assurances will need to account for this.

12.9.6 Permit Duration Decision

We determine the duration of the incidental take permit on a case-by-case basis in coordination with the applicant. We review the applicant's permit duration request in the context of the factors described above and any other factors necessary to ensure that the species being impacted by the plan are adequately protected for the proposed duration of the permit.

Permits of long duration can provide a commitment to conservation activities with benefits to species over a longer period of time. They can also have more uncertainties regarding future biological, physical, and socio-economic conditions which make it more difficult to predict long-term effects to covered species and availability of resources to achieve conservation objectives. If the duration of planned activities suggests a permit of long duration, then it may be possible to minimize uncertainties through additional conservation actions, a robust monitoring and adaptive management program, and a viable long-term funding strategy. However, there may be circumstances, such as a critically imperiled species, a lack of available information, or a lack of time to plan for a longer permit duration, when it is not possible or practical to adequately reduce the uncertainty associated with the permit. Under these circumstances, it may be more appropriate for us to issue a shorter duration permit with the option to renew.

Other things being equal, HCPs with shorter duration permits are usually easier to develop and process, so they usually take less time, money, and resources to complete. This may make permits of shorter duration more attractive to applicants under some circumstances. Even though renewing a permit requires a formal review in light of current information and conditions, the time and costs to renew a shorter duration permit may be less than the additional time and costs needed to develop an HCP for a permit that covers a longer period of time.

HCP "no surprises" assurances apply for the duration of a permit if the HCP is being properly implemented. When we review a renewal request, we may identify the need for amendments to the HCP and permit, including needing additional conservation commitments on the part of the applicant. Once the amendments associated with a renewal are finalized, "no surprises" assurances would then apply to the amended HCP and permit for the duration of the renewal period.

Chapter 13: National Environmental Policy Act Compliance

13.0 Introduction

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13.2.1 Proposed Action Statement for Incidental Take Permit Applications

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13.5 Preparation of NEPA Document by Consultants

13.0 Introduction

In phase two of Habitat Conservation Plan (HCP) planning, the Services concentrate on the HCP and NEPA compliance documents. Preparation of the appropriate NEPA documentation should progress along with the HCP as we gather the data and conduct the analyses we describe in chapters 5 through 12. Although Chapter 3 provided some preliminary considerations for an HCP's NEPA review, this chapter discusses considerations specific to HCPs intended to complement the Services' general NEPA policy and guidance. Also see the HCP Handbook Tool Box (*Link will be added in the final version*) for general NEPA regulations and policy.

Critical to the NEPA process is carefully defining the proposed federal action to ensure that impacts and alternatives are properly addressed and to ensure that the Services do not unnecessarily analyze impacts that are not a result of its action and over which it does not have regulatory authority. Care in this regard will ensure that agency and applicant resources are properly used.

13.1 Purpose and Need

In the NEPA process, the Services first must define the "purpose and need" for the NEPA analysis. NEPA purpose and need statements articulate the goals and objectives that we intend to fulfill by taking an action under the Endangered Species Act (ESA). Our review of an HCP and issuance of an incidental take permit in accordance with the ESA and its implementing regulations provide the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action (40 CFR 1502.13).

Applicants must provide a project description and alternatives they considered in their HCP (Appendix C). This description from the HCP defines the applicant's proposed activity that would result in incidental take: the possible incidental take is the underlying "need" for our proposed federal action. However, the Services consider their purpose and need as being distinct from that of the applicant (46 CFR 46.420). We do not consider the need for a particular development or land use, but rather our more narrow need to determine whether this non-federal activity complies with the ESA. The Services' purpose refers to our goal and objectives in reaching a decision on the applicant's request in accordance with the ESA. Therefore, the purpose and need can be defined as follows:

- Our purpose is to fulfill our section 10(a)(1)(B) conservation obligations under the ESA.
- Our need is to fulfill these legal obligations in response to an applicant's HCP and request for an incidental take permit.

When we cooperate or share the lead with other federal agencies, the purpose and need may expand to encompass that agency's actions, and we might both use a joint purpose and need statement. An agreed-upon purpose and need statement can prevent later disagreement or confusion that may delay completion of the NEPA process.

We provide the following two subsections (13.1.1 and 13.1.2) as suggested template language for drafting NEPA documentation for HCP reviews. Also see the samples from completed actions provided in the HCP Handbook Tool Box (*Link will be added in the final version*).

13.1.1 NEPA Purpose Statement for Incidental Take Permit Applications

The Service's purpose in considering the proposed action is to fulfill our authority under the Endangered Species Act (ESA), section 10(a)(1)(B). Non-federal applicants, whose otherwise lawful activities may result in take of ESA-listed wildlife, can apply to the Service for incidental take authority so that their activities may proceed without potential violations of section 9.

To carry out these responsibilities, we must comply with a number of environmental laws and regulations, Executive Orders (EO), and agency directives and policies. To fulfill these responsibilities and obligations, the Service will:

- ensure that issuance of the incidental take permit and implementation of the HCP achieve long-term species and ecosystem conservation objectives at ecologically appropriate scales, [*Consider ecosystem partnerships or prior obligations to other agencies. What do we want for the covered species in the plan area?*] and
- ensure that the conservation actions approved with issuance of the incidental take permit occur within a spatially explicit Landscape Conservation Design capable of supporting species mitigation projects over the long-term, or for a period commensurate with the nature of the impacts. [*Consider formal recovery planning for the species or affected species population, results of any Landscape Conservation Planning, resiliency to climate change effects, etc. How do our purposes fit into our greater ecosystem responsibilities?*]

13.1.2 NEPA Need Statement for Incidental Take Permit Applications

Section 10 of the ESA specifically directs the Service to issue incidental take permits to non-Federal entities for take of endangered and threatened species when the criteria in section 10(a)(2)(B) are satisfied by the applicant. Once we receive an application for an incidental take permit, the Service needs to review the application to determine if it meets issuance criteria. We also need to ensure that issuance of the incidental take permit and implementation of the HCP is in compliance with applicable Federal laws, regulations, treaties, and EO, including other requirements of the ESA in addition to section 10, the National Historic Preservation Act, and Bald and Golden Eagle Protection Act, and their implementing regulations; the Migratory Bird Treaty Act; and Executive Orders 11998, 11990, 13186, 12630, and 12962.

On [date], the Service received an application from [applicant] for an incidental take permit under the authority of Section 10(a)(1)(B) of the ESA. If the application is approved and the Service issues a permit, the incidental take permit would authorize [applicant] to take [covered species][as appropriate, any permit may also contain other measures to avoid adverse effects to other Service-jurisdiction resources, such as listed plants, marine mammals, migratory birds, or eagles] as a result of their [list and describe proposed covered activities]. The Service has prepared this [NEPA document name] to inform the public of our proposed action and the effects of the proposed action and its alternatives, seek information from the public, and to use information collected and analyzed to make better informed decisions concerning this incidental take permit application.

13.2 Proposed Federal Action

NEPA and its implementing regulations require agencies to analyze the environmental impacts of proposed federal actions and to prepare an Environmental Impact Statement for any major federal action “significantly affecting the quality of the human environment.” Interior Department regulations (43 CFR 46.30 and 46.100) provide that our proposed action is subject to the procedural requirements of NEPA if it would cause effects on the human environment (40 CFR 1508.14).

In order to properly determine the scope of impacts to be considered and the alternatives to be evaluated for NEPA, the first step is to define the proposed federal action. For purposes of decisions made pursuant to ESA Section 10, the definition of the “major federal action” is relatively straightforward – the regulations define “major federal action” as including “actions approved by permit” 40 C.F.R. 1508.18(b)(4). The Services are responding to an “application for a proposed federal action,” which is a request for an incidental take permit based on implementation of conservation measures provided in the associated HCP. There may be variations depending on which one of the multiple project/applicant structures is used (see Chapter 3.4). For example, if we develop a general conservation plan (GCP) on our own initiative then there is no applicant (see Chapter 3.4.3). Moreover, the specific activity authorized by a Section 10 permit, the incidental take of endangered species, may be merely one component of a large project involving non-federal activities that do not require federal review or authorization. Determining whether our NEPA analysis should consider the impacts of that larger activity requires analysis of the extent of our “control and responsibility” over the applicant’s overall project (40 C.F.R. 1508.18).

Properly defining the action subject to our control and responsibility requires a qualitative assessment of the applicant’s project and the role of the Service with respect to that project. Generally, the Service does not have “control and responsibility” over large scale development because the Service’s ability to exercise discretion over an ESA permit applicant’s non-Federal activities is limited to ensuring the non-Federal entity’s permit application meets the statutory and regulatory criteria in Section 10(a)(2)(B) of the ESA and 50 CFR 17.22 (b)(1) and 17.32(b)(1). In other words, our ability to exercise control and responsibility over an applicant’s non-Federal activities under the ESA is limited to what is “necessary or appropriate for purposes of the plan” (50 CFR 17.22 (b)(1)(iii)(D)). This interpretation is consistent with the basic tenet that the Service does not authorize the applicant’s activities causing the incidental take, but rather the take resulting from the applicant’s activities. We have control over the federal action via our ESA authority to determine whether an application complies with ESA and to place modifying conditions on the incidental take permit to assure ESA compliance. Sometimes the species at issue may be limited to a small geographic area of a larger project. Given the definition of “purpose and need,” the Services’ limited regulatory role, and, possibly, our limited geographic nexus with a project, we may not have an obligation to assess impacts of the entire private undertaking. Of course, each case must be carefully analyzed based on its own facts.

Furthermore, in implementing our ESA authority we also have jurisdiction to assure an applicant's compliance with other laws for which the Services have authority, for example the Migratory Bird Treaty Act (MBTA), Marine Mammal Protection Act, and Bald and Golden Eagle Protection Act. Other federal authorizations necessary for elements of a non-federal project must also be considered in properly defining the proposed federal action and in identifying the scope of impacts to be considered, as discussed further below.

The federal action for NEPA purposes includes the following components:

- The non-federal activities that cause incidental take.
- The mitigation plan.
- Other procedures to support implementation of the permit and HCP.
- Other measures as required (measures for MBTA, etc.).

13.2.1 Proposed Action Statement for Incidental Take Permit Applications

The proposed action being evaluated by this [*environmental assessment or environmental impact statement*] is the issuance of an Endangered Species Act incidental take permit by the Service that would authorize take of [*covered species*], incidental to [*covered activities*], and implementation of the conservation plan in the associated HCP, in accordance with the statutory and regulatory requirements of the ESA.

13.3 Scope and Alternatives

Under NEPA, “scope” refers to the “range of actions, alternatives, and impacts to be considered” in an environmental document (40 CFR 1508.25). The definition of “scope” applies to Environmental Impact Statements, but the same concepts are applicable to Environmental Assessments. The scope of the document includes the impacts of the specific activity requiring the ITP and those portions of an entire project over which the FWS has sufficient control and responsibility to warrant federal review. The environmental impacts we evaluate are those with a reasonably foreseeable, causal link to the non-Federal activities under the “control and responsibility” of the Federal agency. Note that this is not a “but for” analysis, but requires careful consideration of specific facts of each circumstance.

13.3.1 Scope

Scoping helps us identify the significant issues for detailed analysis. Issues should only be analyzed in an environmental document if they are related to potentially significant effects of the federal action, or if they help lead to a reasoned choice among the alternatives. Keep in mind that not all issues raised by the public are issues that require analysis, despite the fact that we

sometimes feel that because the public raised it as an issue or concern means we have an obligation to analyze it in our NEPA document. For the Services to analyze an issue, it must have a cause and effect relationship with the proposed action. Not analyzing an issue raised by the public does not diminish the value of their input. In such circumstances, we should document and explain that the proposed federal action does not have the potential to significantly impact the resource that is of concern to the public.

The scope of our NEPA analyses, including identification of significance factors begins with the elements of the federal action identified as described in section 13.2, above. For each element or aspect of the federal action we identify for possible analyses:

- Direct effects caused by the action at the immediate time and place (40 CFR 1508.8).
- Indirect effects caused by the federal action later in time, or at a distance, but are reasonably foreseeable (40 CFR 1508.8 and 43 CFR 46.30).
- Cumulative effects due to the incremental impact of the federal action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7).

We must consider these effects in our significance determinations, but we must critically focus our analyses on those effects relevant to the federal action. As described above, while we may issue an incidental take permit, it does not necessarily mean the applicant's entire project is part of our Federal action. Where possible, we can segregate aspects of a project that need an ITP from aspects that do not require an ITP when the non-ITP portions do not trigger a NEPA review, can proceed without the ITP-covered portions, and do not depend on the entire project for justification. In this way, our NEPA analysis considers effects due to only those portions subject to an incidental take permit (also see section 13.3.2.1, below).

The direct, indirect, and cumulative effects within the scope of our analyses must be a reasonably foreseeable result of the federal action; they must have a causal connection to our Federal action for us to analyze their significance under NEPA. As we consider the significance of the relevant environmental effects, we should not, as we have done too often in the past, automatically prepare an EIS whenever there is uncertainty. NEPA regulations provide approaches for dealing with incomplete information (40 CFR 1502.22) that consider the extent of the uncertainties. Preparing and circulating for public review an EA can help identify the significance of environmental effects, so that we can potentially reduce uncertainty, analyze fewer effects in an EIS, or possibly to conclude our analyses with a finding of no significant impact.

13.3.2 Alternatives

Alternatives (43 CFR §1502.14) explore other ways of meeting the purpose and need for an action. Analysis of alternatives presents the environmental impacts of the proposal and the

alternatives in comparative form, to define the issues and provide a basis for choice among options by the decision maker and the public. Our purpose and need statements limit the range of alternatives in a NEPA environmental document because an agency can dismiss, without detailed analysis, any alternative that fails to meet the document's purpose and need. We usually do not need to consider a wide range of alternatives, but only a reasonable range of alternatives that meet the purpose and need for the federal action. It may not always be sufficient, but we may consider only a "no-action" and "action as proposed."

13.3.2.1 No-Action

A "no action" alternative must be described in each EA and EIS for HCPs. The no action alternative describes the applicant's activities and effects without an incidental take permit. The "no action" analysis provides a benchmark to compare the magnitude of environmental effects of the action alternatives. The difference in effects between the no action and the action alternatives is used to determine the significance of our effect (from issuing the permit).

The "no-action" alternative can assume different meaning in various situations. There are two distinct interpretations of "no-action" that must be considered, depending on the nature of the proposed action under evaluation (43 CFR 46.30).

- First, "no action" may mean "no change" from an ongoing management direction or level of management intensity (*e.g.*, activities will continue at the no take level).
- Second, "no action" may mean no HCP and no incidental take permit.

In either of these situations, consider what an applicant might do if we denied their incidental take permit. They could continue with existing land uses at "no-take" levels, or they could reduce the scale of their proposed action to avoid incidental take.

The first situation might involve an action such as updating an applicant's land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management proposals would be compared in our NEPA analyses to those impacts projected for the existing situation. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development. In the case of an HCP amendment proposal, "no-action" might mean "no amendment" with continued implementation of a current incidental take permit.

If the project does not involve development, but rather some operation or maintenance regime, the no action generally means the applicant will continue to operate in such a way to avoid take. Examples of this version of “no action” include: timber harvesting in a manner that avoids take, parkland operation and maintenance that avoids take, utility operation and maintenance that avoids take, operation of wind turbines in a way that avoids take, etc.

The second “no action” may mean no HCP and no incidental take permit. In this case how the applicant proceeds with development activities can take three different forms: 1) no development occurs, 2) the applicant might be subject to another federal nexus and incidental take may be exempted under section 7, and 3) they can change or reduce their development project to avoid take. In this last situation, “no action” includes the portions of a project that would not require an incidental take permit and are reasonably likely to move forward without the rest of the project. Whichever “no action” scenario is most likely should be described and analyzed as what is reasonably likely to occur without the HCP and permit.

The second interpretation of "no action" most often involves federal decisions on proposals for projects. "No action" in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.

13.3.2.2 Proposed Action

The proposed action is generally the project as received by the Services, or as developed through negotiations with the Services. It could include any permit conditions we might want to ensure compliance with the ESA and implementation of the HCP. If the applicant provides sufficient conservation actions, this may meet the requirements of a lesser NEPA analysis, e.g., “Mitigated FONSI.”

13.3.2.3 Additional Alternatives

Any alternatives considered in addition to the no-action and proposed action alternative should be realistic and generally based in the applicant’s project purpose and their means to implement potential alternatives. Keep in mind that if an HCP meets issuance criteria, we are obliged to issue a permit. This ESA requirement affects what might be considered reasonable in developing a range of alternatives (43 CFR 46.420(c)). We may consider more alternatives in response to public comments, or unresolved conflicts concerning project impacts, mitigation plans, or alternative uses of available resources. Our NEPA analysis does not need to identify any alternative as “Service Preferred” or “Environmentally Preferred.” Two alternatives, the no-action and proposed action might be all that are needed, but controversial projects and potential challenges will make additional alternatives desirable.

Additional alternatives might be:

- Other reasonable courses of action necessary or appropriate for purposes of the HCP, and that meet ESA requirements. The Service might modify or develop alternative components of the applicant's HCP, such as alternative permit duration, alternative covered lands, alternatives to the proposed project, alternative covered species, alternative conservation program, etc.
- Other reasonable courses of action necessary or appropriate for purposes of the HCP that cause the least damage to the environment and best protects, preserves, and enhances the human environment. This environmentally preferable alternative (43 CFR 46.30) would also include any potential mitigation measures not already included in the proposed action or other alternatives.

13.4 Levels of NEPA Review

Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements (e.g. an EA or EIS). If a project does not qualify as a low-effect HCP, then an EA or EIS is required. As discussed above, the scope of NEPA review should focus on the effects of our actions. We should employ the lowest level of NEPA review that meets the requirements of our NEPA analysis. Depending on Regional FWS procedures, signature authority for low-effect and certain EA-level HCPs may be delegated to FWS Assistant Regional Directors or field office Project Leaders.

The NEPA review level controls much of the time and effort put into development of the HCP and review of the incidental take permit application. NEPA levels of review influenced the public notice requirements established by the June 1, 2000, addendum to the previous HCP Handbook. We believe that our implementation of the HCP program since then has increased public acceptance of the program. Likewise, our increased emphasis on public outreach in support of Service programs, including the guidance presented in this Handbook, has improved our public engagement in ways that often surpass that provided by a *Federal Register* notice.

In this revised Handbook, we establish new public comment periods. Low-effect and EA-level HCPs need only the 30-day notice period as required by ESA. Preparation of an EIS requires a notice of intent to prepare an EIS, scoping public notice, a notice of availability of the proposed HCP and the draft EIS, and notice of availability for the HCP and final EIS. Also, for an EIS, we must coordinate with EPA on concurrent notice that they publish. We require a minimum 60-day notice of availability of the proposed HCP and draft EIS.

13.4.1 Categorical Exclusion

The CEQ defines categorical exclusions as "...a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in [accordance with] procedures adopted by a Federal agency in implementation of these [CEQ] regulations and for which, therefore, neither an environmental assessment nor an environmental impact statement is required."

For an HCP to qualify for a categorical exclusion, none of the "extraordinary circumstances" listed in 43 CFR 46.215 can apply. These include:

- (a) Have significant impacts on public health or safety?
- (b) Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (EO 11990); floodplains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas?
- (c) Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA section 102(2)(E)]?
- (d) Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?
- (e) Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?
- (f) Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
- (g) Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau?
- (h) Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species or have significant impacts on designated Critical Habitat for these species?
- (i) Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment?
- (j) Have a disproportionately high and adverse effect on low income or minority populations (EO 12898)?
- (k) Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007)?
- (l) Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and EO 13112)?

FWS definitions for categorical exclusions are found at Part 516, Departmental Manual (DM), Chapter 8. Per 516 DM 8.5, “Categorical exclusions are classes of actions which do not individually or cumulatively have a significant effect on the human environment. Categorical exclusions are not the equivalent of statutory exemptions.” The list of permit and regulatory functions that qualify as categorical exclusions encompass “The issuance of ESA section 10(a)(1)(B) “low-effect” incidental take permits that, individually or cumulatively, have a minor or negligible effect on the species covered in the habitat conservation plan” (516 DM 8.5.C.(2)). Therefore, although take is likely to occur under HCP implementation, accounting for the minimization and mitigation measures proposed in the HCP would result in impacts so minor as to be negligible. [**Policy change:** Categorical exclusion]

FWS has a screening form to determine if a project qualifies as a categorical exclusion. [see the Low-Effect screening form in the HCP Handbook Toolbox [*Link will be added in final version*]

National Marine Fisheries Service (NMFS) procedures for implementing categorical exclusions are found in the National Oceanographic and Atmospheric Administration (NOAA) Administrative Order Series 216-6, Section 5.05. NMFS has a categorical exclusion for low-effect HCPs at NOAA Administrative Order Series 216-6, Section 6.03e.3(d).

Although similar to FWS regulations, NMFS regulations for exceptions to categorical exclusions differ slightly. Under NMFS regulations, the preparation of an EA or EIS is required for proposed actions that would otherwise be categorically excluded if they involve a geographic area with unique characteristics, are the subject of public controversy based on potential environmental consequences, have uncertain environmental impacts or unique or unknown risks, establishes a precedent or decision in principle about future proposals, may result in cumulatively significant impacts, or may have any adverse effects upon endangered or threatened species or their habitats (NAO 216-6, 5.05c).

13.4.2 Environmental Assessment

An EA is a concise public document, prepared in compliance with NEPA, that briefly discusses the purpose and need for an action, and alternatives to such action. It provides sufficient evidence and analysis of impacts to determine whether to prepare an EIS or a FONSI. If the agency has already determined that an EIS is warranted, it need not prepare an EA.

The purpose of preparing an EA is to determine whether the proposed action would result in significant effects to the human environment. To determine whether a proposed Federal action would require an EIS, we must consider two distinct factors: context and intensity. Context refers to the significance of a proposed action in different settings (e.g., what are possible impacts to local, regional, or national covered species populations from authorizing take in the covered land?). Intensity is the severity of the impacts relative to these different settings (e.g., to what

degree will take of covered species in the permit area impact the viability of local, regional, or national populations of the covered species?). The EA process culminates with a decision by the Regional Director on one of several alternatives developed in response to the proposed Federal action. Once the Regional Director selects an alternative, he or she will decide whether issuance of the incidental take permit, including subsequent implementation of the covered activities and the conservation plan described in the HCP, will significantly affect the quality of the human environment, as defined by the NEPA.

An EA should be prepared in any one of these situations:

- an action is not listed as a categorical exclusion, or if the action is not listed as an action normally requiring an EIS, and a decision to prepare an EIS has not been made;
- additional analysis and public input is needed to know whether the potential for significant impact exists;
- preliminary analysis indicates there is no scientific basis to believe significant impacts would occur, but some level of scientific controversy exists;
- the action is described on the list of actions normally categorically excluded, but one of the exceptional circumstances applies; or
- potential significant effects that might otherwise require an EIS could be substantially mitigated with proven mitigation measures or alternatives with proven mitigation incorporated into it.

CEQ has advised agencies to keep the length of EAs to approximately 10-15 pages. This may not always be possible, but to avoid undue length, the EA may incorporate by reference background data to support its concise discussion of the proposal and relevant issues. We should avoid preparing lengthy EAs except in unusual cases, where a proposal is so complex that a concise document cannot meet the goals of Section 1508.9 and where it is extremely difficult to determine whether the proposal could have significant environmental effects.

13.4.3 Environmental Impact Statement

CEQ regulations at 40 CFR [1502.1](#) state “the primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government”. In practice, it is a detailed written statement required by section 102(2)(C) of NEPA that analyzes the environmental impacts of a proposed action, adverse effects of a project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).

Preparation of an EIS takes significantly more effort than for an EA. Public notices are required to announce scoping for the EIS. Public notice for the availability of the draft EIS is generally combined with the public notice of availability of the HCP as required under ESA. We must also coordinate with EPA on EISs as they publish their own public notices that we must time with ours. Procedures for this coordination are in Chapter 14.

The text of final environmental impact statements should normally be less than 150 pages, and for proposals of unusual scope or complexity, less than 300 pages.

Our EAs and EISs can be focused and concise by applying these strategies:

- **Scoping:** Determine exactly what decision we must make, and tailor the document to provide the information necessary for that decision. Clearly defined purpose and need will focus analyses on appropriate alternatives and impacts.
- **Readability:** Use plain language, keep it simple and consistent. Move technical analyses into appendices.
- **Appendices:** Only material prepared for this NEPA review should be considered for inclusion, and only include material essential for understanding the NEPA document.

13.5 Preparation of NEPA Document by Consultants

The Services need to provide leadership, direction, and guidance when consultants prepare our NEPA documents. We want to keep document preparation on track and focused on necessary analyses. In accordance with 40 CFR 1506.5, 43 CFR 46.105, and 516 DM 8, contractors execute a disclosure statement prepared by us, or a cooperating agency, specifying that they have no financial or other interest in the outcome of the project.

The disclosure statement specifying that the contractor has no financial or other interest in the outcome of the project must be included in the draft and final NEPA document to memorialize and ensure there has been no conflict of interest. Under certain circumstances, an applicant who is a State agency or official can be the primary preparer of the NEPA document if they meet the requirements of section 102(2)(D) of NEPA. Typically, EAs associated with an HCP are prepared by a contractor. No matter who prepares the NEPA document, we are ultimately responsible for supervising its preparation and content, and the eventual conclusion and permitting decision.

See the HCP Handbook Toolbox [*Link will be added in final version*] for an example of a disclosure statement from a contractor to include in a draft and final EIS. Alternatively, electronic copies can be obtained from the Regional HCP Coordinator. Also see 40 CFR 1506, and 43 CFR 46, in the toolbox.

The Services should work directly with the contractor on NEPA-related matters and provide technical direction in preparing the EA or EIS. When several parties are involved in preparing the NEPA review and the HCP, it may be desirable to have a memorandum of understanding (MOU), project agreement, or some other similar document to establish roles and present a project schedule. For example, the MOU should state whether the Services, the contractor, or both would conduct scoping. The MOU should also address who will be responsible for printing the NEPA documents. We should inform the contractor of all NEPA compliance requirements including CEQ regulations (40 CFR 1500-1508), Departmental requirements (43 CFR Part 46), and the Services requirements (FWS Service Manual and this Handbook).

All such requirements must be met, including those for public involvement. Although the Services must respond to comments received on the EA or EIS, the contractor may organize the comments and prepare responses for the Services' review and approval. The Services must also independently review the EA or EIS before we accept it and take responsibility for its scope and contents. In spite of who drafts the NEPA documents, we are responsible for writing and approving the decision document [Finding of No Significance (FONSI) if EA, record of decision (ROD) if EIS] or a Notice of Intent (NOI) to prepare an EIS, if an EA finds that a significant impact is likely.

The HCP Handbook Toolbox [*Link will be added in final version*] also contains sample Requests for Proposals (RFPs) from typical EAs and EISs.

**PHASE 3: Processing, Making a Permitting Decision, and
Issuing the Incidental Take Permit**

**Chapter 14: Completing and Reviewing the Permit Application and NEPA
Compliance Documents**

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14.0 Introduction

After helping applicants develop a Habitat Conservation Plan (HCP) that will cover their actions that are likely to result in take, you'll tell them it's time to submit an application, including their HCP. Then, beginning in the field office, up through the Regional office (unless authority to process certain HCPs has been delegated to the field office), and through the solicitor's/general counsel's office, you'll review all of the documents associated with the application and HCP.

You will need to ensure that the draft HCP meets issuance criteria and all other requirements. You will also need to ensure that the National Environmental Policy Act (NEPA) analysis is appropriate and complete. Following document review, we must make drafts available to the public through the *Federal Register*. This chapter will help you through the process.

14.1 Documents Required to Complete the Application

The application package consists of the documents listed below, which should be submitted together once all the draft documents are complete. The responsibility for producing these documents may vary by Regional practice. FWS Service Manual procedures also allow Regions latitude in assigning the following tasks:

- FWS or NMFS application(s), or both, filled out and signed by the applicant;
- the appropriate processing fee (FWS only);
- draft HCP, which is the applicant's document, should be statutorily complete before it formally goes to the FWS or NMFS Regional office;
- implementing agreement (if there is one - see 14.11);
- certification from the FWS or NMFS field office that the HCP is statutorily complete (contains all of the required elements);
- draft NEPA analysis, which is our document, is often contracted and paid for by the applicant, but any contractor producing a NEPA analysis must be under the supervision of and responsive only to the Service(s);
- draft Notice of Availability (NOA) of the receipt of application and draft NEPA analysis, which is drafted at the FWS or NMFS field office; and
- cover letter to the Office of the *Federal Register* certifying that the disk contains a true unsigned copy of the signed hard copy NOA, is usually drafted at the FWS or NMFS Regional office.

[**Note:** We are not including the clearance process FWS has been using for several years because we anticipate not needing to continue the practice. This will require a change in policy.]

Helpful Hint: The *Federal Register* NOA and cover letter may be signed by the Regional Director (for FWS), acting Regional Director, or by whomever signature authority was delegated to or the Assistant Administrator (for Fisheries), Regional Administrator, or another designated

official (for NMFS). Check with the Regional HCP Coordinator if in doubt of the appropriate official.

For this chapter, our guidance assumes that applicants have been coordinating closely with the Service(s) throughout the HCP development. For larger plans, Service staff should request that the applicant submit sections (or chapters) as they are completed for early review, to help ensure the applicant is headed in the right direction and potentially to shorten the review time. When their HCP is complete, applicants should send a complete draft to the field office (see 14.3 below). The field office will tell the applicant when to submit their application and application fee (FWS only), if applicable. State and local government agencies and any individual or institution under contract for the proposed activities to a State or local agency are exempt from the fee. Applicants should always submit documents to the field office they have been working with, unless instructed to send them to the appropriate Regional office. See section 14.3 for more information regarding field office review of the HCP and application.

The draft NEPA analysis (NEPA screening document, which is the basis for making a decision on whether the project qualifies as a categorical exclusion or may require an environmental assessment (EA) or environmental impact statement (EIS)), and environmental action statement (EAS), EA, or EIS should be completed and ready for review about the same time as the HCP.

After field office review of the application, draft HCP, and draft NEPA analysis (EAS, EA, or EIS), the field office should prepare the *Federal Register* NOA. If the field office has requested early review from the Regional office, the NOA may be prepared during that review. When the NOA package is complete, the field office should send the application package to the Regional office for review and further processing (see section 14.8 for more information regarding the Regional office and legal counsel reviews).

In some cases, the field office may request early review of certain documents from the Regional office. Early reviews may help to expedite later reviews, settle questionable sections of a document (e.g., mitigation strategies, unusual conservation measures), or to ask for early legal counsel review, among others.

Note – Authority to process certain application packages (e.g., low effect HCPs with categorical exclusion level NEPA analysis) has been delegated to some field offices. If this is the case, the field office also handles processing publication of the *Federal Register* NOA. Field office staff should follow the instructions below that otherwise would occur at the Regional office.

Helpful Hint: Consistency matters. Write the *Federal Register* NOA according to the *Office of the Federal Register Document Drafting Handbook*. Write and review all other documents according to the *Government Printing Office (GPO) Style Manual*. Use consistent terminology within and among documents for an application package.

14.2 Permit Application Forms, Application Fees, and Instructions

Applicants must submit an application, along with their HCP, that meets general and specific permit requirements, and the applicable processing fee (FWS only) to the field office. The

official processing timeframe begins when the Regional office receives the complete application package from the field office. If the Regional Director has delegated authority to the field office, the timeframe begins when the field office receives a complete package. See the List of Service Regional Offices in the FWS application (<http://www.fws.gov/forms/3-200-56.pdf>).

14.2.1 FWS Application Form

Applicants must complete and submit a Federal Fish and Wildlife Permit Application (form 3-200-56 - Weblink: <http://www.fws.gov/forms/3-200-56.pdf>), as required at 50 CFR 17.22(a)(1), for all applications for a new, renewed, or amended incidental take permit, as well as for any transfer or succession of a valid permit. Following are instructions for this form, which also appear on the actual form. If the applicant is an individual, he/she must sign the application and complete block 4 of the form. If the applicant is a tribe, city, county, business, consortium, or similar group, the appropriate authority responsible for actions granted under the permit must complete block 5 and sign the form. In all cases, there must be an original signature and date in blue ink in the certification block. We do not consider the application complete without the original, signed form.

Helpful Hint: The applicant must have authority to implement the HCP and permit. This means that the applicant must have the authority to regulate or control (e.g., owns the permit area, has a lease on the property to implement the HCP activities) all or applicable parts of the HCP so the conditions of the HCP and permit are enforceable.

By signing form 3-200-56, the applicant for a permit is certifying that:

- the information submitted in the application is complete and accurate and,
- the applicant understands that any false statements may result in criminal penalties, and
- the applicant has read and is familiar with applicable regulations.

Applicants must send their completed application package to the field office they have been working with throughout the development of the HCP. The field office will review the package and send it to the Regional office along with a certification that they found the HCP to be statutorily complete (the HCP includes all mandatory elements). The field office may fax or e-mail an application form to the Regional office to begin the permit processing phase, but only if the original application with an original signature is submitted immediately afterward. Until the form itself is revised, instruct applicants to ignore the space for the appropriate Regional office address and phone number at the top of the form where it reads “Return to: U.S. Fish and Wildlife Service (USFWS).” If applicants send an application package directly to the Regional office, it will cause a delay because the Regional office will send it to the field office for review and processing.

14.2.2 NMFS Applications

There are three different NMFS permit applications, depending on the type of species the applicant expects to take. Applicants should contact the NMFS Headquarters office at (301) 427-

8400 for the most current application forms for marine mammals, sea turtles, and other listed species. Alternatively, applicants can go to the Web links listed below.

1. Marine Mammals - Web link: http://www.nmfs.notice of availabilitya.gov/pr/permits/esa_permits.htm#listed
2. Sea Turtles - Web link: http://www.nmfs.notice of availabilitya.gov/pr/permits/esa_permits.htm#turtles
3. Other listed species - Web link: http://www.nmfs.notice of availabilitya.gov/pr/pdfs/permits/instructions_esa_listed.pdf%20

14.2.3 Incomplete or Insufficient Application

Applicants must provide all required information and certify that it is complete and accurate to the best of their knowledge (on the FWS form 3-200-56, this is at block D, number 3). Although field office staff may do early reviews to help ensure that the HCP is on track, we do not begin the official review process until we receive a complete application package.

FWS - Incomplete Application

If the 3-200-56 form is not completely and correctly filled out, Service staff must notify the applicant in writing with a copy of the correspondence in the project file, or by phone, with a memo to the file for the project file and administrative record. If the Service requests information (e.g., required information is missing or unclear), we must notify the applicant that if the information is not received within 45 days of the date of notification, we will consider the application abandoned [50 CFR 13.11(e)]. To ensure the administrative record is complete, the Service should send a letter to the applicant at the end of the 45 day period confirming the the application is considered abandoned and the applicant must submit a new application and fee if the applicant desires to obtain an incidental take permit.

NMFS - Insufficient or Improperly Executed Application

For NMFS, if the application is insufficiently or improperly executed, NMFS staff must notify the applicant. The applicant has 60 days to supply the deficient information or otherwise correct the deficiency. If they do not, the application will be considered abandoned [50 CFR 222.302(c)(1)].

14.2.4 FWS Application Processing Fee

The FWS application fee, as stated in 50 CFR 13.11(d), is for processing the application, not for the permit, so it is not refundable if the application is abandoned or the permit is denied. The fee may be refunded only if the applicant withdraws the application, in writing, before processing of the application begins. Money orders or checks should be made payable to the U.S. Fish and Wildlife Service. If the check or money order has been sent to the Denver Finance Center, the

Regional office must request a refund to the applicant. Checks and money orders must be safeguarded as if they were cash and placed in a fire-proof safe, except when being processed by employees designated as collection officers. Application fees should be deposited in a timely manner.

The required processing fees can be found in section E of the permit application. As of this writing, the FWS processing fee for a new permit application is \$100.00.

Tribes, State or local government agencies (counties, cities, etc.), and any individual or institution under contract to such an entity to conduct the proposed activities are exempt from paying the fee.

Helpful Hint: There is no processing fee for NMFS permit applications.

14.3 Field Office Review of the HCP

We must clearly state our expectations, the section 10 HCP requirements, and permit issuance criteria to applicants at the beginning of an HCP development effort. If an applicant has closely coordinated with the field office throughout development of the HCP, the plan should have all the right components, have an acceptable mitigation strategy, and preliminarily meet all requirements. If this is the case, the field office will be able to tell the applicant when the draft HCP and attending documents are ready to submit as a complete, adequate application for a permit. When such close coordination happens, the review of the draft HCP will be thorough, but it will also be relatively easy.

Helpful Hint: Remember that the HCP is the applicant's document. If any substantive changes are needed, the applicant must approve them or make them itself.

If, on the other hand, an applicant submits a draft HCP without close coordination with the Service or insists on submitting an HCP that doesn't meet field office recommendations, the field office review may take additional time. If there are issues to be resolved or negotiated (e.g., inadequate mitigation, a listed species not covered or not adequately covered), field office staff may need to consult with their Regional HCP Coordinator for guidance on how to address such issues. Disagreement between the applicant and field office staff may also be elevated to the Regional office for assistance.

Helpful Hint: During the review of the HCP (and associated documents), use the information provided to start (or add to) both the draft section 7 biological opinion (BO) and the findings and recommendations memo. Although these documents may not be completed until the public comment period has closed and any comments submitted have been addressed, collecting information during this review will save time and effort later. If an HCP is changing substantively, only include sections of draft BO and findings that are not likely to change.

Things to consider when reviewing the HCP at the field office:

- if the HCP is low effect, ensure that it meets the statutory requirements for a NEPA categorical exclusion (use the screening form for low-effect incidental take permits and NEPA environmental action statement located in the HCP Handbook Toolbox [*Link will be added in final version*]);
- whether the draft HCP is statutorily complete and meets applicable regulatory and policy requirements (to the best of your understanding);
- ensure all required sections are in the HCP – see the required HCP elements and recommended HCP format in Appendix C;
- ensure that climate change considerations (changes in climate and related direct and indirect effects) are adequately addressed;
- make sure numbers add up and are consistent among all documents;
- make sure maps are correct, show the HCP and permit areas (if they're different), and where they are on the larger landscape;
- ensure all definitions in the HCP meet Endangered Species Act (ESA) definitions (as opposed to NEPA definitions);
- make sure all negotiated points are presented in the HCP as agreed upon (if not, clarify with the applicant);
- ensure the publication-ready quality of all draft documents forwarded to the Regional office;
- manage materials for the official administrative record (although at this point the documents are part of the file record, we advise that you maintain them with the possibility of future litigation in mind—maintaining well-organized files is a standard practice);
- FWS
 - early Environmental Conservation Online System (ECOS) processing (entry of HCP information to ECOS); and
 - route the application package to the Regional office using the Data Tracking System (DTS) (if the Region uses DTS) – or whatever data tracking system is in use. If the HCP is low effect and signature authority has been delegated to the field office, the field office completes the process as described as Regional office duties, below.

14.3.1 ESA Requirements

FWS ESA HCP application requirements are described in 50 CFR 13 and 17.22(b)(1) for endangered species and 17.32(b)(1) for threatened species: (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50tab_02.tpl) and include –

- a physical address or location of activities, such as section/township/range, county tax parcel number, or some other formal legal description (50 CFR 13.12(a)(2)). The applicant must also provide shapefiles of the plan area and permit area (if they're different). The field office will provide the applicant with specific requirements;
- a complete description of the activity(ies) for which incidental take will be authorized;
- the common and scientific names of the species requested for the permit to cover, as well as the number, age, and sex of such species, if known; and
- a conservation plan that specifies:

- the impact that will likely result from the incidental taking (ESA section 10(a)(2)(A)(i)). This is not a tally of how many individuals (or surrogate - e.g., acres of habitat) will be taken, but instead is a robust analysis of what impact the taking of those individuals will have on the species or population, as appropriate;
- what steps the applicant will take to monitor, minimize, and mitigate such impacts; the funding that will be available to implement such steps; and the procedures that they will use to deal with unforeseen circumstances (ESA section 10(a)(2)(A)(ii));
- what alternative actions to such incidental taking have been considered and the reasons the applicant rejected those alternatives (ESA section 10(a)(2)(A)(iii)). The alternatives to the taking are not the same as the NEPA alternatives, but may be similar. The ESA required alternatives are described, not analyzed;
 - applicants need to tell the story of why they need a permit, describe the situation and state why other options don't work for them. For instance, at least one reason an applicant would reject a no action alternative is that not doing the project doesn't meet the applicant's needs (and it wouldn't provide benefits to the species); and
- other measures that the Director may require as being necessary or appropriate for the purposes of the plan (ESA section 10(a)(2)(A)(iv)).

NMFS ESA Permit Application Procedures are outlined in 50 CFR 222.307(b) (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50cfr222_main_02.tpl) and include:

- the type of application (marine mammals, sea turtles, or other listed species);
- the applicant's name, address, and telephone number;
- the species or stocks, by common and scientific name, and a description of the status, distribution, seasonal distribution, habitat needs, feeding habitats, and other biological requirements;
- a detailed description of the proposed activity; and
- a conservation plan that specifies:
 - the impact that will likely result from the incidental taking (ESA section 10(a)(2)(A)(i); 50 CFR 222.307(b)(5)(i));
 - the anticipated impact of the proposed activity on the habitat of the species or stocks (CFR 222.307(b)(5)(ii));
 - what steps the applicant will take to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such steps; and measures (ESA section 10(a)(2)(A)(ii); 50 CFR 222.307(b)(5)(iii));
 - what alternative actions to such incidental taking have been considered and the reasons these alternatives are not being used (ESA section 10(a)(2)(A)(iii); 50 CFR 222.307(b)(5)(iv)). The alternatives to the taking are not necessarily the same as the NEPA alternatives, although they may be nearly the same (e.g., a no action alternative doesn't meet the applicant's needs and doesn't provide benefits to the species, or an applicant considers moving or decreasing a development project that would result in no take or significantly reduced take, but those alternatives are not financially viable options). The applicant describes these alternatives in the HCP, but doesn't have to analyze them; and

○ a list of all data sources used in preparation of the plan (50 CFR 222.307(b)(5)(v)).

14.3.2 Issuance Criteria

The Services must find that the following requirements are met [(ESA section 10(a)(2)(B); 50 CFR 17.22(b)(2) 17.32(b)(2) (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50tab_02.tpl) and 50 CFR 222.307(c)(2)) (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50cfr222_main_02.tpl)]:

- the taking will be incidental to, and not the purpose of, carrying out an otherwise lawful activity (50 CFR 17.3);
- the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings;
- the applicant will ensure that adequate funding for the conservation plan (implementation and mitigation) and procedures to deal with changed circumstances will be provided (including what the applicant will do in the face of changed circumstances and the funding to implement those actions);
- the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;
- FWS:
 - such other measures that the Director may require as being necessary or appropriate for purposes of the plan; and
 - the Director has received such other assurances that the plan will be implemented.
- NMFS:
 - the applicant has amended the conservation plan to include any measures (not originally proposed by the applicant) that the Assistant Administrator determines are necessary or appropriate; and
 - there are adequate assurances that the conservation plan will be funded and implemented, including any measures required by the Assistant Administrator.

14.3.3 Disqualifying Factors

When the Services get an adequate draft HCP that meets all requirements and issuance criteria, with a complete and correctly filled out application for a permit, we issue a permit unless there are disqualifying factors.

Note: It would be wise to determine whether there are disqualifying factors as early as possible and not wait until an HCP has been developed (see section 3.3).

For FWS, review the factors described in 50 CFR 13.21(b) and (c) (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50tab_02.tpl). If the applicant does not qualify for a permit because of any of the disqualifying factors, we should notify the applicant in writing with a memo to the file for the administrative record.

Disqualifying factors or reasons to deny a permit for NMFS are identified in 15 CFR 904 and 50 CFR 222.303(e)(1) (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title50/50cfr222_main_02.tpl). We may deny a permit because of violations of law or settlement agreements, non payment of fines, or other circumstances listed in the regulations.

14.3.4 Incomplete or Inadequate HCP

Despite our best efforts, some applicants may choose to prepare and submit a draft HCP without coordinating with the Services. If the HCP is incomplete (missing one or more required elements), then the application is incomplete. If an applicant submits a draft HCP that we determine is incomplete, we must notify the applicant in as soon as possible after receipt of the application. If the application is complete, the Service must process the application and render a permit decision. If the HCP fails to meet issuance criteria, the Services will issue a notification letter to the applicant that specifically details how the HCP would likely not meet issuance criteria. If the application is complete, the Services must process the application and render a permit decision.

The notification should be a formal letter, stating that we are denying the permit and the basis for denying the permit. Alternatively, we may attach the letter of denial (for the record), which will be effective in 30 days if the applicant doesn't respond, to a letter providing guidance on how to resolve the inadequacies, and give them the opportunity to do so if they choose to continue.

- Where possible, provide guidance on how the identified issues may be addressed to meet issuance criteria and resolve any other inadequacies.
- State that the applicant is responsible for providing a response to the Service within 30 days as to whether an attempt will be made to address the identified issues.
- State that if the applicant does not respond within 30 days, the Service will consider the permit application denied.
- If the applicant notifies the Service that no revisions will be made to the application, the Service will send a letter of permit denial to the applicant within 30 days. The permit denial letter should also explain the bases for the Service's determination to deny the permit application.
 - The permit denial letter must inform the applicant of the right to request reconsideration (see below). Such an administrative appeal is required by FWS regulations before the applicant can sue the FWS in federal court.
 - Provide information on what they need to supply in the appeal.

The FWS Regional office may coordinate with the Regional solicitor's office on a denial determination, as appropriate. An FWS permit denial does not require notification in the *Federal Register*.

NMFS must use the process in 50 CFR 222.303(e)(2) to deny permits. NMFS must notify the applicant in writing of the denial of the permit request and include the reasons for denial. If authorized to do so in the notice of denial, the applicant may submit further information or reasons the permit should not be denied. Such further information is not a new application. Notice of the denial must be published in the *Federal Register* within 10 days after the date of the denial (50 CFR 222.303(d)).

If the applicant responds with the intent to address the inadequacies, the Services should work closely with the applicant to help resolve issues in a timely manner and to prevent further delays. During this collaborative process, Service staff should document attempts to resolve inadequacies and provide any interim determinations or resolutions to the applicant in writing. These written communications inform and contribute to the administrative record if we cannot resolve problems and have to deny the permit application. In addition, these written communications provide support for our changes in position regarding the adequacy of the application, which is a very important part of the administrative record.

14.3.5 Certification of Application by the Field Office that the HCP is Statutorily Complete

When field office staff are ready to send the application package to the Regional office, they must include a memo stating that they have reviewed the HCP and that they believe it is statutorily complete and otherwise meets regulatory and policy requirements applicable to a permit application (see an example Field Office Certification in the HCP Handbook Toolbox [*Link will be added in final version*]).

If authority to issue permits has been delegated to the field office, include a memo to the file with the certification signed by at least one supervisory level below the field supervisor.

14.4 Field Office Review of the NEPA Analysis

If the Service wrote the draft NEPA analysis, or if a consultant developed the draft NEPA analysis in close coordination with the Service, the field office review of the draft should be relatively easy. To ensure a contractor's draft NEPA analysis is adequate and concise we must define our expectations early and provide good oversight of the NEPA contractor during document development. We should tell the contractor which factors to include for analysis. We should also give the contractor a page limit and a time limit for draft completion for our review (while we may or may not enforce page limits, by giving contractors better guidelines according to our expectations, we expect to stop receiving unnecessarily lengthy NEPA analyses).

In accordance with 40 CFR 1506.5, 43 CFR 46.105, and 516 DM 8, NEPA contractors must execute a disclosure statement, specifying that they have no financial or other interest in the outcome of the project.

Helpful Hint: The NEPA analysis is the Service's document. No matter who wrote it, we can make any changes we deem necessary.

Things to consider when reviewing the NEPA analysis at the field office:

- If the NEPA analysis is a screening form, it must be brief, but also contain enough information for a decision-maker to determine that it does indeed meet the categorical exclusion level of NEPA.
- The summary section (40 CFR 1502.12) must adequately and accurately summarize the NEPA analysis by:
 - stressing the major conclusions,
 - highlighting areas of controversy (including issues raised by agencies and the public), and
 - highlighting the issues to be resolved (including the choice among alternatives).
- Verify that the draft in review is likely the proper level of NEPA for the HCP
- An environmental assessment (EA) is a concise document and should not contain long descriptions or detailed data (should be no more than 10-15 pages long).
- The NEPA analysis must be written in the Service's voice.
- All required sections must be in the NEPA analysis (see the Standard NEPA Analysis Documents in the HCP Handbook Toolbox [*Link will be added in final version*]).
- All definitions in the document must meet NEPA definitions.
- Verify that numbers add up and are consistent among all documents.
- Make sure maps are correct, show the HCP and permit areas (if they're different), and show where they are on the larger landscape.
- Ensure that all draft and final documents forwarded to the Regional office are publication-ready.
- Manage materials for the official administrative record.
- Be sure the purpose and need is the Service's purpose and need (see section 13.1 for a template purpose and need statement).
- There must be a reasonable range of alternatives considered, based on the purpose and need for the proposed action.
- Be sure the impacts are actually analyzed, not just described.
- The cumulative effects section must consider all actions (Federal and non-Federal) that have occurred, are occurring, and are reasonably certain to occur.
- The analysis must consider whether impacts are significant (includes context and intensity) and provides the reason (i.e., it is [or is not] significant because . . .).
- Ensure that the analysis makes sense (connect the dots).
- Mitigation measures for impacts to the human environment must consider why, what, who, where, and when.
- All conclusions in the NEPA document must be rationally connected to the facts used to reach those conclusions.

14.5 Federal Register Notices

Under section 10(c) of the ESA and Federal regulations [50 CFR 17.22 and 17.32(b)(1) (ii) or 50 CFR 222.302 and 222.303], the Service must publish in the *Federal Register* a notice of receipt of a permit application for each section 10 permit application received (remember that the HCP is part of the application package, so we make the HCP available for public review). NEPA regulations (40 CFR 1506.6) and our policy also require publication of an NOA of our NEPA analysis. A *Federal Register* NOA should be brief, but it should provide enough information to agencies and the public so they will know whether they want to review and comment on

available documents (see the approved short NOA in the HCP Handbook Toolbox [*Link will be added in final version*]). In addition to the NOA we publish for each HCP and application, if the NEPA analysis leads to an environmental impact statement (EIS), the U.S. Environmental Protection Agency (EPA) publishes a notice that an EIS is available for review. See the EIS Filing Instructions in the HCP Handbook Toolbox for more information.

14.5.1 Purpose

Federal Register notices regarding HCPs may announce scoping, the receipt of applications, the availability of documents for review and comment, meetings, or final permitting decisions (e.g., issuance, denials, revocations). The Services may also request comments on specific elements of an HCP (e.g., adequacy of the mitigation plan, the conservation measures).

14.5.2 Timing of the Notice

Federal Register NOAs should be published as soon as possible after submission of the complete application package and final review of the application package by Regional office staff.

For FWS NOAs, other than those for low-effect HCPs with categorical exclusions, they must be reviewed and surnamed by the solicitor's office. The Division of Policy, Performance, and Management Programs (PPM) must also review them. See PPMs Web site <http://www.fws.gov/pdm/regs.html> for contact information.

NMFS NOAs must be approved and cleared for publication through the relevant Regional Protected Resources Division or Assistant Regional Administrator. Check with the Regional HCP Coordinator for specific routing and process.

14.5.3 Composition and Content of Federal Register Notices

A *Federal Register* NOA generally consists of several parts, including the billing code, headings, text, and a signature block. See *Federal Register Notices* in the HCP Handbook Toolbox [*Link will be added in final version*] that expands on the guidance provided in the *Office of the Federal Register Document Drafting Handbook* (<http://www.archives.gov/federal-register/write/handbook/ddh.pdf>) for how to write a *Federal Register* NOA; what it should include; and includes examples of billing codes, department names, and subagency names. A short NOA, already reviewed and approved by the Division of Policy, Performance, and Management Programs is available in the HCP Handbook Toolbox [*Link will be added in final version*] (short NOA).

There are slight differences between FWS NOAs, NMFS NOAs, and joint agency NOAs. When filing a joint agency NOA there are additional specific coordination issues to consider. See the Coordination Process and Example of a Joint *Federal Register* Notice in the HCP Handbook Toolbox [*Link will be added in final version*].

14.5.4 Format of the Notice of Availability

Formatting for a *Federal Register* NOA is very specific (see see Federal Register Notices in the HCP Handbook Toolbox [*Link will be added in final version*] for specific formatting examples). *Federal Register* NOAs must be written according to the *Office of the Federal Register Document Drafting Handbook* first, and where that is silent, then use the *GPO Style Manual*. In addition, if the signature block isn't right, the Office of the Federal Register will reject it. If that happens, you have to get new signature copies and repeat much of the process. Seek a courtesy review by PPM to be sure you won't have problems that delay your process.

14.6 Required Public Comment Periods

The information received by the Services as part of an application package (e.g., application, HCP, maps, background information, standard operating procedures, etc.) must be made available for public review (ESA section 10(c)). Be aware of requirements for the length of the public review/comment period for NOAs. If we involved other agencies and the public by doing early scoping or public meetings, we must offer the public at least 30 days to comment on the HCP and application supported by a categorical exclusion, EA, or mitigated EA. Service policy requires at least a 60-day comment period for a draft EIS or on an EA for HCPs that are large-scale or regional. If the public hasn't been involved, we may need to add 30 days to the comment period. For HCPs that are exceptionally complex or precedent-setting, FWS policy requires a 90-day public review/comment period. If we anticipate a lot of interest in an HCP, it may be prudent to add 30 or 60 days to the comment period so you don't have to reopen or extend it. Discuss this with the Regional HCP Coordinator.

14.7 Review by Regional Office and Legal Counsel

Helpful Hint: When Regional office staff are reviewing and commenting on the draft HCP, any substantive changes must be returned to the field office. Field office staff must seek approval by the applicant, and typically the applicant makes those changes.

14.7.1 Regional Office Application Processing

Processing an incidental take permit application at the Regional office consists of reviewing the application, draft HCP, and draft NEPA analysis. When the Regional office is satisfied that the documents are complete, they announce receipt of the application and availability of the draft NEPA analysis and draft HCP in the *Federal Register* and request public review and comment on the draft HCP, draft NEPA analysis, and application.

The FWS - Regional Office:

- gets an application number from the Service Permit Issuance and Tracking System (SPITS) and works with the HCP Coordinator;
- reviews the HCP and NEPA analysis according to the same considerations that the field office uses, meaning that they must ensure it meets all statutory, regulatory, and policy requirements (or document where requirements are not likely to be met);
- reviews the *Federal Register* NOA;

- sends the draft HCP, implementing agreement (if there is one), draft NEPA analysis, and NOA to the Regional solicitor's office for review and signature. This request may be formal or informal, depending on Regional guidance (check with the Regional HCP Coordinator); and
- processes the NOA through to publication in the *Federal Register* by:
 - putting the NOA in surname for concurrence and signature (in DTS if your Region uses DTS);
 - after signature, getting PPM to review a courtesy copy, and
 - processing the NOA as appropriate according to the NEPA level:
 - Categorical exclusion, EA, or mitigated EA—send the NOA package to the *Federal Register* with a cover letter and a CD with the MS Word version of the NOA with the signer's name and title typed in under the signature line (see Federal Register Notices in the HCP Handbook Toolbox [*Link will be added in final version*])
 - EIS—upload the EIS to the EPA's e-portal (CDX) (see EIS Filing and Distribution in the HCP Handbook Toolbox [*Link will be added in final version*]), and
 - send the NOA package (i.e., NOA, cover letter, and a CD with the MS Word version of the NOA with the signer's name and title typed in under the signature line) to the *Federal Register*. Include a letter to request publication on a certain date (to correspond with EPA's publication date)

NMFS - Regional Office

- ideally, NMFS field office staff will work with the applicant to develop a permit application and conservation plan before it is submitted to the relevant Regional office;
- gets an application number from the Authorizations and Permits for Protected Species (APPS);
- reviews the application and works with the applicant to make necessary changes or requests additional information;
- after the application is complete and sufficient, NMFS publishes a notice of receipt and request for comments in the *Federal Register*; and
- prepares the draft NEPA analysis document, publishes an NOA of a draft EA (or EIS) and request for comments in the Federal Register.

14.7.2 Review by the Office of the Regional Solicitor and General Counsel

Legal review of the permit application package ensures that the draft HCP and associated documents meet the legal requirements of the ESA and NEPA. It is very important to get legal review for large-scale, Regional, multi-Regional, or joint-agency HCPs, which are often complex and address a variety of activities and species. The need for legal review of low-effect HCPs is

less critical. They may not need legal review since these projects are by definition minor in scope and impact.

If we use an implementing agreement, it should have legal review. Though implementing agreements are not contracts and have no independent legal force and effect, implementing agreements are incorporated into the ITP as terms and conditions thereof. A failure to comply with one or more terms of an implementing agreement may be grounds for considering the revocation of the incidental take permit. In all cases, the terms of an incidental take permit are controlling.

FWS Legal Review

It is FWS policy to require DOI solicitor's office (legal counsel) review of all ESA section 10 permit application packages. However, solicitor's review of HCPs categorized as low-effect may be waived if the HCP meets all applicable criteria for low-effect HCPs. For other exceptions, discuss the HCP with the Regional HCP Coordinator.

The Regional office may request the solicitor's review of certain parts of the HCP package, formally or informally, and you should coordinate with the solicitor to determine which parts of the package the Solicitor should receive to complete an adequate legal review (or you may provide the entire package). Typically that includes:

- the draft HCP (and implementing agreement, if applicable),
- draft NEPA analysis,
- NOA, and
- eventually for the signature package, you must include the comments, Service response to comments, BO, findings memo, incidental take permit, NEPA decision document, and real property documents, such as conservation easements, that will be used to implement the plan.

Other than NOAs for low-effect HCPs with categorical exclusion level NEPA analysis, all draft *Federal Register* NOAs must be reviewed and surnamed by the solicitor's office. PPM also must review them prior to publication.

Helpful Hint: It is important for the solicitor's office to review comments and responses to comments because the comments often forecast potential litigation.

- Coordination with the solicitor's office on a permit application package should begin as soon as possible in the permit processing phase and ideally during the development phase of unique, large, unusually complex, or precedent-setting HCPs.
- The Regional HCP Coordinator (or field office staff, depending on the process in each Region) should contact the Regional solicitor's office either by official memorandum (see example in the HCP Handbook Toolbox [*Link will be added in final version*]) or via email to request a primary legal counsel for review of a specific permit application package.

- The Service can furnish a template Implementing Agreement (IA) to the applicant for initial development (see template in the HCP Handbook Toolbox [*Link will be added in final version*]), and then the Service and the solicitor's office will work with applicant and applicant's counsel, if any, to craft the final IA.
- The solicitor reviews the documents, as necessary, throughout the HCP process to ensure regulatory and statutory compliance and to avoid problems found at the last minute in documents submitted for final approval.
- In some Regions the solicitor's office will forward a memorandum to the appropriate official stating that the review is done and that the documents meet statutory and regulatory requirements (or not), and if applicable, have been surnamed. Alternatively, the solicitor may send an e-mail stating that the reviewed documents meet statutory and regulatory requirements and the e-mail serves as a surname. Other Regional solicitors do not send such memos or surname documents. Each Regional HCP Coordinator can provide information on the process in their Region.

Helpful Hint: If the solicitor puts comments in track changes in a document you have provided for review, those comments are protected by attorney-client privileged and should NOT be released outside the FWS. Solicitor comments are directed to the Service. If comments are on the HCP, the field office should coordinate with the solicitor to determine the appropriate way to communicate the issues to the applicant. Generally, restating the comments using the Service's voice and removing the solicitor's comments is sufficient.

NMFS Legal Review

A NMFS section 10(a)(1)(B) incidental take permit application package, including supporting ESA and NEPA analysis documents, must have legal review by the office of the general counsel (legal counsel) either in the appropriate Regional office of the general counsel or the General Counsel-Fisheries and Protected Resources Section. Legal review of low-effect HCPs should be discussed with the legal counsel to determine whether review is needed.

Documents that should receive legal review:

- HCPs,
- implementing Agreements,
- incidental take permits,
- NEPA analyses, and
- ESA section 7 consultations.

Early involvement of the general counsel, starting in the HCP/incidental take permit planning stage, is valuable to help steer development of the HCP and accompanying documents in a direction that will assure that they meet the statutory and regulatory requirements for section 10(a)(1)(B) permits. Additionally, general counsel will provide guidance on compilation of the administrative record. General counsel involvement in discussions with the applicant and NMFS throughout the development process is helpful for the review process because the documents will be developed in a legally sufficient manner, avoiding last minute issues in documents submitted for approval.

In particular, NMFS will:

- contact the Regional office of the general counsel office or General Counsel - Fisheries and Protected Resources Section as appropriate, to learn which attorney will be advising NMFS and reviewing the HCP and associated documents when a potential applicant appears to be seriously interested in developing an HCP;
- involve the attorney in the development of the HCP, BO, NEPA analysis, implementing agreement, incidental take permit, agency decision document, and response to comments. The attorney should take the lead in developing the implementing agreement; and
- request and receive general counsel clearance of the HCP, BO, implementing agreement, NEPA analysis (and corresponding Finding of No Significant Impact (FONSI) or Record of Decision (ROD), as applicable), incidental take permit, and decision memo before issuing the permit and approving the associated documents.

The responsible attorney, after review of these documents, provides the requesting official written clearance, stating that the incidental take permit and associated documents are legally sufficient under applicable laws and regulations.

14.8 Getting Federal Register Notices Signed and Published

The Services have different procedures for getting *Federal Register* NOAs signed and published.

If you are using regulations.gov to collect public comments, for your convenience PPM will publish the associated documents at <http://www.fws.gov/policy/frsystem/opendocs.cfm>.

14.8.1 FWS Procedures for Federal Register Notices

This section describes the procedures that the FWS Regional office should follow once they have a draft NOA ready for publication. See the Federal Register Notices & (Entire) Process for Publishing an NOA in the HCP Handbook Toolbox (*Link will be added in final version*) for additional information. The NOA must go through the normal routing for the appropriate official's signature. Check with the Regional HCP Coordinator to determine who should sign the NOA.

1. The Regional HCP Coordinator, or assigned staff, reviews and edits the draft *Federal Register* NOA of the:
 - draft surname package, including the draft NEPA analysis (or screening document), draft HCP, implementing agreement (if any), and receipt of an application for an incidental permit, and
 - final surname package, including the final NEPA analysis (or screening document), final HCP, and draft decision documents (findings memo and environmental action statement, FONSI, or ROD, or combined findings memo and NEPA decision document).

The Regional office then submits it to PPM for a courtesy review and requests a notice tracking number (N#), by e-mail. An N# is appropriate for an HCP package where you don't expect a lot of comments. If you expect a lot of comments and will be using regulations.gov to collect and compile those comments, request a docket number via FWS Form 3-2198 (<http://www.fws.gov/forms/3-2198.pdf>).

2. PPM will return the NOA with the N# or docket number.
3. The Regional office staff or HCP Coordinator makes changes to the NOA (final before publication) and submits the surname package (in order) to:
 - i. Division Chief, or Acting (surname process goes through DTS if your Region uses it);
 - ii. Assistant Regional Director – Ecological Services, or Acting, and
 - iii. any other affected Assistant Regional Director.

**Where the Regional office has delegated signature authority to field offices, check with the Regional HCP Coordinator for the correct routing.

**Other documents include note to reviewer, routing/surname sheet (if not part of the note to reviewer), and the communications plan. Some Regions also include a news release, White House/week ahead report, and communication strategy. Check with the Regional HCP Coordinator for the specific documents needed in the surname package.

4. The Regional office gets the appropriate officer's signature on:
 - 3 copies of the NOA (in blue ink), and
 - Disk certification memo to the director of the *Federal Register*.
5. The Regional office staff types in the signer's name and title on the hard copy and on the electronic copy of the NOA. If a date is put on the hard copies, the same date must be typed into the electronic copy. The hard copies and electronic copy must have identical information in the signature block.
6. See the Federal Register Notices & (Entire) Process for Publishing an NOA in the HCP Handbook Toolbox (*Link will be added in final version*) for additional information prior to completing the steps below.

If the NEPA analysis is an EIS, steps 6 - 8 are also required:

7. The Regional office prepares the EIS filing documents (to publish an NOA for an EA go to step 11);
8. Get signatures of the appropriate official on EIS filing documents, including the letter from the Region to the correct EPA regional office and memos to the DOI Library and the NEPA Coordinator at Headquarters;

9. Upload the EIS onto e-NEPA at <https://cdx.epa.gov> (see e-NEPA Electronic Submittal instructions at http://www.wsdot.wa.gov/NR/rdonlyres/FBE6F11F-4A8F-4F82-ADF6-FC31B8DD108B/0/EIS_GuideElectronicFiling.pdf):

- Ensure that courtesy copies of the EIS and NOA have been or are being sent to the appropriate parties prior to publication:
 - 2 copies (1 paper, 1 CD) of the EIS and courtesy photocopy of the NOA to the Environmental Protection Agency Regional office (see the list of offices in the HCP Handbook Toolbox [*Link will be added in final version*]),
 - 2 copies (CDs) of the EIS and courtesy photocopy of the NOA to the National NEPA Coordinator, and
 - 2 copies (1 paper, 1 CD) of the EIS (plus HCP and implementing agreement, if appropriate) and courtesy photocopy of the NOA for the DOI Natural Resources Library.

10. The Regional office submits the NOA to the *Federal Register* so it will publish on the same date as Environmental Protection Agency's notice. The submission must include:

- 3 copies of the NOA (single-sided & double spaced) with each signed by the appropriate official;
- CD with MS Word file on it (only). The name and title of the signer (and the date if it is included on the signed copies) must be typed into the e-copy;
- A letter to the Office of the *Federal Register* certifying the Word version on the CD, and the letter are the same; and
 - If the NEPA analysis is an EIS, a letter requesting a specific date for publication to correspond with the EPA's notice (may be signed by the Assistant Regional Director – Ecological Services or field supervisor).

11. The Office of the Federal Register publishes the NOA.

14.8.2 NMFS Procedures for Federal Register Notices – Headquarters

14.8.2.1 Federal Register Notice – NMFS Regional Office Checklist

Document Preparation

The Regional office must ensure that all memoranda/letters/notices, etc., have been prepared according to guidance in the Examples Package for NMFS Federal Register Documents (see it in the HCP Handbook Toolbox [*Link will be added in final version*]), Federal Register Document Drafting Handbook, Operational Guidelines, and other policies and procedures issued by the Assistant Administrator (AA) or NMFS/NOAA related to the review and clearance of regulatory actions, including Protected Resources (PR) Intranet Writing Regulations. (see [PR Intranet Writing Regulations](#) or [SF Intranet Checklists](#)).

XRIN and Regulatory Tracking System

Notices do not require regulatory identifier numbers (RINs). Instead, the agency uses a similar number called an XRIN (a regulatory identifier number for a non-rulemaking, such as a notice).

XRINs are 8 or 9 characters and for NMFS, they always start with 0648-X... The last 4 characters uniquely identify the action (e.g., 0648-XD103).

The Regulatory Tracking System (RTS) is used in the Department of Commerce and Regulatory Tracking System (DOC) to manage regulatory actions, document edits, and to track issues such as Executive Order 12866 significance determinations. We request our XRIN through RTS. We must submit the package through RTS for DOC clearance of actions. There are a limited number of people with RTS accounts in each office as DOC charges NMFS by the user. If you do not have RTS access, please provide the information required for your entry to, and work with an RTS user (see [RTS User Guide](#)).

Request XRIN in [RTS](#) (<https://ogc.it.census.gov>)

Federal Docket Management System

The Federal Docket Management System (FDMS) is the system agencies use to enter an action (called a docket in FDMS) into <http://www.regulations.gov/> so that it is available for the public to submit information and comments on notices and rules (see [PR Intranet FDMS training and guidance](#)).

Create a docket at www.fdms.gov.

If you do not have a login/password, please contact Jeannine.Cody@noaa.gov

Upload associated documents (i.e., those referenced in the NOA, including NEPA documents, but excluding journal articles) at any point during the notice process.

If the NOA has an associated public comment period, upload the published FRN pdf to the corresponding docket and open the comment period. (See [FDMS User Guide](#).)

Issues Advisory Memorandum

Issues advisories (IA) provide leadership notice of upcoming decisions related to regulatory actions. They should be limited to 1 to 2 pages. They are not supposed to provide final recommendations or determinations of legal compliance. (See [SF Intranet IA guidance](#).)

The Regional office prepares IA for AA 3 months prior to submitting notice that:

- Identifies significant policy, legal, and/or scientific issues;
- Identifies preferred alternative(s);
- Contains no final recommendations or determinations of legal compliance in document;
- Identifies whether and how the action is controversial; and
- Identifies litigation risks, etc., if any, that the AA should be made aware of prior to formal submission.

(See [NMFS Policy 30-102-11 on IA Guidance](#).)

The Regional office submits the IA to NMFS Leadership, namely the Deputy Assistant Administrator for Regulatory Programs/Protected Resources (F/PR) to route through clearance. Please FedEx/UPS originals and email a pdf to expedite clearance.

The Regional office provides copy of IA to Regional general counsel.

The AA clears the IA and F/PR informs the Regional office.

NOTE: If a notice is submitted to F/PR more than 6 months after the IA has been cleared by F, you must develop and transmit a supplemental IA.

Advance Review of Notice by the SF Regs Unit

The Regs Unit is the division of NMFS that reviews and provides guidance on *Federal Register* formatting and document preparation and formats documents for submission to the Office of the Federal Register (OFR). The Regs Unit is located in the Office of Sustainable Fisheries. It is also known as NMFS.Edits.

If no further substantive changes to the regulatory text are anticipated, the Regional office e-mails the following documents to NMFS.Edits@noaa.gov prior to submitting the formal notice package to F/PR:

- completed [Certification and Editing Form](#); and
- copy of notice document.

Note: Use the same subject line (including XRIN, short name of the action) in all future e-mails dealing with the action to help track the action and compile the administrative record. Identify the point of contact e-mail address and telephone number in the transmittal e-mail.

NMFS.Edits returns documents with comments/edits within 3 days of receipt, adding an X (e.g., 0648-XA127-X) to the end of the RIN to indicate the notice has been edited by NMFS.Edits.

The Regional office incorporates comments, if applicable, prior to submitting the formal notice package to F/PR.

If the Regional office makes substantive changes to the regulatory text after NMFS.Edits has completed its review, the revised document should be re-submitted to NMFS. Edits for review prior to submitting the package to the F/PR.

Transmittal Memorandum (TM)

The transmittal memorandum (TM) is written from the ARA to PR OD.

Decision Memorandum (DM)

To locate example memos for a decision memorandum (DM), refer to G:\Prall\FR Notices & Regulations\Regs Checklists\Example Memos, Forms, etc. or [PR Intranet Regulations Guidance](#)

Signed and dated Decision Memo from PROD to AA:

- discusses actions being taken in notice
- identifies issues associated with action
- highlights major issues AA should be aware of before taking action
- addresses any issues of concern and explains how concerns were resolved
- characterizes public comments received on notice during comment period and indicates number of comments received in favor of or opposed to action
- provides statutory date for publishing notice
- provides date of publication for notice and end of public comment period
- identifies any major objections and strong reactions
- recommends whether to publish notice
- provides additional background (extensive details, tables, etc.) as attachment, if necessary
- indicates whether or not action is controversial. “Controversial” is described as those actions that are:
 - novel or precedent setting;
 - contrary to a Fishery Management Council’s recommendation;
 - generated contacts with DOC/NOAA officials, correspondence, inquiries by Members of Congress, visits by industry, environmental groups, etc.; or
 - litigation risk; and
- recommends that the AA certify that the notice is consistent with national standards and other provisions of Magnuson Stevens Act (MSA) and other applicable laws

The determinations section of the decision memorandum must contain necessary references and determinations relative to each applicable law and Executive Order as identified in Examples and Operational Guidelines (see them in the HCP Handbook Toolbox [*Link will be added in final version*]).

Roll Out Plan

NOAA/NMFS uses roll out plans to coordinate the outreach, public affairs, and legislative affairs processes and notifications of the announcement of the publication of a notice. The roll out process generally begins on the day of filing. One day prior to publication in the *Federal Register* an electronic version (in MS Word formatting) of the FR notice appears in the [Public Inspection section of the Federal Register Web site](#) at 8:45 a.m. Eastern time or the day of publication in the *Federal Register*.

The NMFS legislative affairs coordinator will draft and complete a draft roll out plan. (See [PR Intranet Roll Out templates](#).)

14.9 The Freedom of Information Act and the Privacy Act

14.9.1 The Freedom of Information Act (5 U.S.C. 552)

The Freedom of Information Act (FOIA) gives any person the right, enforceable in court, to obtain access to Federal agency records, unless those records (or portions of them) are protected

from public disclosure by one of nine exemptions or by one of three special law enforcement record exclusions. A FOIA request can be made for any agency record.

Prior to us publishing an NOA of the draft HCP, the HCP and supporting documents are not generally made available to the public in the absence of a FOIA request. The applicant may release their HCP if they so choose, but unless in response to a FOIA request, we should not. The NEPA analysis can be withheld under FOIA until released under the NOA, unless we release it to the applicant, in which case it is no longer protected.

Most information cannot be protected after we take possession of the data including species occurrence locations, which are often thought of as sensitive data. The following are examples of exemptions that we can typically use to withhold proprietary, financial, and personal information from being released when a FOIA request is submitted (not all [i.e., (1), (2), (7), and (8)] exemptions are relevant and thus are not presented here):

- (3) covered by a statute, which means information specifically exempted from disclosure by another statute, such as the National Parks Omnibus Management Act of 1998, the Archaeological Resources Protection Act of 1979, the Federal Cave Protection Act of 1988, or the National Historic Preservation Act Amendments of 1966, as amended through 2006;
- (4) trade secrets, commercial or financial information (confidential business information);
- (5) deliberative/predecisional and attorney/client privileged documents;
- (6) personal information affecting an individual's privacy; and
- (9) geological and geophysical information, including maps, concerning wells.

Note that any determination by either of the Services to withhold information can be appealed to first the departmental solicitor's office/general counsel and then to the U.S. District Court.

To access information about FOIA and the FWS go to <http://www.fws.gov/irm/bpim/foia.html>. The Web site for FOIA information from NMFS is at <http://www.noaa.gov/foia/guide-for-submitting-foia-requests.html>.

14.9.2 The Privacy Act of 1974 (5 U.S.C. 552a)

The Privacy Act (<http://www.gpo.gov/fdsys/pkg/USCODE-2012-title5/pdf/USCODE-2012-title5-partI-chap5-subchapII-sec552a.pdf>) establishes a code of fair information practices that governs the collection, maintenance, use, and dissemination of information about individuals that Federal agencies maintain in systems of records. A system of records is a group of records under the control of an agency from which information is retrieved by the name of the individual or by some identifier assigned to the individual. The Privacy Act prohibits the disclosure of a record about an individual from a system of records without the written consent of the individual, unless the disclosure is covered by one of twelve statutory exceptions (see the full list of exceptions in the HCP Handbook Toolbox [*Link will be added in final version*]). For our purposes, we must

not release personal identifying information (e.g., social security/tax identification numbers, personal home or cell phone numbers, dates of birth) provided to us in application forms.

14.10 Tracking Databases

14.10.1 FWS Databases

The FWS uses several databases for tracking HCP information and permit numbers.

ECOS: The Environmental Conservation Online System (ECOS) tracks impacts and conservation on the ground through both conservation plans module and the Tracking and Integrated Logging System (TAILS), which is the module that tracks impacts and conservation through consultations (at this time TAILS does not include a section 10 module, but does include a section 7 module). See Updating ECOS in the HCP Handbook Toolbox [*Link will be added in final version*] for specific instructions.

The field office should enter the required information on each HCP into ECOS as soon as possible in the planning stage. The Regional office will validate the information and add it to the anticipated workload for the Region. If you need assistance with ECOS, discuss it with the Regional HCP Coordinator.

TAILS: TAILS is the Service-wide tracking system for section 7, conservation planning, and contaminants activities. Currently, tracking authorized take under section 7 in support of HCPs is required at the field office level. We anticipate that eventually an HCP module will assist in tracking authorized take and conservation in HCPs. If you need assistance with TAILS, discuss it with the Regional HCP Coordinator.

DTS: The Data Tracking System is a national database for tracking documents as they move through the FWS and the Department of the Interior. Discuss the use of DTS with the Regional office administrative staff.

SPITS: The Service Permit Issuance Tracking System is the national database from which the Regional office generates permit numbers. You may discuss SPITS with the Regional HCP Coordinator. Generally, only Regional HCP Coordinators and Regional office staff have SPITS access. However, some field office staff have read-only access to SPITS to help them track incidental take permits and research permits for which they have implementation responsibilities. If you need such access, contact the Regional HCP Coordinator.

14.10.2 NMFS Databases

The NMFS uses several databases for tracking and permit numbers.

ECOS: ESA-listed species for which NMFS has jurisdiction also appear in ECOS; however, NMFS does not use this system as widely for HCP purposes as FWS does.

APPS: The Authorizations and Permits for Protected Species is the NMFS-wide protected resources permit tracking system. This online application system covers NMFS permits and authorizations for federally protected species under the ESA and Marine Mammal Protection Act (MMPA). It also covers Oregon State scientific taking permits.

RTS: The Department of Commerce Regulatory Tracking System tracks the status of each Department of Commerce rulemaking, facilitates the transmission of rulemaking documents to Commerce, and collects regulatory information for submission to the Office of Management and Budget (e.g., data required for the Unified Agenda of Regulatory and Deregulatory Activities). These functions help streamline the agency's development and implementation of regulatory actions.

14.10 Implementing Agreements

Implementing agreements are joint Service/applicant documents that clarify the provisions of an HCP and specify how the HCP will be carried out. Implementing Agreements are not required under Section 10 and are typically reserved for more complex, or multi-party plans. There is no need for an implementing agreement where all of the agreed-upon measures are spelled out in the HCP. Typically, legal counsel take the lead in negotiating implementing agreements.

We use these agreements at times between the Services and applicants or among applicants where there are multiple parties involved in an HCP. Although implementing agreements are technically not contracts, and have no independent legal force and effect, they must have legal review before we can sign them. When used, implementing agreements are incorporated by reference into the ITP as a term and condition thereof. Thus failure to comply with the provisions of an implementing agreement may be grounds for suspending or revoking the incidental take permit. In all cases, the terms of an incidental take permit are controlling.

An implementing agreement can give the applicant or us a chance to clarify the minimization and mitigation commitments in the HCP, the time frames for completion of specific tasks, and the role assigned to the Service(s) in reviewing and approving post-HCP documents, such as required management plans, contours of specific covered activities, etc., to minimize future disputes. However, it's important to note that this information should also be clear in the HCP and permit. Because the HCP is the applicant's document and is written from the applicant's perspective, it may require clarification. While the Services may include all clarifying provisions in the permit itself, doing so will typically require an amendment to the permit if the Service and permittee later seek to modify the provision, whereas changes to an implementing agreement may often be made through agreement of the Service and permittee.

Well-crafted implementing agreements may be incredibly helpful in sorting out the actual commitments of the HCP. Legal review almost always forces the applicant and the Services to clarify the parameters, requirements, timeframes, and funding obligations. Developing an implementing agreement can be a time-consuming process, but it forces clarity, which is key for long-term, complex HCPs. If the HCP is filled with "should" and "mays" and imprecise language, the ambiguity can be cleared up in the permit terms. However, since the permit is drafted at the end of the process and implementing agreements are drafted early on, it may be

prudent to use an implementing agreement to fix the problems (e.g., spell out who is responsible for each activity and when those activities must be done) early where complex, regional HCPs are concerned.

If the Service(s) and an applicant decide to use an implementing agreement, all parties must agree on its contents. It should also be available for public review when the NOA for the draft HCP and draft NEPA analysis is published.

14.12 Services Tasks During the Public Comment Period

After the NOA is published in the *Federal Register* and during the public comment period, the field office should prepare drafts of the BO, findings and recommendations, and NEPA decision document (EAS, FONSI, or ROD). These documents are only preliminary and are subject to revision after we review public comments received on the draft HCP and draft NEPA analysis. However, for large, complex HCPs, where there are numerous covered species or where there are staffing constraints (e.g., same staff members are working on multiple documents), the following documents may take considerably longer than the public comment period.

14.12.1 Compliance with Section 7

Section 7(a)(2) of the ESA requires Federal agencies to ensure their actions, such as the issuance of an incidental take permit for an approved HCP, are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitat. When a Federal agency determines their proposed action may affect listed species and critical habitat, they must consult with the Services. If the agency determines their proposed action may affect, but is not likely to adversely affect species and the Services concur, the consultation process is complete. However, if the proposed action is likely to adversely affect listed species or designated critical habitat, we must issue a BO that reaches a jeopardy or no jeopardy (or adverse modification or no adverse modification) finding. A BO for an HCP must consider covered and non-covered, listed animal species; non-listed, covered species; listed plants; and any designated critical habitat within the plan area.

The content and format of a BO are briefly discussed below. The section 7 consultation process is discussed in detail in the *Endangered Species Consultation Handbook (Consultation Handbook)*, U.S. Fish and Wildlife Service and National Marine Fisheries Service, 1998, and in memoranda addressing application of the destruction or adverse modification standard issued in 2004 and 2005 by the Directors of the FWS and NOAA, respectively.

The Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in a BO addressing the Services' proposed issuance of an incidental take permit relies on four components:

1. the *Status of the Species*, which evaluates the range-wide condition, the factors responsible for that condition, and the survival and recovery needs of the affected species;

2. the *Environmental Baseline*, which evaluates the past and present factors influencing the current condition of the species, its habitat, and ecosystem within the area likely to be affected by the proposed action (i.e., the action area), the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species;
3. the *Effects of the Action*, which assesses the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and
4. *Cumulative Effects*, which evaluates the effects of future, non-Federal activities reasonably certain to occur within the action area on the species.

We make the jeopardy determination by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects. This helps us to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in the BO should emphasize consideration of the range-wide survival and recovery needs of the species and the role of the action area relative to those needs. This is the key context for us to evaluate the significance of the effects of the proposed Federal action and cumulative effects.

An example of a jeopardy analysis in a BO addressing an HCP permit action is presented in the HCP Handbook Toolbox [*Link will be added in final version*].

The Destruction or Adverse Modification Analysis

In accordance with policy and regulation, the destruction/adverse modification analysis in a BO relies on four components:

1. the *Status of Critical Habitat*, which evaluates the range-wide condition of the affected critical habitat in terms of its physical or biological features, the factors responsible for that condition, and the intended recovery function of the critical habitat overall, as well as the intended recovery function in general of critical habitat units;
2. the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of critical habitat units in the action area;
3. the *Effects of the Action*, which assesses the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the critical habitat in terms of how the "physical or biological features (PBFs)," are likely to be affected and how that impact is likely to influence the recovery support function of any affected critical habitat units; and
4. *Cumulative Effects*, which evaluates the effects of future, non-Federal activities reasonably certain to occur in the action area on the critical habitat in terms of how the PBFs are likely to be affected and how that impact is likely to influence the recovery support function of affected critical habitat units.

Although the FWS formerly considered primary constituent elements (PCEs), we now consider those that are defined as the PBFs that 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. Features may:

- be a single habitat characteristic or a more complex combination of habitat characteristics;
- include habitat characteristics that support ephemeral or dynamic habitat conditions;
- be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Many critical habitat designations pre-date the requirement for identification of physical or biological features that are essential for the conservation of the listed species. Later critical habitat designations relied on PCEs. In consultations on actions that involve this type of critical habitat, we should use the best available scientific and commercial data to determine and document these elements or habitat qualities.

For the adverse modification determination, we evaluate the effects of the proposed Federal action on the critical habitat in the context of the range-wide condition of the critical habitat. To do this we take into account any cumulative effects to determine if that habitat would remain functional (or would retain the current ability for the PBFs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the listed species.

The destruction/adverse modification analysis in the BO should place an emphasis on using the intended range-wide recovery function of the critical habitat and the role of the action area relative to that intended function. This helps us to evaluate the significance of the effects of the proposed Federal action and any cumulative effects to make our adverse modification determination.

14.12.2 Drafting the HCP-Specific Biological Opinion – Format

For the most part, the following only addresses intra-Service specifics that differ from other BOs. Refer to the *Consultation Handbook* for general instructions and either “Tips for Writing Biological Opinions and Conference Opinions” (R4 – January 5, 2015) or “Advice for Writing and Reviewing Endangered Species Act Consultation Documents” (R6 – July 2015) for more specific advice. Both documents are in the HCP Handbook Toolbox [*Link will be added in final version*].

The timeframes and data requirements in the following procedures are the same for all Federal agencies and follow the section 7 consultation regulations at 50 CFR 402, except that as an internal policy, Service actions must include consideration of candidate species as though proposed for listing.

Note: Every BO for an HCP should be as concise as possible while including all required sections (show the analysis, show your work, connect the dots). Therefore, limit information to that which is necessary and important for the decision maker. Incorporate background information by reference. Where possible, use tables or figures to illustrate complex information with brief explanations, rather than extensive blocks of text.

Cover Memo – Since a BO for an HCP is intra-Service, it needs a brief cover memo (as opposed to a cover letter) from the Service official signing it (the field office working with the applicant) to the “action agency” official receiving it (generally the Regional office that issues the permit, unless signature authority has been delegated to the field office). For FWS, be sure to include the full TAILS number (e.g., 02E00000-2015-F-0001) on the memo and the title page of the BO.

Title Page – Although this requirement depends on which Region you’re in, adding a full title page to precede the body of the BO will look more professional. Include a signature block and date near the bottom of the title page (or at the end of the BO, depending on Regional preference). A signature and date on both the transmittal document and the title page of the BO is a redundancy, but it is also practical because:

- it allows the BO to stand alone as an official report apart from the transmittal document;
- it immediately verifies that this is the final version; and
- if it is on the title page the signature isn’t buried somewhere later in the document.

This approach can require the manager signing a BO to sign both the cover letter and the title page. If both the cover letter and title page are dated, the dates should match. Also, depending on the Region, there may be a requirement for a concurrence/non-concurrence signature line for the “action agency” official processing the consultation and making the permit decision. Check with the Regional HCP Coordinator for the Region in which the proposed action occurs.

Table of Contents (TOC) – Consider including a TOC if the BO exceeds 15 pages. It makes the document look more professional and shows the reader at a glance its overall structure. Our BOs are increasingly distributed widely in electronic formats. Headings marked for inclusion in a word processor-generated TOC can also become electronic bookmarks for quick navigation in electronic versions of the document. For readers who are focused on particular aspects of a BO, this convenience is one easy way to limit the frustration they may otherwise experience with a lengthy document.

Executive Summary – Consider writing a short (no more than 1 page) summary of the action, overview of the findings regarding adverse effects, and our conclusion. Including this section for large and complex BOs is a useful and courteous addition for some of our most important reviewers and approving officials that limited opportunity to review biological opinions.

Consultation History – Since these BOs are intra-Service and for HCPs, this section is not usually necessary, but Regional variations occur. If it is used, it should include the date formal consultation is requested.

Description of the Proposed Action – The proposed action is the Service issuance of a section 10(a)(1)(B) permit to the applicant. It is necessary to state which species incidental take will be

authorized for or which otherwise are covered under the plan (e.g. plants) and where. The activities that would cause take or impacts to the species are those proposed in the HCP, and mandatory conditions (permit terms and conditions) are part of the Services' proposed action. Briefly state what activities are covered in the HCP and refer to the HCP and NEPA analysis for detailed descriptions.

The species-specific subsections include:

- the Status of the Species,
- Environmental Baseline,
- Effects of the Action (be sure to consider a discussion of the effects pathway methodology),
- Cumulative Effects, and
- Conclusion.

They are all standard sections, but should not include everything known about the species. Ensure that the species lead is involved with development or review of all species-specific information.

Incidental Take Statement – The incidental take statement for a BO for an HCP is different than one for a traditional BO because the federal action taken in this instance is permitting incidental take pursuant to section 10(a)(1)(B). We are required to do an intra-Service consultation to ensure that issuance of the permit is not likely to result in jeopardy to a species or adverse modification of critical habitat. Because incidental take is reasonably certain to occur as a result of issuing an incidental take permit, an incidental take statement must be included with the BO. We use the following standard language associated with HCPs:

“The proposed [*name*] HCP and its associated documents clearly identify anticipated impacts to affected species likely to result from the proposed taking and the measures that are necessary and appropriate to minimize those impacts. All conservation measures described in the proposed HCP, together with the terms and conditions of any section 10(a)(1)(B) permit or permits issued with respect to the proposed HCP, are incorporated by reference as reasonable and prudent measures and terms and conditions within this incidental take statement as stated in 50 CFR 402.14(i). Such terms and conditions are non-discretionary. The amount or extent of incidental take anticipated under the proposed [*name*] HCP, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the HCP and its accompanying section 10(a)(1)(B) permit(s).”

Note: The standard language above is slightly different than that suggested in the Consultation Handbook. However, we recommend using the above language to prevent confusion.

The “Amount or Extent of Take” and “Effect of the Take” sections are standard as described in the *Consultation Handbook*.

Reasonable and Prudent Measures and Terms and Conditions – For an HCP, use the following standard language:

“The HCP permit contains all measures necessary to avoid, minimize, and mitigate incidental take to the maximum extent practicable and require that the HCP be fully implemented. Monitoring will be conducted as stated in section (X) of the HCP. Therefore, no additional reasonable and prudent measures and terms and conditions are necessary.”

Reinitiation Notice (use standard language from the Consultation Handbook)

Literature Cited – The “Literature Cited” section reflects the best available scientific and commercial data that the Services relied on to prepare the BO.

14.12.3 FWS Intra-Service Consultation

For purposes of the section 7 consultation, the Regional office is typically treated as the “Federal action agency” and the lead Service field office is recognized as the “consulting agency.” The field office that led the negotiation of the HCP usually conducts the intra-Service consultation and ultimately signs the BO and the Regional office concurs (or not) to finalize the BO. However, each FWS Region has established initiation and coordination requirements for when formal consultation is initiated, and the levels of surname and signature of the BO.

This framework does not apply in situations where the Regional Director has delegated signature authority to field office Project Leaders. In such cases, the Regional Director must provide guidance and procedures for implementing the delegated signature authority, including conducting intra-Service consultation, at the time of delegation. Consultations for low-effect HCPs must be consistent with national Service policy as described in the *Endangered Species Consultation Handbook* (FWS and NMFS 1998).

14.12.4 NMFS Intra-Service Consultation

For NMFS, the Regional (or Headquarters) office overseeing HCP development and related processes conducts the consultation. All NMFS inter- or intra-agency consultations under ESA section 7 are governed by a national policy directive (NMFS No. 02-110-12, December 12, 2005) issued in 2005. The policy directive delegates the conduct of formal and informal consultation to each of the five NMFS Regional Administrators, where applicable, and establishes process requirements for delegated consultations.

14.12.5 Inter-Agency Consultation between the Services

The covered activities in a proposed HCP may affect species or critical habitat under the jurisdiction of FWS and under the jurisdiction of NMFS. In those situations, the Services should work together to ensure that the impacts to all listed species are addressed. For example, if the proposed covered activities in an HCP application submitted to FWS may also result in take of NMFS species, FWS should notify the applicant of the need to contact NMFS and obtain an incidental take permit from NMFS as well. Take of NMFS species are not exempted through an inter-service Section 7 consultation between FWS and NMFS on the FWS incidental take permit application, but can only be authorized through issuance of an incidental take permit by NMFS.

On the other hand, if FWS and NMFS conclude that the proposed covered activities are not likely to result in take of an NMFS species, but that the designated critical habitat of a species under NMFS jurisdiction may be affected, FWS should engage in inter-service consultation with NMFS to ensure that the proposed incidental take permit will not result in adverse modification of such critical habitat.

14.12.6 Integrating the Section 7 Compliance Process with Development of an HCP

In an effective application of the HCP process, we should provide technical assistance to the applicant early in the process to guide the development of the HCP and to facilitate the simultaneous preparation of key sections of the BO. We must ensure consistency between the two documents and use the best available information and analytical findings. If it's possible, it is best to have a different biologist working on the BO than the one working with the applicant on the HCP, but it's not absolutely necessary (especially given workload and staffing constraints).

Based on an understanding of the area likely to be affected, directly or indirectly, by the proposed covered activities (i.e., the action area), and as a result of early coordination with the applicant, we can develop a list of the species and critical habitats known or likely to occur within the action area.

Relying on that list, we coordinate with the applicant to evaluate the condition of affected listed species and critical habitat in the action area, the factors influencing that condition, and the role of the affected area in the survival/recovery of those species and the recovery support function of critical habitat. That evaluation constitutes the "Environmental Baseline" section of the BO and will give us better information to help with the assessment of the status of covered species in the HCP area, which is included in the HCP.

The baseline and status assessments provide key context for evaluating the significance of the effects of the proposed HCP on those species for which the applicant is requesting coverage. It also helps with the evaluation of the measures the applicant includes in the HCP to monitor, minimize, and mitigate such impacts. In turn, these mandatory sections of the HCP give us better information as we analyze the effects on listed species and critical habitat in the BO. This integration should maximize consistency between these two documents.

14.12.7 Integrating HCPs and Federal Actions

HCPs can set-up the side-boards or best management practices (BMPs) through its conservation program for various kinds of development and activities within the plan area. It can also offer streamlined approaches for Federal Projects within the plan area. Not involving other Federal agencies where overlap is likely may result in delays.

There are three basic approaches for including Federal Projects in an HCP or streamlining section 7 compliance through the HCP process.

1. Including affected Federal agencies in the HCP and planning process. Federal agencies cannot be provided with “No Surprises” assurances through a section 10(a)(1)(B) incidental take permit, but they can be included in the HCP and permit. This has been done on several occasions, including the NiSource HCP and the Lower Colorado River Multi-Species HCP. The Federal agencies are fully involved with the development and implementation of the HCP. In processing the HCP package, their actions are included in the HCP, the NEPA analysis and decision, intra-Service section 7 consultation, findings, permit, etc.
2. Federal agencies request consultation under the intra-Service section 7 consultation with the Service designated as the lead Federal agency. This approach is best used when the Federal agency does similar actions as covered by the HCP, but was not completely involved in the development of the HCP. This situation may develop due to the lack of resources to commit to the HCP planning process, the agency’s desire to maintain some separation from the HCP, or the agency is just not sure of the utility of early involvement in the HCP process. Regardless how it happens, this is a second chance for an agency to gain a programmatic approach to its actions within an HCP planning area. It is best used when the Conservation Plan in the HCP matches with the BMPs the agency uses for its actions – industry standards. To initiate this approach the Federal agency would send a letter to the Service requesting consultation for the actions they carry out that are covered in the HCP, a statement that they accept all conservation measures in the HCP, and that they designate the Service as the lead Agency for the consultation.
3. A Federal agency requests consultation with the Service for an action, and incorporates the HCP conservation measures into their Biological Assessment. This approach is useful if the action agency did not want to be involved in the HCP, but after the permit was issued decided that participation would streamline the process. This is commonly done with Army Corps of Engineer and Federal Highways Administration projects. Since the effects of the action have already been analyzed in the HCP intra-Service consultation, all that may be required is an update to the species status and the incidental take statement in the Biological Opinion for the HCP.

These three options provide pathways for Federal action agencies to streamline their consultation process by integrating their approaches and compliance with the Habitat Conservation Planning process. There are a few things to keep in mind. First, consultation under section 7 is the Federal agencies’ responsibility and therefore, how they approach it is part of their Agency discretion. In other words, how a Federal agency integrates with an HCP is purely that Agencies decision. The Services or the Applicant cannot force a Federal agency to participate or define how the Agency will participate in the HCP planning process. Second, the consultation process for the Federal Agency must be complete before it can commit any irreversible and irretrievable commitment of funds that may foreclose the formulation or implementation of any reasonable and prudent alternative measures in accordance with section 7(d) of the ESA. That means that if the Agency uses option 3 above, prior to the start of any action or mitigation the consultation must be concluded. Finally, one of the concerns of the Federal Agency is that participation in HCP planning process may lock them in and limit their options on future actions. While the goal would be for the majority of their projects to be covered through these approaches, nothing in the

process removes the Federal Agencies' discretion. Therefore, if a project comes in that includes activities that are not covered activities in the HCP or the conservation program of the HCP, the Federal Agency would just initiate section 7 consultation as it normally would without an HCP covering the project area.

14.13.8 Drafting the Findings and Recommendations Memo

Service staff should also draft the findings and recommendations memorandum during the public comment period (see the Findings and Recommendations Memo template in the HCP Handbook Toolbox [*Link will be added in final version*]). This draft document is preliminary and should not be completed until after thorough review and consideration of public comments submitted during the public review period to ensure all relevant issues have been addressed.

14.13.9 Drafting the NEPA Decision Document

If the Service hasn't started work on the NEPA decision document, we should begin during the public comment period (see the NEPA Decision Documents template in the HCP Handbook Toolbox [*Link will be added in final version*]). However, keep in mind that this document is preliminary and should not be completed until after thorough review and consideration of public comments submitted during the public review period to ensure all relevant issues have been addressed.

Chapter 15: Finalizing the Habitat Conservation Plan (HCP) and Environmental Compliance Documents

15.1 Reviewing and Responding to Public Comments

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15.5.4 Joint Federal-State Processes

15.1 Reviewing and Responding to Public Comments

If the Services received comments resulting from the notice of availability (NOA), meetings or hearings, workshops, etc., staff should screen the comments to determine whether any important new issues, reasonable alternatives, or mitigation measures have been suggested.

There are two options for documenting the response to comments (either may mean changing the Habitat Conservation Plan (HCP) or National Environmental Policy Act (NEPA) document):

- Summary of Comments (see example in the HCP Handbook Toolbox [*Link will be added in final version*])

- Comment Matrix see example in the HCP Handbook Toolbox [*Link will be added in final version*]

Check with the Regional HCP Coordinator for recommendations on the preferred method of responding to comments. Whatever process you use, response summaries should clearly state the name of the NEPA analysis, *Federal Register* (FR) reference (volume number FR first page number - e.g., 80 FR 18226, 78 FR 38895), and date.

A summary of comments may be a stand-alone document or an appendix to the NEPA analysis or decision document. If it is more than a few (6-8) pages, it should have a table of contents for easy reference. It should include:

- comments (in total) from each commenter;
- whether comments were on the NEPA analysis, HCP, general comments, or unrelated comments (you only need to thank them for their comment);
- how the comment was addressed; and
- where (in the appropriate document) the comment was addressed.

A comment matrix is usually an appendix to the NEPA analysis, the HCP, or both. The matrix should have a column for:

- the commenter's name and affiliation (if provided);
- a comment number (in case any commenter has more than one comment);
- whether the comment and response is on the:
 - HCP,
 - application, or
 - NEPA analysis;
- where (page or section) the comment was addressed in the HCP or NEPA analysis; and
- the Service's response (a column for each FWS and NMFS if both need to respond).

Helpful Hint: Be sure to actually address the comments, not just state where the issue is discussed in the HCP or NEPA analysis. If not incorporating suggestions from comments into the HCP or NEPA analysis, explain why.

15.1.1 Comments on the HCP

The Services bear the responsibility for both requesting and responding to public comments. Collaborating with the applicant may be the most efficient and effective way of developing a response to comments on the HCP, especially when the comments are about the applicant's proposed activities. An applicant's input may also strengthen the Service's permit decision, especially if there are any legal challenges. However, it is important to clarify with the applicant that any formal response to public comments on the HCP will ultimately come from the Service.

15.1.2 Comments on the NEPA Analysis

If comments raise major substantive issues not adequately covered in the NEPA analysis, or suggest new alternatives not screened out by the purpose and need statement, we must rewrite

the NEPA analysis to incorporate them before reaching a permit decision. Changes made under these circumstances mean we must republish the NEPA analysis for another round of public review and comment. If any of the issues point to the potential for unmitigated, significant impacts in an environmental assessment (EA), we must write a notice of intent to prepare an environmental impact statement (EIS). In either case, after authorization to publish the notice (FWS only), we must send it to the *Federal Register* for an additional 30-day review and comment period. If no substantive issues arise from comments, there is no need for a second review period.

If comments offer corrections or add factual information that does not bear on the determination of significant impact, the information should be added to the text of the NEPA analysis where possible. The combination of the NEPA analysis with revisions (if any) and the response to comments are the complete and final record on which we base the finding of no significant impact (FONSI), decision to prepare an EIS, or record of decision (ROD). If the HCP is low-effect and categorically excluded, we must provide a response to comments, attach comments and our response to the findings, and place a copy in the file. It should also be placed on our Web site along with the rest of the HCP package.

The NEPA decision document itself is not an appropriate document to use to respond to public comments. Instead, those responses are attached to the NEPA decision document to complete the record, or we summarize and address them in an appendix to a final EA or EIS. We must maintain a full administrative record of all comments and responses in the administrative file. We must make all NEPA comments and responses on an EA or EIS available to the public when the FONSI or ROD and permit decision is announced to the public.

To streamline the process, when we notify the public of the availability of the draft HCP and draft NEPA analysis, we may also make available the draft set of findings and draft NEPA decision document (EAS, FONSI, or combined findings/NEPA decision). If we do this, we include information in the NOA about when the final documents will be available and how to request them. For instance, the NOA may state that during the public comment period readers may request copies of drafts for review (EA, HCP, set of findings, and FONSI), and then 30 days after the public comment period closes, readers may request copies of the final documents (EA, FONSI, set of findings, and HCP). That gives Service staff time to complete the documents before the public requests copies of final versions. We should make final, signed documents available on the Services' Web sites to satisfy the requirement to make documents available to the public. This also allows for a batched notice that announces the decision and availability of final documents on an annual basis that will come out of the headquarters office.

We can also use this streamlining method for a final EIS, ROD, and HCP, but remember that the U.S. Environmental Protection Agency (EPA) still needs to publish a notice of the final documents and permit decision at least 30 days before the ROD and permit can become effective (see 550 FW 3).

15.1.3 No Comments Received

If there were no comments, document that fact in the NEPA decision document and in the set of findings and recommendations memorandum (FWS) or decision memorandum (NMFS).

15.1.4 Controversy

The definition of significantly (40 CFR 1508.27(b)(4)) includes controversy as an intensity factor when determining the degree of the effects on the quality of the human environment. The appropriate standard is not whether the project is controversial, but whether the degree to which the effects on the quality of the human environment are likely to be highly controversial.

Generally, there are two types of controversy that may arise during the public comment period, public objection and disagreement within the scientific community.

15.1.4.1 Public Objection

Just because members of the public oppose the project does not mean the environmental impacts of the project are controversial. To be considered such under NEPA, opposition must focus on the anticipated environmental effects. If the controversy is subjective, depending on factors such as a dislike of a project, comments do not require substantive response. On the other hand, the Services must evaluate comments on objective factors, such as the size, nature, or effects of the project on the human environment and either address the issues or provide reasonable explanations for dismissing them.

15.1.4.2 Scientific Controversy

Scientific controversy may or may not be considered significant. Typical disagreements in the scientific community may arise over:

- proper scientific methodologies,
- the reliability of data generated,
- the interpretation of data,
- environmental impacts within or outside of an affected ecosystem,
- the advisability of pursuing a particular course of action in light of other possible alternatives, and
- the ability to calculate or reasonably estimate impacts in the face of uncertainties (e.g., some end-of the-century or late century projections related to climate change and related direct or indirect effects may be in this category, although they may not be relevant depending on the timeframe of the HCP).

The courts have typically deferred to the Services as the subject experts, as long as we have given a reasonable explanation for our decisions (be sure to connect the dots). If legitimate scientific controversy raises credible points of disagreement over method or analysis, we must address those opposing views and provide support for our conclusions in the administrative record.

15.2 Finalizing the HCP and NEPA Analysis

15.2.1 FWS Final Review

To finalize the HCP and NEPA analysis, both documents need field office review and Regional office review and approval unless signature authority has been delegated to the field office. They may also need legal review (i.e., if draft documents were reviewed prior to the public comment period and there were no substantive changes made, it may not need further legal review). An overall review of the HCP for consistency with the NEPA analysis and other supporting documents, paying special attention to any sections where comments were addressed, should be adequate.

Unless comments raised questions about the adequacy of the NEPA analysis (leading to the conclusion that a categorical exclusion should have been an EA, or an EA should have been an EIS), a general review at this point should be adequate. Again, pay special attention to any sections where comments were addressed.

15.2.2 NMFS Final Review

For NMFS, the staff point of contact gets approval of the final NEPA analysis from General Counsel, the NMFS NEPA office, and the NOAA Office of Program Planning and Integration. If the HCP met issuance criteria and all other requirements before the public comment period, an overall review of the HCP for consistency with the NEPA analysis and other supporting documents, paying special attention to any sections where comments were addressed, should be adequate.

The staff point of contact routes the entire package with the NEPA analysis, permit application, conservation plan, and implementing agreement, if applicable, through the relevant Division, General Counsel, Regional Administrator or Director, Office of Protected Resources, and NMFS Deputy Assistant Administrator for Regulatory Programs or NMFS Assistant Administrator. When the entire package is signed, the staff point of contact publishes a Notice of Issuance in the *Federal Register*

15.3 Completing the Section 7 Biological and Conference Opinion

By this point in the process, the biological opinion (BO) for listed species or conference opinion for non-listed species (included with the BO if applicable) should be close to completion. Although the analysis should have been in development concurrent with the HCP process, the BO should not be completed and signed until the public comment period has closed so that we can ensure that all relevant issues have been considered. The BO must be signed prior to sending it to the Regional office and before issuing the incidental take permit. However, before having the BO signed, ask the Regional HCP Coordinator whether an early review of the BO would save time and effort later.

The key to compliance with section 7(a)(2) for any proposed Federal action is ensuring that it is not likely to jeopardize the continued existence of the listed species or destroy or adversely modify designated critical habitat. Actions should be compatible with the survival and recovery needs of the affected listed species and the recovery function of any affected designated critical habitat. Characterizing those needs and the role of the area affected by the HCP in terms of conserving the affected listed species and any affected designated critical habitat is essential to

making sure we have the best information for the assessment of anticipated impacts and the proposed mitigation.

Helpful Hint: An early review of the BO and conference opinion at the Regional office may ensure that there are no last minute surprises that could cause delays. As is the case with any BO, early coordination is the key to success.

15.3.1 Relationship between the Incidental Take Permit and the Incidental Take Statement

The fact that the Services issue an incidental take permit to authorize incidental take of listed species, as authorized under ESA section 10(a)(1)(B), and prepare an incidental take statement following consultation can be a source of confusion. The ESA gives the Services the authority to issue permits for incidental take of listed species. The incidental take permit serves to authorize such take for applicants.

As stated in section 14.12.1, under section 7 the Services do a jeopardy/adverse modification analysis. Therefore, although we do an intra-Service consultation, the BO incidental take statement does not exempt take for the applicant because the take is authorized through the incidental take permit.

Note: It's important to know that the Services cannot use the incidental take statement in the BO to authorize take of listed species that an applicant elects not to cover in the HCP.

If activities proposed in an HCP are reasonably certain to result in unauthorized take (i.e., not covered under a different incidental take permit or section 7 consultation) of non-covered listed species, we can't issue an incidental take permit because it would preclude the incidental take permit issuance criteria from being met [(17.22(b)(2)(A) or (17.32(b)(2)(A)]. Therefore, the HCP must include and adequately consider those species so the Services can cover them under the incidental take permit. Alternatively, the HCP may be revised to include measures to avoid any take of non-covered listed species.

15.3.2 Conferencing on Potential ESA-Listed Species (Proposed, Candidate, or Unlisted Species)

HCPs may include conservation measures for non-listed species. Typically, the HCP applicant, through technical assistance from the Services, considers non-listed species that might become listed during the term of the proposed incidental take permit so they can be covered species under the HCP. A non-listed species covered in the HCP must be treated as if it were already listed. If it is adequately addressed in the HCP, and we determines that section 10 issuance criteria have been met for the species, it is included on the incidental take permit. We must complete a conference opinion according to the provisions of 50 CFR 402.10(c)-(e), to affirm that the proposed incidental take permit action is not likely to jeopardize the continued existence and recovery of the non-listed species and incorporate the conference opinion into the BO in the decision record for the incidental take permit action.

HCPs often cover listed and unlisted plants and impacts to such species should be addressed in the BO even though take of plants is not prohibited under Section 9 or authorized under section 10 ITPs. Plants adequately covered by an HCP receive no surprises assurances.

15.4 Completion of National Historic Preservation Act (NHPA) Section 106 Requirements

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and afford State and tribal historic preservation offices and the public a reasonable opportunity to comment on them. The implementing regulations for section 106 of the NHPA, at 36 CFR 800, define how we can meet these requirements through a consultation process. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. Check with the Regional HCP Coordinator for specific instructions for NHPA compliance (see Appendix A - National Historical Preservation Act (NHPA) Compliance and Habitat Conservation Plans (HCP) for the U.S. Fish and Wildlife Service (FWS)).

15.5 NEPA Decision Documents

This section addresses the preparation of the EAS, FONSI, and ROD; and implementation of the Service's decision. The NEPA decision documents should summarize the reasons for selecting a particular alternative. Service personnel involved in making and implementing decisions on an action should establish an appropriate administrative file that includes a record of the Service's decision and rationale. The following establishes procedures to ensure that decisions and their implementation are made in accordance with the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Requirements of NEPA (40 CFR 1505), Department of the Interior's NEPA Implementing Procedures (43 CFR 46; 516 DM 1-3), and DOC/NOAA/NMFS NEPA procedures (Department of Commerce Administrative Order 216-6, May 20, 1999).

The NEPA decision documents contain not only the Service's decision, but also the rationale for that decision (i.e., they show your work). They may be stand-alone documents or they may be added to the findings and recommendations memorandum to streamline the process by reducing duplication and paperwork (40 CFR 1506.4). Check with the Regional HCP Coordinator for Regional guidance.

15.5.1 Environmental Action Statement

An environmental action statement briefly documents the use of a categorical exclusion or whatever other NEPA decision was reached (e.g., decision to prepare an EIS because of significant impacts brought to light during a public comment period for an EA). It also provides an appropriate administrative record of NEPA-related decisions at all management levels of the Service (see 550 FW 3.3C).

15.5.1.1 When to Prepare an Environmental Action Statement

The Service office responsible for preparing the NEPA analysis should prepare an environmental action statement (see 550 FW 3.3.C):

- to facilitate internal inter-program review and final approval when a FONSI will be signed at the Regional office level;
- to document a normally categorically excluded action that may be controversial;
- when, after the review of an EA, a decision is made to publish a notice of intent to prepare an EIS in the *Federal Register*;
- when a proposed action is not approved because of unacceptable environmental damage or violation of Service mandates, policy, regulations, or procedures; and
- whenever additional internal review or documentation of the NEPA administrative record is desirable.

15.5.1.2 Content of the Environmental Action Statement

The environmental action statement should be a 1-page document that indicates the proposal, the Service decision, references to supporting documents (if any), and a signature block (see 550 FW 3.3.C(3)). If doing a stand-alone environmental action statement, it should be formatted in accordance with the example in the HCP Handbook Toolbox [*Link will be added in final version*] - Example Environmental Action Statement. However, to cut down on paperwork and streamline the process, the environmental action statement (EAS) may be added to the findings and recommendations memo or decision memo.

[Note: Change in policy - previously for an HCP to qualify as low-effect, it had to qualify as a categorical exclusion (CatEx) prior to any mitigation. This means you couldn't mitigate to a CatEx. We are changing this so simple HCPs can be designated as low-effect. For instance, an HCP where the applicant intends to remove marginal habitat for a species plans to mitigate by buying credits from a conservation bank that preserves high quality habitat. This HCP would have required an EA and finding of no significant impact because you could not mitigate into a CatEx.]

15.5.1.3 Processing the Environmental Action Statement

The environmental action statement will accompany the decision documents for the action through the surname and signature process. It must be signed no sooner than when the decision is made on a CatEx, or when the FONSI or ROD is signed.

15.5.2 Making the Decision on an Environmental Assessment

An EA serves as the basis for determining whether implementation of the proposed action would constitute a major Federal action significantly affecting the quality of the human environment. A positive finding requires us to develop an EIS. There are no hard-and-fast rules available to label an action conclusively one way or the other because determining if a Federal action will have significant effects is based on the facts for a particular case. The need to prepare an EIS is a

matter of professional judgment requiring consideration of all of the issues in question, particularly all information documented in the EA.

For a negative finding (no significant impacts, so no need for an EIS), we prepare and sign a FONSI. The text of the EA should provide sufficient factual material to support the finding.

15.5.2.1 Finding of No Significant Impact

A FONSI is based on the combination of the EA and responses to public comments, which comprises the complete and final record. The Services must notify the public that the EA process has been completed and a FONSI has been issued. You can accomplish the notification requirement through mailings, publication in a visible location in the local paper of record, a *Federal Register* notice, a news release, or a meeting with concerned agencies and individuals.

It is not necessary to notify the public that the completed EA and FONSI are available before we issue the permit, unless the following circumstances apply. In accordance with CEQ NEPA regulations 1501.4(e)(2)) and 550 FW 3, in certain limited cases we must make the draft FONSI available to the public for at least 30 days before we decide whether to implement the FONSI or prepare an EIS. Following are the situations where we have to give the public 30 days:

- It is a borderline case (i.e., there is reasonable argument for preparation of an EIS).
- It is an unusual case, a new kind of action, or a precedent-setting case (i.e., it is without precedence in the Service).
- There is either scientific or significant public controversy over the proposal (see 516 DM 2, for FWS [<http://www.fws.gov/r9esnepa/NEPA%20Handbook%20TOC.pdf>] and NOAA's Environmental Review Procedures and NOAA Administrative Order Series 216-6 for NMFS [http://www.nepa.noaa.gov/NAO216_6.pdf]).
- The FONSI involves a proposal which is similar, or is closely similar, to one which normally requires an EIS or has required an EIS in the past.

In these limited circumstances, we should publish an NOA of the draft FONSI in the *Federal Register*, and we should also publish it in the local newspaper of record. Alternatively, the issuing office may decide to make a draft FONSI available with the draft EA for the 30-day public review and comment period. This may streamline the public review and comment period, but keep in mind that we still can't make the decision about issuing the permit until the public comment period closes and the FONSI is signed.

Helpful Hint: There is no time limit for publishing an NOA of the signed FONSI. As long as the draft FONSI is made available with the draft HCP and draft EA, the final notice may be published annually, or on some other schedule, with the notice of permit issuance.

15.5.2.2 Content of the Finding of No Significant Impact

The content of the FONSI is discussed in 40 Code of Federal Regulation (CFR) 1508.13. See an example of a FONSI in the HCP Handbook Toolbox [*Link will be added in final version*].

A FONSI serves two functions. It is the “proof” that no significant impacts would occur if the proposed HCP is implemented, and it explains the rationale used in selecting the alternative for implementation.

The FONSI states which alternative has been selected, very briefly describes other alternatives considered in the EA, and discusses how criteria were used and how they were weighed in the selection process. The FONSI should be based on the EA, comments from agencies and the public, the BO, and the findings and recommendations memorandum. However, the FONSI is separate from the EA, and it is detailed enough to stand alone. The FONSI is signed by the Deputy Regional Director, Assistant Regional Administrator, their acting, or the Delegated Entity (e.g., Field Supervisor).

In most cases, 5 pages are adequate to provide the specific rationale required in a FONSI. However, if we have prepared a “mitigated EA” and the impact has been reduced to below a “significance threshold” through the use of mitigation, 5 pages may not be adequate.

Sometimes the environmentally preferable alternative is not the alternative proposed in the HCP. However, if the alternative in the HCP meets all other requirements and issuance criteria, the Service must issue the permit on the proposed alternative (50 CFR 17.32(b)(2)).

15.5.3 Making the Decision on an Environmental Impact Statement

Following completion of a final EIS, the Services must prepare the ROD. The ultimate choice of an alternative, mitigation measures, and the decision rationale are documented in the ROD. If the EIS is a joint agency document, each of the Services prepares its own separate ROD. The ROD is a concise public record of the decision, which may be integrated into any other record prepared by the FWS or NMFS. Procedural and substantive guidance for RODs is included in CEQ regulations (40 CFR 1505.2) and FWS policy (550 FW 3.3A.).

15.5.3.1 Record of Decision Checklist

The ROD is the NEPA decision document for an EIS level review. To help ensure that the ROD is complete, we developed a checklist (see the checklist in the HCP Handbook Toolbox [*Link will be added in final version*]). It provides more detail than CEQ regulations and we recommend you use it.

15.5.3.2 Content of the Record of Decision

CEQ regulations (40 CFR 1505.2) require that a RODs:

- state the Service’s decision;
- provide a summary description of all alternatives analyzed in the EIS;
- identify the environmentally preferable alternative;
- provide the decision rationale—what the criteria were (e.g., cost, degree of environmental impacts, technical considerations, degree to which objectives were met, logistics) for selecting an alternative, how each alternative measured up against these criteria, how the criteria were weighted, and so forth;

- provide a clear statement of which mitigation measures will be implemented if they are not obviously integral to the alternative selected, and a summary of any monitoring or other enforcement programs or plans. The description of mitigation and monitoring should be specific enough to enable the public to determine whether measures have been effectively implemented, but not be so specific as to duplicate the EIS; and
- provide a statement about whether all practical means to avoid or minimize environmental harm from the selected alternative have been adopted, and if not, why not.

An average ROD should be no more than 10 pages. It should give enough information on the alternatives and their impacts, the rationale in selecting the chosen alternative, and the extent of mitigation and monitoring the public can expect, so that the reader can understand these major issues without referring to the EIS. Any conditions adopted for monitoring or enforcement must be addressed in the ROD (40 CFR 1505.3). See an example ROD and NOA for a ROD that is published in the *Federal Register* in the HCP Handbook Toolbox [*Link will be added in final version*].

Note: Public comments and the Services' responses may be attached to the ROD, or may be an appendix to the final EIS.

15.5.4 Joint Federal-State Processes

Some States have laws that parallel or expand NEPA requirements at the State or local level (e.g., the California Environmental Quality Act). CEQ regulations (40 CFR 1506.2), Department of the Interior procedures (516 DM 4.18), and NMFS require us to cooperate, to the fullest extent possible, with the applicant and State and local officials to reduce duplication between NEPA, State and local environmental requirements, and ESA requirements. We should cooperate with State and local agencies to avoid duplication and reduce the time and costs of planning by:

- conducting joint planning;
- conducting joint environmental research and studies;
- conducting joint public hearings; and
- producing joint environmental documents (however, the Services are responsible for submitting *Federal Register* notices).

Helpful Hint: Follow the guidance above when State or local laws require a similar analysis for authorization by a State or local jurisdiction. This does not require you to include State or local jurisdictions in the NEPA process as cooperating agencies, nor does it prohibit us from doing so. The involvement of State and local jurisdiction would typically be that of an interested party.

Chapter 16: Making a Permit Decision

16.1 Documenting our Findings - Section 10 Findings and Recommendations Memorandum

16.1.1 Introduction and Project Description

16.1.2 Section 10(a)(2)(A) HCP Criteria – Analysis and Finding

16.1.3 Permit Issuance Criteria – Analysis and Finding

16.1.3.1 The taking will be incidental – section 10(a)(2)(B)(i)

16.1.3.2 The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking – section 10(a)(2)(B)(ii)

16.1.3.3 The Practicability Standard

16.1.3.4 The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided.

16.1.3.5 The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

16.1.3.6 The measures, if any, required under paragraph (b)(1)(iii)(D) of this section will be met

16.1.3.6. He or she has received such other assurances as he or she may require that the plan will be implemented

16.1.4 Disqualifying Factors

16.2 Writing the Permit

16.2.1 Permit Terms and Conditions

16.2.2 Reporting Requirements

16.3 Federal Register Notice of Availability - Final HCP, Final NEPA Analysis, and Draft or Final Decision Documents

16.4 Preparing and Processing the Signature Package

16.4.1 Contents of the Signature Package

16.4.2 Who Signs the Documents and Why

16.4.2.1 FWS

16.4.2.2 NMFS

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16.1 Documenting our Findings - Section 10 Findings and Recommendations Memorandum

The findings and recommendations memorandum (also known as the “set of findings”) documents the Services’ conclusions on permit issuance in response to an application and Habitat Conservation Plan (HCP). It is a key component of the administrative record demonstrating that the HCP satisfies statutory and regulatory requirements, including section 10(a)(2)(B) issuance criteria and responses to public comments received (if any). It should also include a recommendation from the appropriate official on whether to issue or deny the permit.

Do not confuse the set of findings with a National Environmental Policy (NEPA) finding of no significant impact or Record of Decision (ROD). They address different decisions. However, they also contain much of the same background information. To streamline the HCP process by reducing duplication and paperwork, you can add the NEPA decision document to the set of findings (40 CFR 1506.4) (see Combined Findings and Recommendations and NEPA Decision Document in the HCP Handbook Toolbox [*Link will be added in final version*]).

16.1.1 Introduction and Project Description

The introduction to the set of findings provides references to the authority under which we may issue an incidental take permit. It provides a very brief description of the activities, location of activities, covered species, and anticipated take. It also incorporates the HCP by reference.

This an appropriate place to provide any other relevant project history that affected our review of the HCP.

If there is a lot of controversy and a high likelihood of challenges, this section may be written as a guide to the administrative record to explain the purpose and function of all the other documents. Since this is not common practice, seek advice from the Regional HCP Coordinator before writing the set of findings this way.

16.1.2 Section 10(a)(2)(A) HCP Criteria – Analysis and Findings

Although the HCP was certified as complete prior to public notice, it is helpful to formally document that the HCP addresses each of the required elements of section 10(a)(2)(A):

- i. The impact to result from such taking: As noted in Chapter 14, the impact of the taking is not merely a quantification of take. This section of the findings should summarize the amount of take anticipated for each species covered in the HCP and then describe the expected impacts from such taking (i.e., the results). If the HCP uses impacts to habitat as a surrogate for take, use that common currency for this description.
- ii. The steps taken to minimize and mitigate such impacts, and the funding that will be available to implement them: Summarize the proposed measures to minimize and mitigate for unavoidable take resulting from the impacts of implementing the HCP. Briefly discuss the sources of funding for the minimization, mitigation, and implementation of the HCP, including adaptive management and changed circumstances.

iii. Alternative actions to the taking considered by the applicant and reasons why such alternatives are not being used: Briefly summarize any alternatives the applicant considered and described in the HCP, with reasons those alternatives were rejected by the applicant. The alternatives to the taking (e.g., not doing the project doesn't meet the applicant's needs and doesn't provide benefits to the species) are not the same as the NEPA alternatives. These alternatives are described, not analyzed.

iv. Other measures the Secretary may require as being necessary or appropriate for purposes of the plan: Describe any additional measures we determined are necessary (e.g., requiring that the HCP be fully implemented).

Alternatively, you may insert a paragraph at the end of the project description stating that the applicant submitted an HCP that meets the requirements of section 10(a)(2)(A).

16.1.3 Permit Issuance Criteria – Analysis and Findings

Section 10(a)(2)(B) of the Endangered Species Act (ESA) requires the following criteria to be met before the Services may issue an incidental take permit. If these criteria are met, and there are no disqualifying factors, we must issue the incidental take permit (ESA section 10(a)(2)(B)(v)).

16.1.3.1 The taking will be incidental – section 10(a)(2)(B)(i)

Per 50 CFR 17.3, incidental taking means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. For example, take of a covered species resulting from use of heavy equipment during home construction that is in compliance with all other applicable Federal, State, or local laws generally would be considered incidental to an otherwise lawful activity and could be authorized by an incidental take permit. Conversely, deliberately shooting or wounding a listed species because it is disrupting a landowner's business is not incidental take and does not qualify for an incidental take permit because it is: (1) intentional, not incidental; and (2) is not an otherwise lawful activity.

Briefly describe the proposed activity(ies) and document that the activities are lawful and proposed take is incidental to those activities.

16.1.3.2 The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking – section 10(a)(2)(B)(ii)

This issuance criterion requires the Services to examine and predict the efficacy of the applicant's proposed measures to ensure the impacts of the taking will be minimized and mitigated to the maximum extent practicable. Generally, impacts that rise to the level of take that are not avoided or eliminated as the result of implementing an HCP must be minimized, and any remaining impacts must then be mitigated (e.g., "offset" or "rectified"). However, mitigation with little or no minimization may provide more of a benefit to the species. Allowing exceptions that produce a better biological outcome for the species is consistent with the purpose of the ESA. The Congressional record (the Senate Report for the 1982 amendments) notes the

opportunity in some cases for species benefit, “In some cases, the overall effect of a project can be beneficial to a species, even though some incidental taking may occur.”

These standards are based on:

1. a biological determination of the impacts of the taking as anticipated in the proposed HCP,
2. what measures would further minimize those impacts, and
3. what would biologically compensate for those remaining impacts.

The Services should work with the applicant to develop a biologically based suite of avoidance, minimization, and mitigation measures that will allow the applicant to fully offset (i.e., neutralize or compensate for) the impacts of the taking. If the applicant adopts these measures, the Services would find that the minimization and mitigation measures in the HCP satisfy this criterion. If the standard is met, we do not need to evaluate the practicability of the applicant doing more.

Ultimately, it is the Services’ responsibility to determine how much take will result from implementing HCPs and what is needed biologically to minimize and mitigate the impacts of the taking. We then need to evaluate the proposed HCP against that measurement. If the mitigation provided in other HCPs covering the same species differs substantially from the HCP in review, we should acknowledge the difference and explain why a different mitigation strategy was used (i.e., biological considerations or practical project constraints) and why the proposed mitigation minimizes and mitigates the impacts of the taking on the species to the maximum extent practicable.

16.1.3.3 The Practicability Standard

If the applicant has not fully offset the impacts of the taking, we need to examine the practicability of applicants doing more when they assert that additional minimization and mitigation measures are not practicable. They must provide us with adequate documentation of the impracticability of additional measures, evaluated by an independent, third party and in a clear, objective, documented format. We must independently evaluate that information and determine whether the maximum extent practicable standard has been met. This independent evaluation will be part of our administrative record to document our rationale and should include scientific citations, as appropriate.

Factors to consider in the practicability analysis may include, but are not limited to, constraints based on:

- the site itself;
- availability of mitigation habitat (e.g., applicant wants to build a single family residence adjacent to one of eight karst features that contains an endangered spider where the other seven karst features known to contain the spider are fully protected and thus, not available to use as mitigation);
- timing and nature of the project;
- costs and time associated with redesign; and

- local and State permitting and zoning processes, other regulatory mandates (e.g., many State trust lands agencies must use their lands to gain revenues for public schools and cannot change land uses that would significantly reduce those earnings).

The practicability analysis in the findings is a limited, although substantive, examination that pertains strictly to the HCP as proposed and whether it minimizes and mitigates the impacts of the taking to the maximum extent practicable. We should not use the practicability analysis in the findings to advocate for additional measures. However, we should strive to understand the applicant's limitations for implementing conservation measures during the development of the HCP and collaborate to incorporate feasible measures that will adequately minimize and mitigate for impacts.

The Services cannot issue permits based on alternative versions of the HCP that the applicant did not propose. For example, some have argued that if a project proponent who plans to develop a 100-home subdivision could practicably reduce the subdivision to 10 homes based on financial viability, the Services could only issue an incidental take permit for the 10-home subdivision according to the practicability standard. This argument ignores that the level of mitigation required is, in the first instance, directly dependent on the take anticipated to result from the proposed covered activities. Where the Services conclude that the plan does not fully offset the impacts of the taking, we would certainly attempt to get the project proponent to avoid or minimize take where possible, reduce the number of homes, and reconfigure the design to further reduce impacts. However, even if the developer agrees to reduce the number of homes and reconfigure several of the lots to further reduce impacts, the ESA still requires an evaluation of any remaining biological impacts. We should identify what minimization and mitigation would be required to fully offset the biological impacts of the taking, and then evaluate whether the conservation measures the applicant has proposed are either fully commensurate with the level of impacts, or if not, whether they minimize and mitigate those impacts to the maximum extent practicable.

16.1.3.4 The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided

To demonstrate adequate funding the applicant should identify the costs necessary to implement all components of the conservation program, including minimization and mitigation measures, adaptive management and monitoring plans, maintenance of conservation easement lands, and measures to address changed circumstances. They must also identify the funding mechanisms that will be used to ensure payment of those costs. The applicant must identify the specific financial/legal documents (e.g., letters of credit, corporate guarantees, performance bonds, non-wasting endowments, endowment for management, etc.) that they will use to ensure that funding will be available in appropriate amounts at appropriate times throughout the life of the permit and into perpetuity (or throughout the duration of obligation).

The applicant must provide sufficient documentation so we can reasonably conclude that the conservation plan (including all biological mitigation measures) will be fully implemented. We should also make it clear to the applicant that once the permit is issued, it is the permittee's responsibility to implement the plan, including providing the funds necessary to implement the plan. The HCP and permit (and implementing agreement, if there is one) should contain a clear

commitment on the part of the applicant to fund the plan even if the estimates included in the applicant's budget prove to be inaccurate. An underestimate of funds needed does not constitute cause for not fully implementing the HCP and permit. For instance, instead of the HCP and permit stating that "the applicant agrees to provide \$100K to protect 10 acres of habitat for covered species" it should state that "the applicant agrees to provide 10 acres of habitat..."

No surprises assurances only apply to an HCP that is being properly implemented. If the HCP is not being properly implemented due to funding lapses, the no surprises assurances no longer apply.

Note: Check the changed circumstances for reduced funding availability. If it is part of the changed circumstances it must either be removed or restated to read that the no surprises

Following is template language to include in every set of findings:

"The wording of this criterion is identical to the "jeopardy" definition in the Service's section 7 implementing regulation (50 CFR 402.02), which defines "jeopardize the continued existence of" as "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." In accordance with section 7 of the ESA, the Service prepared an intra-agency biological opinion to evaluate whether the taking associated with the HCP would jeopardize the continued existence of any covered species. In the biological opinion, which we have attached and incorporated into this document by reference, the Service concluded that the proposed incidental take of the (name covered species) is not likely to jeopardize the continued existence of this/these species."

Note: While the criterion states "the species" in reference to the covered species, it applies to all listed species in the plan area. If implementing the HCP would jeopardize any listed species (including plants), the Services cannot issue the permit.

16.1.3.6 The measures, if any, required under paragraph (b)(1)(iii)(D) of this section will be met

This section refers to the requirement that the HCP application include "other measures such that the Director may require as being necessary or appropriate for purposes of the plan."

Other measures may still be deemed "necessary or appropriate" in addition to these five mandatory HCP components so that the applicant can assure full implementation of the HCP's conservation plan, monitoring, etc., or to meet the Service's other legal obligations. These obligations include such things as avoiding jeopardy of listed plant species and jeopardy or take of listed wildlife species not covered by the HCP or incidental take permit, avoiding take of migratory birds or eagles, or Marine Mammal Protection Act (MMPA) concerns. Discuss these issues with the Regional HCP Coordinator.

16.1.3.6. He or she has received such other assurances as he or she may require that the plan will be implemented

The incidental take permit holder must have the legal authority to execute the proposed HCP on the covered lands. This authority could derive from ownership in fee simple, a lease agreement, or similar legal authority that is sufficient to implement the proposed HCP. In addition to having legal authority to carry out the proposed HCP, the applicant must also have direct control over any other parties that will implement any portion of the proposed HCP (see 50 CFR 15.25). Chapter 3 provides further explanation and guidance on this issue.

Helpful Hint: For a consortium (e.g., of non-governmental organizations, industry associations, etc.) developing an umbrella HCP, contractual obligations to implement the terms of the HCP is the basis of establishing direct control per 50 CFR 13.25(d) and the “Guidance for Incidental Take Permits Covering Multiple Projects or Project Owners.” See Chapter 3, section 3.3.4 for more information regarding the April 2013 multi-multi-guidance.

16.1.4 Disqualifying Factors

If the HCP meets issuance criteria and all other requirements, and the Service has no evidence that the HCP should be denied on the basis of the criteria and conditions in 50 CFR 13.21(b)-(c) (disqualifying factors), the Service must issue the incidental take permit. However, in some instances you may have indications (or even knowledge) of a civil penalty or criminal conviction of a wildlife law that could be considered evidence of a lack of responsibility. If the applicant didn't provide all required information or is found to have lied about information in the permit application, failed to demonstrate a valid reason for having a permit, or is not qualified to have a permit, the Services would deny the application. Regulations allow for the use of such knowledge, further inquiry, or investigation. You may request that your servicing Office of Law Enforcement search their database for records of appropriate felony violations. Be sure to do your due diligence. It is much easier to deny a permit for cause than revoke an issued permit for the same reason.

If an applicant has violations of wildlife laws that do not rise to the level of a felony, and those violations are remedied (e.g., violation for killing birds in an oil pit, but the oil pit was covered and required restitution was made), that is not grounds for denying a permit. However, if that same company is a repeat offender, it may show a lack of responsibility, which is grounds for denying a permit (50 CFR 13.21(b)(1)). Another example might be that of an applicant who has been convicted of savings and loan fraud, but has made restitution. The felony (it's not related to the permit application) wouldn't provide cause for permit denial, but if the applicant didn't make restitution, that might show a lack of responsibility.

If there are no disqualifying factors you may use the following template language:

“The Service has no evidence the incidental take permit application should be denied on the basis of criteria and conditions set forth in 50 CFR 15.21(b)-(c).”

Note that applications for renewed permits or amendments to active permits have a record of compliance to consider when making the permit decision.

16.2 Writing the Permit

The permit is the controlling document in the HCP package. There are very specific requirements for a valid permit:

The incidental take permit, together with its attached (or included) terms and conditions, must clearly identify the scope and extent of the authorized taking. The face of the permit has specific blocks for some of this information. Additional, clarifying information can be inserted into the terms and conditions section of the permit. If attachments are used they should be uploaded into the Service Permit Issuance and Tracking System (SPITS) or Authorizations and Permits for Protected Species (APPS) so all parts of the permit are together and readily available to the Services and law enforcement.

Following are the main categories of information that are needed on the face of the permit:

Permittee. Name, address, and telephone number of the permittee goes on the face of the permit in Block 1. You may include an e-mail address. Additional information may be included under the conditions section such as the affiliation of the permittee and how they directly control activities covered under the permit.

Permit Area. Describe the area(s) where take associated with covered activities is authorized in Block 10 of the permit. Additional location details or a map may be attached to the permit.

Dates. Include permit signature date, effective date, and expiration date, as well as report due dates (e.g., annually on January 31).

Permittee Signature Line. The following standard condition should be on the face of the permit in box 11 and requires the permittee to sign for the permit (signature must be in blue ink) with the following understanding (see example in the HCP Handbook Toolbox [*Link will be added in final version*]):

Acceptance of the permit serves as evidence that the permittee agrees to abide by all conditions stated.

The person listed in box 8 must sign for the permit to acknowledge receipt and signify agreement to fully abide by and implement the permit.

[Note: This is a new policy and a new requirement that goes into effect the date this Handbook is approved.]

16.2.1 Permit Terms and Conditions

The Services have the authority and responsibility to impose terms and conditions in the permit necessary to carry out the purposes of the HCP, including but not limited to, monitoring and reporting requirements necessary for determining whether such terms and conditions are being complied with. The permit should describe all activities likely to result in take under the HCP, including those necessary for the conservation program, and the amount of take authorized for each covered species. The terms and conditions placed in the permit should be the same as, or a

summary of, those described in the final HCP, with the exception of standard conditions that go into all permits. In some rare cases the Service may need to incorporate additional conditions, but that should be avoided, if possible. For instance, if the Section 7 incidental take statement includes reasonable and prudent measures and implementing terms and conditions that go beyond what is proposed in the HCP, they must be included in the permit terms and conditions. If we intend to include terms and conditions not proposed in the HCP, we should fully explain our intentions to the applicant (i.e., don't surprise them). Many times the applicant will add them to their HCP if approached and asked to do so.

SPITS will generate standard conditions applicable to all FWS permits. We must add all other conditions needed to clarify the scope of the project, including, but not limited to, details associated with the above categories. Alternatively, depending on Regional preference, permit terms and conditions may require full compliance with the approved HCP, including changed circumstances. Check with the Regional HCP Coordinator for your Region's policy.

Generally, FWS uses the following additional standard terms and conditions:

- Upon locating a dead, injured, or sick (covered species) or any other endangered or threatened species, the permittee must contact the Service's (insert name of field office or law enforcement office and phone number), for care and disposition instructions. Use extreme care when handling sick or injured individuals to ensure effective and proper treatment. Also take care in handling dead specimens to preserve biological materials in the best possible state for an analysis of cause of death. Along with the care of sick or injured endangered/threatened species, or preservation of biological materials from a dead specimen, the permittee has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.
- Terms and conditions of the permit are inclusive; take resulting from any activity not specifically covered is prohibited. Please read through these conditions carefully as violations of permit terms and conditions could result in your permit being suspended or revoked. Violations of your permit terms and conditions that contribute to a violation of the Endangered Species Act (ESA) could also subject you to criminal or civil penalties.
- The authorization granted by this permit is subject to full and complete compliance with, and implementation of, the (name of HCP) HCP and all specific conditions in this permit. The permit terms and conditions supersede and take precedence over any inconsistent provisions in the HCP or other program documents.

FWS routinely issues consolidated ESA and Migratory Bird Treaty Act (MBTA) permits for ESA-listed bird species. In those cases, FWS includes the following in the conditions of issued incidental take permits:

“This permit also constitutes a Special Purpose Permit under 50 CFR 21.27 for the take of [*provide species' common and scientific names; species must be ESA-listed*] in the amount and/or number and subject to the terms and conditions specified herein. Any such take will not be in violation of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712).”

[**Note:** We may provide a template condition for eagle “incidental take” similar to the MBTA one above, but, we do not have a final rule to base such language on at this time. Although the current 22.11 language seems to eliminate the need at this point, we must remind Service HCP practitioners and permit applicants that there are additional requirements for covering eagles under an ESA permit.

Standard conditions in all NMFS permits include:

- permit duration;
- conditions to monitor, minimize, and mitigate impacts to listed species;
- reporting requirements;
- requirements for interactions with FWS species (usually manatees); and
- general permit conditions under 50 CFR 222.301.

There may also be other Regionally required terms and conditions for each Service. Check with the Regional HCP Coordinator for other standard terms and conditions.

For both Services, these are some things to remember when writing permit terms and conditions:

- Use language a non-expert will understand.
- Be very specific – the permit must be enforceable.
- Don’t use “weasel” words (e.g., may, if possible, at the permittee’s discretion, to the maximum extent practicable).
- Use descriptive headings to organize the permit (e.g., species 1, conservation measures, minimization measures, mitigation strategy, etc.).

The following table provides an “at a glance” set of requirements for terms and conditions for a 10(a)(1)(B) permit.

Table 16.2.2a: Requirements for Terms & Conditions

Table 16.2a: Requirements for Terms & Conditions		
Terms & Conditions (T&Cs)	Components	Sub-components
Standard T&Cs	see above	may also include Regionally-specific T&Cs
Species-specific	amount of take authorized for each species	use common currency – # of individuals, stream miles, acres of habitat
	conservation measures/mitigation strategy	minimization measures for each species
		mitigation measures for each

		species
Permit Area	description	where activities may result in take
Plan Area	off-site impacts (not a conservation bank unless the permittee is also the banker)	conservation measures for off-site impacts (e.g., offsite mitigation lands not owned by the permittee)
Covered Activities	per permittee, if different	n/a
Changed Circumstances	permittee response to changed circumstances	Per permittee, if applicable
Monitoring Requirements [KKB2]	for species, effectiveness, & compliance	specific information needed
Reporting Requirements	specific information needed	required format

Terms and conditions specific to the HCP are written on the following topics (lengthy descriptions may be incorporated from the HCP into the permit):

- covered species - common name, scientific name, ESA status;
- amount of incidental take authorized for each covered species – describe the level of take authorized in measurable and enforceable terms for each species covered by the permit; This can be done using numbers of individuals, stream miles, acres of habitat, or another appropriate habitat unit. If you’re using a surrogate, it must be fully explained in the HCP;
- minimization and mitigation measures for each species covered in the permit;
 - type and amount of minimization measures for each species;
 - type and amount of mitigation for each species;
 - negotiated conservation measures;
- permit area – area under the permittee’s control where take may occur;
- minimization/mitigation measures for all take (including any indirect take outside the permit area, e.g., downstream siltation);
- covered activities – name the activities or project for which we’re authorizing take and include conditions related to those activities. You may restate in detail or briefly summarize conditions in the HCP. If the permit has more than one permittee and activities are different for each permittee, spell them out per permittee;
- changed circumstances and the permittees’ proposed responses;
- monitoring requirements;
- reporting requirements;
- any conditions the Service requires; and

- if the permit has more than one permittee, describe terms and conditions for each permittee (if they're different).

Helpful Hint: In some cases, activities in the HCP will require hands-on work with species (e.g., moving fish from site to site, monitoring populations or individuals of covered species, building artificial nests within occupied habitat). If the Services agree to such activities they should be listed in the permit, along with any restrictions or stipulations. For some sensitive species, certain activities may require specialized experience and handling by a permitted biologist (i.e., has an ESA 10(a)(1)(A) permit). The permit for the HCP should state specifically that those activities must be conducted by (or under the direct, on-site supervision of) an experienced, permitted biologist (e.g., nest surveys, translocations, moving species out of harm's way to a safe location).

16.2.2 Reporting Requirements

The ESA emphasizes the necessity for “reporting requirements ... for determining whether the incidental take permit terms and conditions are being complied with” (section 10(a)(2)(B)(v)). In addition, an applicant's HCP must include steps to monitor and then report on the effects of take (50 CFR 17.22(b)(1)(iii)(B), 17.32(b)(1)(iii)(B), and 222.307).

The permit must include the reporting requirements described in the HCP to ensure permittee compliance. If the Service has other requirements, they also must be in the permit terms and conditions. Permittees are usually required to submit annual reports with very specific information in required formats (as described in detail in chapter 9). However, for some small (e.g., single-family residence) or low-effect HCPs, we may just require one report after project completion.

16.3 Federal Register Notice of Availability – Final HCP, Final NEPA Analysis, and Draft or Final Decision Documents

For the process of developing the notice of availability (NOA), see Chapter 14, section 14.5 and 14.8 (FWS & NMFS) and the Federal Register Notices & (Entire) Process for Publishing an NOA in the HCP Handbook Toolbox (*Link will be added in final version*) - Federal Register Notices and Process for Publishing a Notice of Availability (NOA) and Notice of Intent (NOI) for FWS.

For final low-effect HCPs and CatEx packages, we only have to notify the public that we issued the permit. There is no timing requirement for the notice, so we recommend that these notices be batched on an annual basis as a streamlining measure. The Headquarters office will compile and publish the annual notice. Put final approved and signed HCPs and associated documents on the Services' Web sites to satisfy the requirement to make documents available to the public.

[**Note:** These may be policy changes and different than the previous process for some Regions.]

For final HCPs with an EA, we are required to notify the public that we have approved the HCP, finalized the EA, and issued a FONSI and permit. There is no timing requirement for this notice either, so we recommend that these notices be batched on an annual basis with notices of permit issuance on low-effect HCPs that the Headquarters office will compile and publish. However, to

ensure we meet the requirements in 40 CFR 1506.6(b), we recommend that the NOA on the draft HCP and draft EA state that FONSIIs will be available along with HCPs and EAs on the Services' Web sites as soon as they are finalized.

If the NOA is for a final HCP and final EIS, it should be published when those documents are finalized and draft decision documents are completed. If the NOA for the draft ROD and draft permit and terms and conditions are published with the final HCP and final EIS, the notice can include a date (30 days after publication date) that the public can request copies of the final ROD and permit (they will not be signed and effective until after the 30-day waiting period). They should also be available on the Service's Web site as soon as they are signed. If done this way, the final notice of permit issuance may also be batched with the other notices described above. Again, the Headquarters office will compile and publish the annual notice.

[**Note:** This is a different process we are establishing in this Handbook for streamlining purposes.]

16.4 Preparing and Processing the Signature Package

16.4.1 Contents of the Signature Package

The signature package consists of the following documents:

- HCP;
- NEPA analysis;
- biological opinion;
- FWS:
 - findings & recommendations memorandum; and
 - NEPA decision document (unless it was combined with the set of findings);
- NMFS – decision memo documenting statutory findings, considerations, and determinations (combined ESA and NEPA findings);
- implementing agreement (if there is one); and
- NOA of the final HCP, final NEPA analysis, and draft decision documents:
 - We recommend batching notices of issuance of an environmental action statement and permit issuance annually. The Services are required to notify the public of the issuance of a FONSI, but if the public were invited to request final, signed copies in the NOA for the final HCP and final EA, this could also be added to the annual notice that the Headquarters office will compile and publish.
 - cover letter to the Federal Register
- for an EIS you must also have cover letters (see Example Letters in the HCP Handbook Toolbox [*Link will be added in final version*]) to:
 - EPAs Regional office (see example in the HCP Handbook Toolbox [*Link will be added in final version*])
 - FWS – DOI Library
 - NMFS – NOAA Library
 - National NEPA Coordinator (for FWS, or NMFS, or both)
 - note to reviewer

- draft permit and draft terms and conditions

A table which outlines the contents of the signature package and identifies who signs each document for FWS and NMFS can be found in the HCP Handbook Toolbox (*Link will be added in final version*).

NOTE: For an EIS the ROD cannot be signed and the permit cannot become effective until 30 days after publication of a notice in the *Federal Register*. The NOA should state that the final, signed ROD will be available for review on the Service's Web site. The draft ROD may be placed on the Web site, then should be replaced by the final, signed version.

16.4.2 Who Signs the Documents and Why

While the NOA for draft or final packages may be signed by the Regional Director, Regional Administrator, their acting, or anyone that has been delegated authority to do so, the final supporting/decision documents, should be signed by the Deputy Regional Director, Assistant Regional Administrator, or other designated person because of the appeal process (50 CFR 13.29).

16.4.2.1 FWS

Depending on whether the Regional Director has delegated signature authority, the appropriate official to sign the decision documents (NEPA decision, set of findings, and permit) would be the Deputy Regional Director or whoever else it was delegated to (see example signed delegation in the HCP Handbook Toolbox [*Link will be added in final version*]).

If permittees disagree with the terms and conditions of the issued permit (e.g., because the requested amount of take was not authorized, one or more of the requested activities was not approved, etc.), they have the right to request reconsideration or to refuse the permit. The Regional Director would review and make the final decision on any appeals of permit decisions.

16.4.2.2 NMFS

The appropriate official to sign the decision memo (NEPA decision, set of findings, and permit) would be the Assistant Regional Administrator, or whomever it was delegated to within that NMFS Region.

16.4.3 Timing – When Documents are Signed

If the NEPA level of the HCP is CatEx or EA, all of the documents in the signature package may be signed at the same time and they become effective upon signature. On an annual basis the Headquarters office will compile and publish a batch *Federal Register* notice of issued permits and NEPA decision documents that will satisfy the Service's requirement to notify the public (40 CFR 1506.6(b)).

If the NEPA level is an EIS, the final signature package includes:

- the *Federal Register* NOA (of the final HCP, final EIS, and draft decision documents),
- final HCP & final EIS, and
- draft ROD, draft permit with terms and conditions, and draft findings memo (if not combined with the ROD).

All decision documents are reviewed at this point and the findings and recommendations memo is signed (unless it has been combined with the ROD). The ROD and permit are not signed or dated pending the close of the final 30-day public notice period (40 CFR 1506.10(2)) and Service response to any comments made. The EPA's notice is the official opening of the 30-day notice.

The ROD becomes effective immediately upon signature. The permit becomes effective on the effective date on the face of the permit (box 7) after signature. Final documents should be made available to the public by request and on the issuing Service's Web site, as stated in the *Federal Register* notice.

[**Note:** This is a change from previous procedures. However, as a streamlining measure it should cut considerable time in the surname process (1 round instead of 2).]

If the NEPA decision is of national interest, after all documents are signed, we must publish a notice of our ROD in the *Federal Register* (40 CFR 1506.6(b)(2)). This may include multi-State or multi-Regional HCPs.

16.4.3.1 Environmental Action Statement and Permit

There are no requirements to publish an NOA for a signed environmental action statement (which is the decision document for a CatEx), but it should be added to the annual NOA for signed permits that the Headquarters office will compile and publish. Final documents should be put on the Services' Web sites so they are available to the public.

16.4.3.2 Finding of No Significant Impact and Permit

In practice, the draft FONSI may be made available to the public with the final EA. Since the signed FONSI is an environmental document under 40 CFR 1506.6(b) and must be made available to the affected public, the NOA can inform the public that they may request a copy of it on the closing date. Signed FONSI should also be placed on the Services' Web sites as soon as possible after signature.

You may use a combination of methods to provide notice, tailored to the needs of the particular case, such as local mailings, publication in newspapers, radio announcements, and other means, in addition to publication in the *Federal Register*.

16.4.3.3 Record of Decision and Permit

The decision to implement the action in the final EIS cannot be made sooner than 30 days following publication of the NOA of the final EIS in the *Federal Register* by the EPA. We

should make the draft ROD and draft permit with terms and conditions available when the NOA of the final HCP and final EIS is published, with a 30-day notice period. The ROD and permit may be signed immediately following the closing date. The NOA should advise the public that they may request a copy of the final signed copies on the closing date and that we will put final documents on our Web site to satisfy the requirement under 40 CFR 1506.6(b). Alternatively, the signed ROD and signed permit may be made available by other means (e.g., newspaper, on the Services' Web site).

16.5 Implementing the HCP and Executing the NEPA Decision

- The low-effect HCP may be implemented as soon as the permit is signed.
- The HCP with an EA may be implemented as soon as the FONSI and permit are signed (550 FW 3(B)(4)).
- The HCP with an EIS may be implemented on whichever of the following dates is later—the date the ROD is signed or the effective date on the permit.

16.6 Permit Issuance and Distribution of Copies of the Permit

As soon as the decision documents and permit are signed, we must copy them for the administrative record and send the original permit to the permittee. Provide copies to all affected offices.

16.7 Permit Denial, Review, and Appeal Procedures (Who Signs the Permit and Why)

16.7.1 Permit Denial

If we must deny the permit for any reason (i.e., doesn't meet issuance criteria or other requirements, or has disqualifying factors), we must notify the applicant of the denial in writing. The letter must contain the reasons for the denial, including reference to the applicable regulations we relied on when denying the application. It should also include information indicating the applicant's right to request reconsideration of the permit application denial.

For NMFS, denials must be made in accordance with 15 CFR 904.

16.7.2 Request for Reconsideration of a Permit Denial

For FWS, anyone who has received written notice of denial may request reconsideration. The process is described in detail in the regulations at 50 CFR 13.29 (<http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>). Such an administrative appeal is required by FWS regulations before the applicant can sue FWS in Federal court. The request must be in writing, be signed by the person requesting reconsideration, and submitted to the issuing officer within 45 days of the notification that the application was denied.

The issuing officer must notify the applicant of the decision on their request for reconsideration within 45 days. If the decision is adverse, the applicant has 45 days to appeal to the Regional Director. The Regional Director will notify the applicant of his/her decision within 45 days. The

decision of the Regional Director is the final administrative decision of the Department of the Interior.

For NMFS, if the permit has been denied under 50 CFR 222.303(e)(1), the applicant must be notified in writing. If authorized in the denial letter, the applicant can submit further information or reasons why the permit should not be denied. The final action by the Assistant Administrator is the final administrative decision of the Department of Commerce (50 CFR 222.303(e)(2)).

16.7.3 Copies of Denials

For FWS – A copy of all section 10 permit denials, including denial of reconsideration and appeal requests, should be sent to all affected field offices, the Assistant Regional Director - Law Enforcement, and the Headquarters Ecological Services office, Falls Church, VA.

For NMFS – Copies should be sent to affected field offices, Regional offices, and the Endangered Species Division in Silver Spring, MD.

16.8 SPITS, APPS, and ECOS

Enter final terms and conditions and dates into SPITS (see instructions in the HCP Handbook Toolbox [*Link will be added in final version*]).

Enter final information into the Environmental Conservation Online System (ECOS) for tracking (see instructions in the HCP Handbook Toolbox [*Link will be added in final version*]). Upload electronic copies of the HCP, final NEPA analysis and decision documents, BO, and signed permit.

PHASE 4: Implementing the HCP and Compliance Monitoring

Chapter 17: Implementing the HCP, Compliance Monitoring, and Making Changes, if Necessary

- 17.1 Implementation and administration of the HCP**
 - 17.2 HCP Monitoring Program: Ensuring the Funding, Conservation Commitments, Mitigation and All other Aspects of the HCP are Being Fulfilled; Review of Annual Reports**
 - 17.2.1 Incidental Take Permit Compliance Monitoring*
 - 17.2.2 Effectiveness monitoring*
 - 17.3 Adaptive Management, Changed Circumstances, and No Surprises in Practice**
 - 17.4 Permit Amendments, Renewals, Transferals**
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 - 17.4.3 Permit Transfers*
 - 17.5 When additional NEPA, Section 7, or NHPA compliance is needed**
 - 17.6 Permit Compliance Problems, Notifying Law Enforcement, Suspensions, and Revocations**
 - 17.6.1 Permit Suspension and Revocation*
 - 17.6.2 Summary of FWS Suspension and Revocation Process Step by Step*
 - 17.6.3 Summary of NMFS Suspension and Revocation Process*
 - 17.7 Permit abandonment/relinquishment**
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Creating a Habitat Conservation Plan (HCP) and issuing an incidental take permit does not mean the process is over. With implementation, we begin a management process with the permittee and stakeholders. Smaller, single applicant plans might not take long to implement, but for larger scale, longer term plans, permit issuance begins an ongoing partnership to deliver regulatory certainties and conservation benefits. By this stage, the HCP has hopefully been crafted to foster this partnership. We must hold up our end of the deal to ensure this hard-earned partnership does not devolve into an adversarial, win-lose contest.

17.1 Implementation and Administration of the HCP

Just as for HCP review and incidental take permit issuance, the Services field offices take the lead in overseeing implementation and coordination with permittees in accordance with any established implementation schedules. The FWS has spelled out field and Regional office roles in the Service Manual (730 FW 1, and the associated *Procedures*). Regional offices share information and assist in evaluating problems or questions that arise. Regional offices become directly involved if decisions over permit suspension or revocation are elevated by the field.

To identify the implementation roles and processes we describe below, our first resources will be the HCP and the incidental take permit. The HCP, the permit conditions, or possibly an

implementing agreement, should provide the implementation steps, adaptive management, monitoring, reporting requirements, and scheduled reviews (also see Chapter 10).

In HCPs where land acquisitions take place over time, we need to review and approve management plans to ensure consistency with the goals and objectives of the HCP. Similarly, as preserved land is added to the HCP, must also review and approve monitoring plans.

17.2 HCP Monitoring Program: Ensuring the Funding, Conservation Commitments, Mitigation and All other Aspects of the HCP are Being Fulfilled; Review of Annual Reports

After we issue an incidental take permit, the compliance and implementation monitoring measures built into the HCP and incidental take permit get set into motion. The HCP is not “done” at that point. Service field offices must now keep on top of implementation schedules for the incidental take permits in their assigned work areas.

Compliance monitoring, otherwise known as “implementation monitoring,” is a process we use to verify that the permittee or an enrolled landowner is conforming to and correctly implementing the HCP or their site specific plan, any terms and conditions of the site plan, and the permit.

Who we monitor and coordinate with will vary depending on the incidental take permit structure (see Chapter 3, section 3.4). The permittee named on the face of the incidental take permit, is responsible for fulfilling the HCP obligations. This may be modified for programmatic plans or if there are co-permittees. In such cases, a lead permittee contact should be specified in the HCP or the permit by their position title.

The Services oversight of a programmatic HCP extends directly to the permittee. We normally do not have direct oversight of the enrollees in (recipients of certificates of inclusion), or others covered by, that programmatic plan. Enrollees and other covered individuals are governed by the procedures established by the HCP and the permit, as expressed in their certificate of inclusion, and by the local laws governing activities addressed by the HCP. In the absence of a certificate of inclusion, individuals under the jurisdiction of the master permittee will have incidental take coverage conveyed to them by a building permit, septic percolation test, occupancy certificate, or similar local authorization. Whether by certificate of inclusion, or by some local authorization, the method by which a master permittee conveys incidental take authority to individual participants in a programmatic plan must be described in the HCP or incidental take permit. The HCP or incidental take permit should also provide a mechanism that allows us to ensure the permittee issues any local authorizations in line with the conservation measures required by the HCP and incidental take permit.

The purpose of compliance monitoring is not only to identify permittees or other covered individuals who may be incorrectly implementing their plan, but also to:

- identify the activity that may have gone wrong or was incorrectly implemented,
- identify what factors led to the potential non-compliance, and
- find steps to remedy those factors so that non-compliance is less likely to occur in the future.

17.2.1 Incidental Take Permit Compliance Monitoring

The Services are responsible for ensuring that the permittee meets the terms and conditions of the HCP and the accompanying incidental take permit, (i.e., compliance monitoring). In most cases we will require that the permittee produce an annual report (or a report at some other interval) that documents the status of their HCP and compliance with the associated permit. We must review the annual reports to verify adherence to the terms and conditions of the incidental take permit, HCP, and any implementing agreements to ensure incidental take of covered species does not exceed the level authorized under the permit. Levels of take should use the same units as are in the HCP and the incidental take permit. This information must also be recorded in the Environmental Conservation Online System (ECOS) or the Tracking and Integrated Logging System (TAILS), as appropriate.

Regulations at 50 CFR Parts 13.45 and 222.301, provide the authority for us to require periodic reports unless we specify otherwise in the incidental take permit. Also, we should ensure that the reporting requirements are tailored for documenting compliance with the incidental take permit (e.g., documentation of habitat acquisition, use of photographs). See Chapter 10, section 10.3 for more information. These reports help us determine whether the permittee is properly implementing the terms and conditions of the HCP, its incidental take permit, and any implementing agreement. They provide a principle part of the long-term documentation in the administrative record under the incidental take permit.

In addition to reviewing reports submitted by the permittee, it is important for the Services to make field visits to verify the accuracy of monitoring data submitted. These visits allow us to develop a relationship with the permittee, verify information in annual reports, and assist the permittee as a conservation partner.

17.2.2 Effectiveness Monitoring

Effectiveness monitoring provides the evaluation of whether the effects of implementing the HCP's conservation program is consistent with the assumptions and predictions made when the HCP was developed and approved. We use effectiveness monitoring to determine if the permittee(s) are achieving the biological goals and objectives in the HCP.

For large-scale or regional, programmatic HCPs, oversight/technical/or steering committees, made up of representatives from the permittees and the agencies that issue local permits (i.e., building or grading permits, etc.) are often used to ensure proper and periodic review of the monitoring program. These types of teams also ensure that each program properly implements the terms and conditions of the incidental take permit. They evaluate the permittee's success in reaching its identified goals and objectives. Technical experts or affected stakeholder groups may also work on these teams when significant adaptive management might be expected.

Submitting the committee's findings to recognized experts in pertinent fields (e.g., conservation biologists or restoration specialists) for review or having technical experts conduct field investigations to assess implementation of the terms and conditions may also be beneficial.

Committees that the applicant or a non-Federal stakeholder forms and operates are not be subject to the Federal Advisory Committee Act. We should participate, but we should not oversee or “manage” such committees. They should be organized by the applicant or other non-Federal stakeholder. Oversight committees should meet regularly and review implementation of the monitoring program and filing of reports as defined in the HCP and incidental take permit. The committees should meet annually, although they may meet less often depending on management results, frequency of changed circumstances, or increased confidence in the plan’s management methods.

17.3 Adaptive Management, Changed Circumstances, and No Surprises in Practice

As we describe in Chapter 9, adaptive responses to changed circumstances are incorporated into the HCP and become part of the operating conservation program. Adaptive management measures become a permit requirement just as much as any restriction on earth moving or tree cutting. Like other aspects of the conservation program, effectiveness of management actions in reducing the effects of changed circumstances can be improved through implementation of the monitoring and adaptive management programs.

However, there are limits to the changes we can expect from a permittee. No surprises assurances limit the scope of possible changes to an operating HCP after we issue the permit. No Surprises assurances do not restrict changes to the HCP that result from the plan’s adaptive management program or that consist of responses to changed circumstances identified in the plan. Instead, no surprises assurances limit our ability to require measures beyond those provided for in the HCP’s operating conservation program if changed circumstances that were not identified in the HCP or unforeseen circumstances occur.

These are the expectations for performance under no surprises assurances:

- *Changed circumstances provided for in the HCP:* Adaptive measures provided for in the HCP will be implemented by the permittee as specified in the HCP.
- *Changed circumstances not provided for in the HCP:* The Services may suggest adaptive measures, but they are not required without the permittee’s consent.
- *Unforeseen circumstances:* Adaptive measures that are outside the scope of the HCP’s operating conservation program can be negotiated, but will not be required without the permittee’s consent. However, we may require additional measures limited to modifications within the conserved habitat areas, if any, or to the HCP’s operating conservation program, and that maintain the original terms of the HCP to the maximum extent possible if those modifications do not result in the commitment of additional land, water, or financial compensation. The Services must demonstrate that unforeseen circumstances exist.

The adaptive measures or changed circumstances sections of the HCP should have established notice and coordination procedures so that the Services and permittee can each propose changes, and reach agreement on how to implement what’s needed. There may be scheduled reviews linked to periodic performance reports, or a stakeholder might at any time identify an issue that needs attention from the Services and the permittee.

We must determine whether unforeseen circumstances have occurred, based on the HCP's plan for identifying and addressing changed circumstances (see Chapter 9, section 9.6). We will notify the permittee about the need to discuss possible responses and, if there are available responses, whether the permittee is willing to implement them regardless of their no surprises assurances (see sections 9.6.2 through 9.6.4 in Chapter 9). We can require certain changes that remain within the scope of the HCP's conservation plan that do not require increased expenditures of funds, lands, or waters than to which the permittee previously agreed. The "no surprises" rule does not prevent the permittee from *voluntarily* taking action or committing additional land, water, and financial resources to help remedy the situation.

We will work with other Federal agencies, the States, and appropriate parties to muster available resources to help respond to the impacts from unforeseen circumstances. To maintain interagency cooperation under section 6 of the Endangered Species Act (ESA), we will use the expertise and solicit information and participation from involved State agencies in all aspects of the HCP planning process, including dealing with unforeseen circumstances.

If continuation of the permit is likely to jeopardize the continued existence of a covered species, we can revoke a permit that is being properly implemented because of an unforeseen circumstance. This is a last resort that we should only take if all our efforts cannot prevent jeopardy of a covered species. We should do all we can in recruiting other Federal and state agencies, interested parties, and available resources to remedy the situation before taking this step.

17.4 Permit Amendments, Renewals, Transferals

Many incidental take permits extend for years or decades, so the HCP should give consideration to the potentials for changes, renewals, or possible permit transfers. The HCP or incidental take permit should address the possibility for amending the HCP or the permit and cite the statutory and regulatory provisions of ESA sections 7 and 10, and of the National Environmental Policy Act (NEPA), that govern changes to operations and documents. Beware of language that develops processes or decisions that exceed the scope of our ESA implementing and permitting regulations.

Any time we sign a new section 10 permit instrument for an amendment, renewal, or transfer, we must satisfy all of the review requirements needed for any section 10 permit issuance (see Chapters 13 through 16). As described below (section 17.5), we must evaluate whether a permit amendment requires additional public notice, section 7 review, or NEPA analysis. Even if we determine that the original notice and analyses do not require updating, we must note that in our findings for the specific action. An applicant for a permit renewal, amendment, or transfer will also have their record of compliance to consider. We cannot renew, amend, or transfer a permit where there are compliance deficiencies.

17.4.1 Changes to HCP Implementation

Each revision of the HCP, section 7, NEPA, or other documents or processes established under the HCP will not necessarily result in amending the incidental take permit. The need to amend the permit varies case-by-case depending on the nature of the HCP changes, how those changes

need to be reflected in the permit, and whether they would trigger additional section 7 or NEPA review.

Evaluate requested interpretations or changes to the HCP or permit in relation to the analyses that supported issuance of the current permit:

- Do the proposed changes need to be incorporated into an amended permit?
- Do the proposed changes exceed the scope of what has already been analyzed and advertised to the public?

Any degree of change should be memorialized in the permit's case file. This may be an exchange of correspondence, replacing a faulty document page with a corrected one, or a range of more or less extensive permit amendments.

17.4.1.1 Interpretations, Corrections, Clarifications, or Missing Details

As a permittee begins its project, questions often arise over interpretation of permit and HCP requirements. Often, an HCP will need clarification to address small errors, omissions, or language that may be too general or too specific for practical application. It is common for parts of an HCP covering many activities across large landscapes to be general. Where clarifications to the HCP will affect future implementation, the Service and the permittee should memorialize the interpretation in writing and retain them in the administrative record. These clarifications should also be distributed to other affected parties.

17.4.1.2 HCP and Incidental Take Permit Amendments

Changes in implementation of the HCP may require amendments to the HCP, incidental take permit, implementing agreement, or other implementation-related documents. Either party can initiate amendments, but we decide the level of review needed to satisfy ESA statutory and regulatory requirements.

Amendments might be approved by an exchange of formal correspondence, addenda to the HCP, revising the HCP, or a permit amendment. However, as the scale or scope of a permit amendment increases, it becomes more likely that we will need to publish public notice and amend the NEPA and section 7 analyses.

In general, as we memorialize our decision to amend documents, we will specify the old text, proposed new text, the reason for the change, intended effects, and justification for the modification. Except for a permit amendment, we may not need to reprint the entire affected document. It is important to put the permit number on all formal correspondence and to retain it in the permit file.

We usually will not need to advertise an amended HCP when levels of incidental take do not increase, and the activity does not expand in ways not analyzed in the original NEPA or section 7 documentation. Changes to an HCP of this level might need to be reflected in an amended permit. Permit actions must be made public, but when levels of incidental take do not increase, and the activity does not expand in ways not previously analyzed, we can meet our public notice

requirement by posting all permit actions on field office web sites, and including any such permit amendments in our routine batch notice of issued permits (see Chapter 16.3). Some possible examples of these HCP and permit changes include:

- correcting insignificant mapping errors,
- modifying avoidance and minimization measures,
- modifying annual reporting protocols,
- making small changes to monitoring protocols,
- making changes to funding sources,
- changing the names or addresses of responsible officials, and
- permit transfers.

The types of activities that normally require permit amendment, and publication in the *Federal Register* include, but are not limited to:

- addition of new species, either listed or unlisted,
- increased level or different form of take for covered species,
- changes to funding that affect the ability of the permittee to implement the HCP,
- changes to covered activities not previously addressed,
- changes to covered lands, and
- significant changes to the conservation strategy, including changes to the mitigation measures.

As noted above, any permit amendment must satisfy section 10 review requirements. As the scale and scope of any amendment increase, it will also likely trigger other responsibilities. If this happens, it's important that we conduct a careful review and internal scoping to ensure all such steps and responsibilities are addressed, such as tribal trust or cultural resource responsibilities.

17.4.2 Renewals

Any ESA section 10 permit is normally eligible to be renewed before the term expires. FWS regulations at 50 CFR Part 13.22 and NMFS regulations 50 CFR 222.304 allow a permit to remain in effect while we consider a renewal request, but only if the renewal request is received at least 30 days before expiration.

Although it might not be likely that we need to renew large HCPs with terms lasting for decades, renewing incidental take permits is a practical concern. A permittee may not always begin covered activities before their permit nearly expires. In such cases, we should review the HCP to determine if changes are necessary. Revisions depend on how much of the originally covered activity has been completed, whether the mitigation has kept pace with impacts, or possibly if the status of covered species has changed. Climate change, its related impacts, or other factors may lead us to recommend new species or habitat surveys to identify potential HCP amendments. As we consider renewal requests, we will honor no surprises assurances as much as practicable, but any renewed permit must satisfy applicable statutory and regulatory requirements in force as of the date of the approval of the renewal request. Permit renewals must be advertised in the *Federal Register*, even if there are no revisions.

Permit renewal sometimes offers an opportunity for an adaptive management strategy. We might issue an incidental take permit for a relatively short time period to identify implementation issues. These issues can then be addressed in a renewed permit with a significantly longer term than the original permit. A revised, or entirely new, HCP, section 7, and NEPA analysis will likely be needed. If this strategy is employed, we should make this clear in our initial public notice for the original permit action, and the HCP should describe this as well.

17.4.3 Permit Transfers

Permit transfers usually are the result of an exchange in ownership of the covered lands. The new owner will assume the responsibilities associated with the HCP and will also expect to receive the benefits of the permit. An assumption agreement is a key component of such a transaction. It outlines the roles and responsibilities of all the parties including the Service. The assumption agreement addresses any outstanding obligations and how they will be completed. An assumption agreement, at its simplest, is a joint submittal by the transferor and transferee as prescribed by 50 CFR 13.25, or it can resemble a memorandum of understanding.

A partial permit transfer works the same way, except that only a portion of the HCP responsibilities or permit area will change ownership, generally with the remainder of the HCP continuing under the original permittee. This may get complicated depending on the number of covered species and their distribution on the permit area. The original permittee and transferee might not each be responsible for all of the species once the permit and the property is divided. How this division occurs must be addressed in the assumption agreement and in the incidental take permits.

Permit transfer is a distinct action compared to an amendment or renewal. Nevertheless, the administrative process to transfer a permit is effectively the same as for an amendment but does not require public notice. This is true even for partial transfers where a new permit is issued to the new partial owner of the original project. In a complete transfer, we issue an amended permit to the new owner. In a partial transfer we issue an amended permit to the original permittee, and a new permit to the new owner. Any permit we issue as a result of a partial or full transfer will retain the expiration date of the original permit. The permittee/transferee may request renewal to alter the expiration date.

For either a full or partial transfer, the new owner completes an FWS application form, 3-200-56, to meet the certification requirements of Part 13.25, and so that we can complete the case file for their permit. The transferee must meet all of the qualifications required to receive an incidental take permit, which means demonstrating the capacity to implement the HCP or that portion they are assuming responsibility for, and legal ability to perform the authorized project, and providing funding assurances.

For NMFS permit transfers, regulations at Part 222.305(a)(3) specify the process. Incidental take permits issued under Part 222.307 may be transferred in whole or in part through a joint submission by the permittee and the proposed transferee, or in the case of a deceased permittee, the deceased permittee's legal representative and the proposed transferee, provided NMFS determines in writing that: (i) The proposed transferee meets all qualifications for holding a permit; (ii) The proposed transferee has provided adequate written assurances that it will provide

sufficient funding for the conservation plan or other agreement or plan associated with the permit and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation requirements; and (iii) The proposed transferee has provided such other information as NMFS determines is relevant to process the transfer.

FWS regulations at Part 13.24 and NMFS regulations at Part 222.305(a)(2) authorize certain successors of the original permittee to carry on a permitted activity for the remainder of the permit term in cases of foreclosure, bankruptcy, inheritance by family members, etc. To obtain authorization, the successor must notify us within 90 days of the date the successor begins to carry out the permitted activity and obtain our written endorsement. To give them authorization we must determine that the successor meets the qualifications to hold the permit, is capable of implementing the permit, including all outstanding minimization and mitigation measures, has provided adequate assurances of funding, and has provided any other relevant information requested. Transfer of a permit in accordance with Part 13.25 satisfies the “endorsement” requirement. If the permitted activities have gotten under way, we must reach out to the permittee’s successor as soon as possible so that the successor is made aware of the incidental take permit and its obligations, and the requirements of Part 13.24.

17.5 When Additional NEPA, Section 7, or NHPA Compliance Is Needed

While NEPA and section 7 will be considered anytime we issue a new permit instrument, the Services most often revise these analyses for permit amendments that would increase the amount of take or otherwise exceed what was originally reviewed. In the simplest cases (small amendments, simple renewals, or transfers), we often do not need to amend these documents. We must, however, state in our findings that we reviewed the section 7 and NEPA requirements and determined that the existing analyses remain valid.

Documentation requirements are often less for an amendment than for the original permit application, depending on the extent or complexity of the proposed change. For example, the NEPA analysis for the amendment can be tiered off the NEPA analysis for the original permit (40 CFR 1502.20), or the original NEPA analysis can be incorporated by reference into the amendment’s supporting documents (50 CFR 1502.21). If the original permit application required an environmental impact statement (EIS), the amendment may require nothing more than an environmental assessment (EA).

We may be able to prepare addenda to the original section 7 consultation or NEPA document. The more extensive the changes, however, the more desirable it becomes to start over with new review documents. In general, the determining factors for the level of NEPA compliance are the effects upon the human environment and the level of previous analysis. While the level of NEPA compliance is somewhat independent of the extensiveness of proposed changes, we still expect that less extensive amendments will not require an EA or a supplemental EIS.

National Historic Preservation Act (NHPA) compliance comes under consideration if new lands are to be added to the permit area, or if the intensity or extent of previously covered activities increases within the permit area. Especially consider conducting new NEPA, section 7, and NHPA analyses whenever a permit renewal with amendments is under review, or if the HCP has been completely rewritten.

17.6 Permit Compliance Problems, Notifying Law Enforcement, Suspensions, and Revocations

The permittee enjoys no surprises assurances as long as they implement the permit and HCP properly. If we become aware of a deficiency in implementation, either of the project or the mitigation, of activities not covered by the incidental take permit, or of take in excess of that authorized, we should notify the permittee. What we describe here is an escalation of notice, administrative measures, law enforcement investigation, suspension, revocation, and civil or criminal processes.

These steps are only suggestive. We have to use our best judgment about giving a permittee the benefit of the doubt versus resorting early to more formal processes, or even early referral to solicitors/general counsel or law enforcement. There may be more than one round of communication at each phase, but unresolved issues must not be left to linger. The urgency of resolving compliance problems depends on such factors as the permittee's track record of compliance and the risk of harm to covered species or other resources. Going through an escalating process of notices like this will help build the administrative record in support of our actions to resolve implementation problems.

The tone of communications with permittees is vitally important to maintaining good working relationships with them. All communications should be crafted, commensurate with the gravity of the situation, with the expectation of maintaining a long-term working relationship with the permittee. In any communications, refrain from using variations of the terms "violate" or "violation" unless vetted by a solicitor. Instead, refer to "non-compliance," "inconsistent," "not authorized," "shortcomings," "exceeds" or similar terms.

The first notice of a potential compliance problem should assume a neutral tone. If a good working relationship is established by this time, it may be appropriately handled by a staff member via telephone or e-mail. It is usually appropriate to frame this first communication in terms of asking if the permittee needs assistance and pointing out that certain activities are lagging. The permittee may have encountered unexpected difficulties in the permit or HCP requirements. We must memorialize this communication in writing and retain it in the project file.

If the response by the permittee is inadequate, we should consider a formal notice in writing. The notice should describe the situation as the Service understands it. List the specific permit conditions and HCP provisions that are not being implemented correctly. State specifically what needs to be done to bring implementation of the HCP and permit back into compliance. The Service may be willing to consider alternatives to the remedies we propose, but we suggest coordinating this with the Regional office before offering options to the permittee.

If the permittee still fails to respond satisfactorily, then we should consult with Regional office HCP coordinators to contact the solicitors/general counsel and consider referral to law enforcement for investigation. Any further communications with the permittee should involve solicitor/general counsel advice. The Regional office will need copies of all documented communication and correspondence between the field office and permittee.

17.6.1 Permit Suspension and Revocation

Criteria and processes for incidental take permit suspension and revocation are found in FWS general permit regulations of 50 CFR Parts 13.27 and 13.28, respectively. NMFS suspension and revocation process is found at 50 CFR Part 222.306. Specific criteria for FWS revocation appear at Parts 17.22(b)(8) and 17.32(b)(8). Specific criteria for NMFS revocation appear at Part 222.306(e). The authority over permit suspension and revocation decisions has been retained at the Regional office level for all permits, even those that field offices issue.

Suspension and revocation can be lengthy processes that begin with a proposal to suspend or revoke. At each step along the way, there are prescribed periods in which a permittee can object or appeal our actions. These are the same appeals processes used by FWS in our permit decisions (see Chapter 16). It is not necessary to suspend a permit before proposing revocation. Considering the revocation criteria, however, we expect that failure to correct deficiencies of a suspended permit would be the most likely situation leading to proposed revocation.

You should not consider permit suspension or revocation as the first step in compliance enforcement. We recommend that the adaptive management measures built into the HCP address communications, so that misunderstandings or occasional shortcomings do not snowball into a proposed suspension or revocation. Nevertheless, these processes provide the administrative mechanism for formally addressing non-compliance. A permittee who has had a permit revoked is disqualified from receiving or exercising the privileges of a similar permit for a period of 5 years from the date of the final agency decision on the revocation. (Parts 13.21(c)(2) and (d)). To date, we have suspended only one incidental take permit, but we have issued proposals to suspend in a small number of cases.

In addition to suspension and revocation, we can seek civil or criminal penalties under the ESA for permit violations. To do so requires coordination with and investigation by the Office of Law Enforcement. We should get law enforcement involved early to facilitate any civil or criminal case we might make, especially if we suspect harm of listed species. Even if we do not pursue civil or criminal penalties, having law enforcement officers investigate demonstrates due diligence in support of any action we take.

The regulations require us to send proposals and certain other correspondence by certified mail. We recommend that you simultaneously send a copy by an overnight courier service so that timelines are unambiguously established, and so that we receive confirmation of the permittee's receipt. A recipient of certified mail can refuse to accept delivery, and the Postal Service will eventually return the undelivered correspondence. Sending a separate copy ensures that our correspondence reaches the permittee.

In our initial proposal, we should instruct the permittee to stop any actions that cause unauthorized take. If appropriate, we should suggest remedial measures. Given that a field office can usually transmit correspondence to a permittee faster than a proposal from the Regional office, it may be useful for the field office to send a short letter recommending that the permittee cease the problematic actions while the Service considers its formal response at the Regional level.

If the permit is not suspended or revoked after issuing a proposal, we can still impose remedial measures. Part 13.23(b) allows us to amend permits with just cause upon a written finding of necessity, consistent with no surprises assurances. No surprises assurances apply only to properly

implemented activities affecting adequately covered species. No surprises assurances do not apply to unauthorized activities. We should document in writing the deficiencies that provide just cause for amendment:

- permittee's failures to properly implement the permit;
- species impacts that are not adequately covered;
- actions that are not authorized by the permit; and
- the determination that No Surprises assurances have lapsed.

The finding of necessity should then list and describe the necessary measures to remediate or correct these deficiencies so that the permittee can come into compliance with the ESA and implementing regulations. This finding of necessity can be incorporated into our findings on any amended incidental take permit, or it may be appropriate to include it with the initial proposal.

17.6.2 Summary of FWS Suspension and Revocation Process Step by Step

1. The issuing officer (Deputy Regional Director (DRD) in most Regions) sends a proposal to suspend. Required contents of the proposal provided at 50 CFR Part 13.27(b).
2. Once the proposal is received, the permittee has 45 days to submit a written objection to the proposal (Part 13.27(b)(2)).
3. After the permittee's objection period ends, the DRD has 45 days to issue a decision on the proposal (Part 13.27(b)(3)).
4. Under Part 13.29, the permittee has 45 days from the date of the suspension decision to request reconsideration by the DRD. The DRD then has 45 days to notify the permittee of the results of the reconsideration. During the reconsideration period, we may conduct a "separate inquiry" (Part 13.29 (b) through (d)).
5. If the request for reconsideration is denied, the permittee may appeal to the Regional Director (RD) within 45 days. This appeal must be in writing, and the permittee "may present oral arguments before the Regional Director ... if [the RD] judges oral arguments are necessary to clarify issues raised in the written record" (Part 13.29(e) and (f)).
6. The Service must notify the permittee in writing of the RD's decision within 45 calendar days of receipt of the appeal. **The RD's decision is the final administrative decision of the Department.** (Part 13.29(f)(2) and (3)). Note that an administrative appeal is required by FWS regulations before the applicant can sue FWS in Federal court.

Helpful Hint:

Permits should be signed by the DRD or below. The final administrative decision on a permit suspension or revocation should be issued by the RD.

7. Once all reconsiderations and appeals are exhausted, the permittee must surrender the permit to the DRD after being notified that the permit has been suspended (Part 13.49).
8. Failure to correct deficiencies that were the cause of the suspension within 60 days of the suspension is a ground for revocation of the permit (Part 13.28(a)(2)). The processes and schedule for permit revocation and appeal of an adverse decision are the same as those for permit suspension (1 through 7, above). (Parts 13.28, .29 and .49; also Parts 17.22(b)(8) and 17.32(b)(8)).

17.6.3 Summary of NMFS Suspension and Revocation Process

The NMFS suspension and revocation process will begin when a violation of 50 CFR Parts 222, 223, or 224 occurs; when a violation of the ESA occurs; or if a violation of a term and condition of the permit occurs. Subpart D to 15 CFR part 904 provides permit sanctions for violation or noncompliance.

17.7 Permit Abandonment/Relinquishment

Should a permittee choose to terminate their covered activities and relinquish the permit, we must meet with the permittee to determine the appropriate courses of action. The HCP may have addressed early termination of covered activities, so there may be responses already provided. Fundamentally, the permittee must ensure that the mitigation required under the HCP for all the incidental take that has occurred is carried out, including any ongoing conservation funding and implementation assurances. We will not cancel the permit until we determine that all outstanding minimization and mitigation measures for past take have been implemented. 50 CFR 17.22(b)(7) and 17.32(b)(7).

Appendix A

National Historic Preservation Act (NHPA) Compliance and Habitat Conservation Plans (HCP) for the U.S. Fish and Wildlife Service (FWS)

Background

The U.S. Fish and Wildlife Service (FWS) decided in 1999 that the issuance of an incidental take permit (and/or enhancement of survival permit) under section 10 of the Endangered Species Act (ESA) is an undertaking subject to compliance with section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended [see Assistant Director - Endangered Species (AES) memo dated 2000]. Because of the magnitude and complexity of the Habitat Conservation Planning (HCP) program, this guidance is intended to assist FWS staff to ensure NHPA compliance when issuing section 10(a)(1)(B) incidental take permits. Section 106 of the NHPA requires the FWS to take into account the effects of their undertakings on historic properties (i.e., significant cultural resources). In this regard, the key components of this guidance state that the FWS must consult with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), and federally recognized Native American Tribes, the Native Hawaiian Organization, and Native Alaskan Corporations (Tribes) consider their comments on the potential impacts to historic properties resulting from the undertaking, and endeavor to incorporate their comments into project planning.

Legal Context and Overview

Compliance with the NHPA, as amended, is required by law for all Federal undertakings. An *undertaking* is defined in 36 CFR § 800.16(y) of the NHPA's implementing regulations as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal *permit*, license or approval." Under this definition, the issuance of section 10(a)(1)(B) incidental take permits (ITP) for activities covered in a HCP constitutes an undertaking subject to review and compliance under section 106 of the NHPA.

The issuance of an ITP and the permittee's covered activities described in the HCP under our direct jurisdiction constitutes an undertaking under section 106 of NHPA. The covered activities and conservation measures stipulated as a condition of the permit and described in the HCP that have the potential to cause an adverse effect to historic properties, are subject to further review under NHPA. The permit, however, as defined by the Endangered Species Act, authorizes take of species that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity". The otherwise lawful activities are subject to approval under other federal, state or local regulations.

FWS staff should coordinate closely with their Regional Historic Preservation Officers (RHPO) early in HCP development to help establish the Area of Potential Effect (APE), consult with the SHPOs (if necessary), and advise the applicant of any potential effects to historic properties. We should make a good faith effort to identify and suggest, if feasible, avoidance measures on

historic properties during project planning [36 CFR § 800.13(b)]. We should inform the applicant of our section 106 responsibilities and concerns regarding how we should ameliorate impacts to historic properties. Section 106 and its implementing regulations at 36 CFR § 800 provides the steps and requirements for complying with NHPA.

Policy addressing the management and protection of significant cultural resources (referred to as historic properties) can be found in the FWS Manual, Chapters 614 FW 1-5. The purpose of this guidance is to clarify and interpret key elements of the regulations as they apply to the development of HCPs and issuance of section 10(a)(1)(B) ITPs.

Purpose and Compliance Goals

The purpose of Section 106 of the NHPA is to integrate preservation concerns with the needs of Federal undertakings.

Important points to remember:

- the goal is to consult and plan to avoid destroying or damaging historic properties as a consequence of Federal actions or undertakings that have the potential to cause reasonably foreseeable effects;
- the compliance steps in 36 CFR § 800 emphasize flexibility and early coordination to insure that section 106 compliance is achieved with the minimum of disruption and costs to a Federal agency and its applicants;
- ensuring NHPA compliance does take time. In general, the larger and the more complex the project, the more the lead time will be needed;
- the regulations at 36 CFR § 800 defines “historic property” as “any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places maintained by the Secretary of the Interior;” and
- the phrase “eligible for inclusion in the National Register of Historic Places” includes properties formally determined as such in accordance with regulations and all other properties that meet the National Register’s eligibility criteria.

An applicant may not destroy a cultural resource as defined by NHPA in order to avoid the requirements of Section 106 as per 54 U.S.C 470h-2(k). Should an applicant do so, the FWS generally will refer the violation to appropriate authorities, which may delay and/or imperil the permit.

Starting the Section 106 Compliance Process

Your RHPO or designated cultural resource staff may provide other procedures in your Region, but the following provide the basic steps for Section 106 compliance. The FWS field biologist should contact the Regional HCP coordinator as early as possible in the development and review process for proposed HCPs. This would generally be when the HCP Plan Area has been determined. The Regional HCP coordinator or field biologist should then contact their Regional Historic Preservation Officer (RHPO) or designated cultural resource staff.

The RHPO or designated cultural resource staff shall assist the HCP coordinator and/or field biologist to achieve compliance with NHPA, which involves consulting with the SHPO, Native

American Tribes, the applicant and other interested parties that may be involved in the HCP planning process. Note: RHPO assistance is dependent upon support and availability.

The FWS may use information provided by applicants, consultants, or designees for completing documents associated with National Environmental Policy Act (NEPA) and NHPA for an HCP. However, the FWS drives consultation and remains legally responsible for all required findings and determinations associated with the NEPA and NHPA review and compliance process.

Important points to remember:

- the initial consultation letter with SHPO could present our determinations on items 1-5 in section A below and suggested resolution of adverse effects for the SHPO's concurrence.
- consultation with federally recognized Indian Tribes is part of the process. Consultation with the THPO or Regional Tribal Liaison is required for projects on Tribal lands, but consultation with Tribes that have a historical association with a project area is also required. Determining the appropriate tribes is part of the 106 process; and
- the intent of Section 106 is not to stop or delay projects. It is to ensure that the FWS fully considers historic preservation issues and the views of the public during project planning.

The following Sections A through F are intended to provide information and serve as guidance for achieving compliance with Section 106.

SECTION A: The Section 106 Process

Section 106 involves the following steps by a qualified archaeologist as defined in Section 800.2 (a) (1) of the NHPA:

1. Define the Area of Potential Effects (APE)

A key step in the process is determination of the “area of potential effects” associated with a potential undertaking (i.e., proposed HCP). Section 800.16(d) of 36 CFR § 800 defines the APE as “the geographic area or areas within which an undertaking **may directly or indirectly** cause changes in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.” The APE includes the areas where the FWS have authorized take and influenced the project through negotiation of the avoidance, minimization, and mitigation measures, as well as the activities associated with their implementation. It may include reasonably foreseeable impacts outside areas associated with conservation measures if the permit causes such impact, but be sure that such impacts would not already occur without the permit.

Important points to remember:

- the “scale and nature of the undertaking” must be carefully considered, and limits the seemingly infinite possibility of effects for an undertaking; and
- in some cases, an undertaking may have no potential to affect historic properties. 36 CFR § 800.3 (a)(1) addresses this possible outcome of a determination of effect. This finding, in consultation with your RHPO or designated cultural resource staff, may be documented with a memo to the file.

2. Identifying Historic Properties

Section 800.4(1) of the regulations directs the FWS to make a “reasonable and good faith effort” to identify historic properties in consultation with the SHPO/THPO, Tribes, taking into consideration the magnitude and nature of the undertaking and degree of Federal involvement.” The identification effort includes, but is not limited to, a scientific literature review of the previous archaeological, historical, and historic structural resource information for a given APE. It could also include field investigation and documentation of historic properties in the APE, and report preparation that includes a description of the historic properties identification effort for the APE, and evaluation of historic properties for their eligibility to the National Register of Historic Places. This review is done in consultation with SHPO/THPO, Tribes, and other interested parties; the goal is to help determine whether historic properties might be in the APE, and if so, how the proposed undertaking might affect those properties (see next section). These factors and components of an identification effort are found in regulations at 36 CFR § 800.4(b)(1).

3. Evaluate historic properties

Not all historic properties in an APE are necessarily significant. All historic properties in an APE, which includes archaeological sites and historic structures, are evaluated against a specific set of criteria set out in 36 CFR § 60. These regulations establish the criteria for eligibility to the National Register of Historic Places, and these criteria determine if a property will need to be considered further in the Section 106 process.

The evaluation of historic properties is carried out in consultation with the FWS cultural resources staff, HCP staff, the SHPO/THPO, Tribes, applicant, and any other interested parties that may be involved. The SHPO or THPO office review the FWS’s findings, and may agree or disagree. Disagreements are usually resolved with additional information or clarification.

Determining eligibility takes time to complete and requires a detailed knowledge of the archaeology, history, and architectural history of a state and region, and it is one of the critical services provided by the SHPO or THPO, Tribes, and the FWS’s own staff.

Important point: an HCP planning area may include properties already listed or found potentially eligible for the National Register of Historic Places.

4. Assessment of Effects

The FWS’s Regional HCP coordinator or field biologist will work with the RHPO, designated cultural resource staff to determine if any activities that are covered by the proposed HCP would have the potential to affect historic properties. FWS may use contractors to collect information, but coordination with the RHPO remains necessary.

If listed or eligible properties to the National Register are identified, we must assess the potential effects of the proposed undertaking on the resource. Some of the actions that could result in an adverse effect on historic properties include, but are not limited to: (i) physical destruction of or damage to all or part of the property; (ii) alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is

not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR § 68) and applicable guidelines; (iii) removal of the property from its historic location; (iv) change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; (v) introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features; (vi) neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian Tribe or Native Hawaiian Organization; and (vii) transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Again, in consultation with SHPO/THPO, Tribes, and other interested parties, the Federal agency determines whether the proposed undertaking could affect the properties using the criteria of effect and adverse effect. There are several potential outcomes:

- 1) if a project results in **no historic properties affected**, the project can proceed. This outcome occurs when the nature and extent of the undertaking does not affect historic properties, or there are no properties in the area of potential effect;
- 2) if a project will have **no adverse effect** on historic properties, the Federal agency must submit project documentation to the SHPO for concurrence. This occurs when historic properties are located in the APE, but the actions will not adversely affect those properties either because of the nature of the undertaking or because they will be avoided; or
- 3) if a project will have an **adverse effect** on historic properties, the Federal agency must begin consultation with SHPO and the Advisory Council on Historic Preservation (ACHP) to minimize the adverse effect. (See next section).

Important points to remember:

- Only properties identified as eligible or potentially eligible for inclusion on the Historic Register reach this step (see previous section). This is an important concept in making the Section 106 process work. In practical terms, this means that not every artifact or building will meet the definition of a historic property under section 106 and needs to be considered in an HCP, even for large areas.
- It may be possible to modify the undertaking activities in an HCP to avoid adverse effects. This is most efficiently accomplished at the early planning stages of the project.

The formal regulations for the assessment of adverse effects are found at 36 CFR § 800.5.

5. Resolution of Adverse Effects

When an adverse effect to a historic property cannot be avoided, we consult with SHPO/THPO, Tribes, and other interested parties to identify ways to mitigate the effects of the undertaking. This process usually results in the development of a Memorandum of Agreement (MOA), which identifies the steps the agency will take to reduce, avoid, or mitigate the adverse effect. The MOA is submitted to the ACHP for review and comment; the ACHP may or may not participate in the consultation.

The FWS must document the resolution process and include it in the administrative record for the HCP. Details on the consultation process for resolution of adverse effects are found at 36 CFR § 800.6.

Important point to remember:

- “Resolution of Adverse effects” involves mitigation to lessen or remove impacts to the qualities that make a historic property eligible for the National Register of Historic Places. This means that not every impact that may occur to even eligible historic properties will end up with a Memorandum of Agreement.

Failure to Resolve Adverse Effects

If resolution is not reached and the FWS, SHPO, or ACHP determines that further consultation will not be productive, consultation may be terminated. Any party that terminates consultation must notify the other consulting parties and provide reasons for terminating in writing. Below is a brief summary of the responsibilities of each party. Details on this process are found at 36 CFR § 800.7.

- If the FWS terminates consultation, the Director, the Assistant Secretary, or other officer designated by the Assistant Secretary, will request that the ACHP comment pursuant to 36 CFR § 800.7(c). The ACHP will provide an opportunity for public participation. The FWS will take into account the ACHP’s comments in reaching a final decision on the undertaking. The FWS must document its final decision through a summary containing the rationale for the decision and evidence of consideration of the ACHP’s comments and submit the summary to the ACHP prior to issuance of an ITP. The FWS must submit a copy of the summary to all consulting parties and notify the public, making the record available for public inspection.
- If the SHPO terminates consultation, the FWS and the ACHP may execute a memorandum of agreement without the SHPO’s involvement.
- If the responsibilities of the SHPO have been transferred to a THPO and the THPO terminates consultation regarding an undertaking occurring on or affecting historic properties on its tribal lands, the THPO will request that the ACHP comment pursuant to 36 CFR § 800.7(c).
- If the ACHP terminates consultation, it will notify the FWS and all consulting parties and comment pursuant to 36 CFR § 800.7(c).

The ACHP may also comment upon an undertaking for which a memorandum of agreement will be executed. The comments will be provided when the ACHP executes the memorandum of agreement.

SECTION B: The Roles of the Section 106 Participants

1. Federal Agency

It is the Federal Agency's responsibility to initiate, manage, and conclude section 106 consultation by:

- engaging in consultation;
- determining the extent of the Federal undertaking;
- defining the project's APE;
- identifying historic properties within the project's APE, if such properties exist; and
- assessing the effect(s) the project may have on any historic properties in the APE.

2. The State Historic Preservation Office

The SHPO, which was created by the NHPA, exist in every state. The mission of the SHPO is to preserve and enhance the State's irreplaceable historic heritage as a matter of public interest.

The SHPO is:

- a mandatory consulting party in the Section 106 review process;
- responsible for other programs in addition to Section 106 review;
- not required to conduct research, identify historic properties, or determine project effects related to Section 106 projects on behalf of a Federal agency; and
- required to respond, either with concurrence or non-concurrence, to a Federal agency's adequately documented finding of effect. Furthermore, the SHPO is not a regulatory agency and does not have the authority to either clear or authorize federally funded, licensed or permitted projects.

The SHPO:

- does not have a complete list of all historic properties within the State;
- cannot conduct site visits for every project; and
- cannot stop projects.

3. Federally Recognized Tribes

Federally recognized Tribes are mandatory consulting parties, which requires Federal government-to-government consultation (e.g., initial letter of consultation early in the process). Phone calls and/or meetings usually follow the letter. Continued communication with the Tribes is encouraged throughout the process.

4. Consulting Parties

The Section 106 regulations state that Federal agencies, or their federally delegated authorities, must actively consult with specific individuals and organizations throughout the Section 106 review process. A consulting party is defined as: "*individuals and organizations with a demonstrated interest in the project due to the nature of their legal and economic relation to the*

undertaking or affected properties, or their concern with the undertaking's effect on historic properties” [36 CFR § 800.2(c)(5)].

Summary of Mandatory consulting parties:

- SHPO;
- THPO, if applicable;
- federally-recognized tribes, if applicable;
- local units of government, if the project may affect historic properties within their jurisdiction; and
- applicants for Federal funds, licenses, or permits.

SECTION C: Coordinating Section 106 and the National Environmental Policy Act

Both NEPA and the Section 106 processes are intended as analytical tools so that issues concerning both the natural and built environments receive reasonable and fair consideration. These review processes are performed in the project planning stage, when adverse impacts to the environment can still be avoided or mitigated. It is important to note that while the NHPA and NEPA processes may be somewhat similar, they are separate and distinct laws (see Figure 1 for timing of NHPA compliance with respect to NEPA).

The information submitted for a NEPA review will not usually suffice for a Section 106 review in most cases. Section 106 should be completed **first** and then be addressed in the NEPA document. A project that is categorically excluded under NEPA is not exempt from Section 106.

Historic Properties are often a part of the Affected Environment included for analysis in an Environmental Assessment or Environmental Impact Statement; one common strategy to include historic properties in the NEPA process is through compliance with the NHPA.

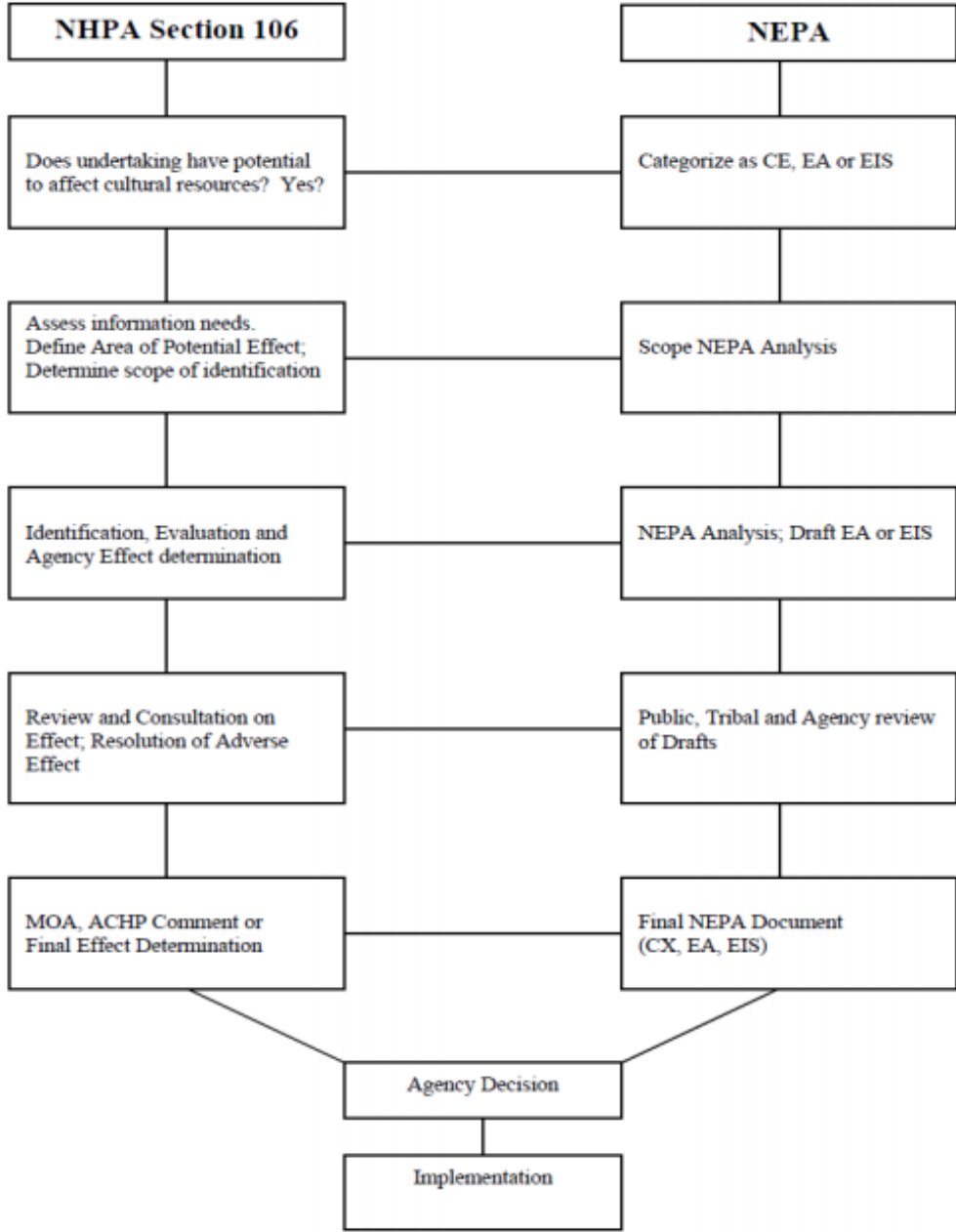
Scoping for NEPA is a valuable and practical way to gather information on historic properties in a given project area, as it is for biological resources. A template for combining NEPA and NHPA consultation is provided in the HCP Handbook Toolbox [*Link will be added in final version*]. In 2013, Council on Environmental Quality and ACHP developed a handbook for integrating NHPA and NEPA. It can be found at the following link:

http://www.achp.gov/docs/NEPA_NHPA_Section_106_Handbook_Mar2013.pdf.

Coordinating the public process required under NHPA with the NEPA public participation requirement is addressed in 36 CFR§ 800.8. Although the regulations allow for a substitution of the NEPA process for NHPA, this has not been done as no regulations have been developed to allow this.

Figure 1: Coordinating NEPA and Section 106

COORDINATING NEPA AND SECTION 106



SECTION D: DEFINITIONS

The following definitions of key words, phrases, and other terms are provided to improve clarity.

ADVISORY COUNCIL ON HISTORIC PRESERVATION (ACHP): an independent Federal agency which advises the President and Congress on historic preservation issues and administers the provisions of Section 106 of the National Historic Preservation Act.

AGENCY OFFICIAL: the chief official of the Federal agency responsible for all aspects of the agency's actions. If a State, local, or tribal government has assumed or has been delegated responsibility for Section 106 compliance, the head of that unit of government shall be considered the head of the agency.

AREA OF POTENTIAL EFFECTS (APE): the geographic area, or areas, within which an undertaking or project may directly or indirectly cause changes in the character or use of historic properties or historical resources, should any such resources be present.

CULTURAL RESOURCE: is a broad category that describes a wide variety of resources including archaeological sites, isolated artifacts, features, records, manuscripts, historical sites, traditional cultural properties. Cultural resources may become Historic Properties as defined under Section 106, if they meet the definitions of a historic property.

EFFECT: in Federal law, an adverse effect from the undertaking may alter characteristics of the historic property that qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to the property's location, design, setting, materials, workmanship, feeling, association, or use may be relevant, depending on a property's significant characteristics, and should be considered.

HISTORIC PROPERTY: means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of Interior. This term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian Organization and that meet the National Register criteria.

NATIONAL REGISTER CRITERIA: A property may be considered eligible for the National Register of Historic Places if it meets one or more of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of history and cultural heritage.
- B. Is associated with the lives of persons important in our past.
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- D. Has yielded, or may be likely to yield, information important in prehistory or history.

QUALIFIED ARCHAEOLOGIST: a professional archaeologist meeting the Secretary of Interior's Professional Qualifications Standards (43 FR 44738-9).

REGIONAL TRIBAL LIAISON: Is the point of contact for tribal issues in the FWS. This person, if available, may also be part of section 106 consultations. This is a position within FWS and not an element covered under Section 106 or its regulations.

SECTION 106: the section of the National Historic Preservation Act which requires that Federal agencies take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation an opportunity to comment on such undertakings. For more information on the Section 106 process, see the following web links: <http://www.achp.gov/flowexplain.html> and <http://www.achp.gov/citizensguide.pdf>

STATE HISTORIC PRESERVATION OFFICER (RHPO): head of the Office of Historic Preservation; the appointed official in each state and territory charged with administering the national historic preservation program, pursuant to the National Historic Preservation Act, at the state level.

UNDERTAKING: pursuant to Section 301 (7) of the National Historic Preservation Act, a project, or activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including:

- those carried out by or on behalf of the agency;
- those carried out with Federal financial assistance;
- those requiring a Federal permit, license, or approval; and
- those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency.

Appendix B

Special Considerations for Including Use of Pesticides in Habitat Conservation Plans (HCP)

The Environmental Protection Agency (EPA) authorizes the use of pesticides through the registration and labeling requirements of the Federal Insecticide Fungicide and Rodenticide Act. EPA is required to conduct ESA section 7 consultation with the Services on registration of any pesticide that may affect listed species or their designated critical habitat. If the effects from potential uses of the pesticide according to its label rise to the level of take, the incidental take statement in the resulting section 7 biological opinion would exempt the prohibition on the incidental take from use of that pesticide, as long as those uses would not jeopardize the species. For those pesticides, covering such take in an incidental take permit for an HCP is unnecessary. In addition, an HCP would not need to address the use of a pesticide if the Services concurred with EPA that the pesticide was not likely to adversely affect listed species. However, many pesticides did not undergo section 7 consultation at the time of registration and EPA's process to complete these consultations is ongoing. As a result, take from use of those pesticides that have not undergone consultation is not exempted by section 7.

If an applicant requests that the ITP cover use of a pesticide, check the FWS' Tracking and Integrated Logging System (TAILS) for whether EPA has completed section 7 consultation on registration of that pesticide. EPA's Endangered Species Protection Program Web site (www.epa.gov/espp) contains endangered species bulletins for certain pesticides, but existence of a bulletin does not necessarily indicate that the pesticide has undergone section 7 consultation. However, the site may provide some information on when consultation for some pesticides is anticipated to be completed. The Services' Regional environmental contaminants staff can also help you determine whether a consultation has been completed.

If an applicant prefers to include the pesticide in the HCP instead of waiting for EPA to complete consultation on it or rely upon EPA's consultation for coverage, be sure to tell them that the HCP must include an adequate analysis of the effects from the proposed pesticide use. We could authorize associated take on the incidental take permit only if we can complete all our necessary effects analyses in our biological opinion, NEPA document, and Set of Findings for permit issuance. Also advise them that doing so could add substantial time to the HCP and permitting process.

Always place priority on developing avoidance and minimization measures in the HCP to reduce the exposure to the covered species from pesticide use. Advise the applicant that this will be the most effective way to reduce time and effort when analyzing the effects of an activity. Work closely with the Services' environmental contaminants staff in the field and Regional offices for guidance on effective avoidance and minimization measures.

Guidance for Analyzing Effects of Pesticide Use

The primary resources for analyzing effects from pesticide use should be field and Regional environmental contaminants staff. They can provide technical expertise and direct you to other resources to help with the analyses.

Describe the pesticide to be used

Describe the active ingredient to be used (e.g., glyphosate), as well as the specific formulated product (e.g., Roundup[®] Pro). Some products contain multiple active ingredients. Formulated products also contain other chemicals in addition to the active ingredient that may affect the flow, efficacy, sticking, or other characteristics of the pesticide, and these chemicals may have additional effects to the environment that we must consider. If the pesticide requires or the label recommends users add other ingredients, such as a surfactant, name the specific ingredient(s) to be added. State if more than one pesticide will be applied at the same time or mixed together for use (a “tank mix”). Multiple pesticides mixed together may produce effects that each would have not produced on its own (i.e., synergism or antagonism).

Describe how the pesticide will be used

Be as specific as possible, which will reduce the need to account for effects that are unlikely to occur. Include the application rate, application method, intended frequency of application, time of year, and time of day. Describe any buffers, no-spray zones, or other minimization measures that will be used, and whether these measures are required or recommended.

Describe the potential exposure of the pesticide in the environment

The exposure analysis should consider the mobility, persistence, volatility, and potential for bioaccumulation of the pesticide product and any other ingredients that will be applied. Depending on these fate characteristics, the affected area may not just be the application area, but could be anywhere the chemicals might reach as a result of drift, runoff, leaching to groundwater, or atmospheric transport. For bioaccumulative chemicals, transport may occur through biota that move off-site after feeding in the application area. Calculate the estimated environmental concentration using the appropriate terrestrial or aquatic models (many current-use models can be found on the EPA Web site: <http://www.epa.gov/pesticides/ecosystem/>).

Identify which species and habitats of concern are likely to be affected

For the HCP, use the process to break down the action into components for analysis (see chapter 5.3 of the HCP Handbook) to identify which covered species and habitats may be exposed to and affected by proposed pesticide use. For the NEPA analysis, use available tools to identify sensitive natural resources and other factors of the human environment that use of the pesticide may impact.

Describe the potential effects of the pesticide in the environment

The effects analysis should consider all relevant toxicological information on the active ingredient and its degradates, the formulated product, and any other chemicals, such as surfactants or other pesticide products, that will be mixed with or applied near the product under consideration.

For direct effects, describe the toxicity data regarding mortality, as well as any reproductive, growth, behavioral, and other sublethal effects to fitness of individuals. Include information from both EPA's assessment and the open literature. EPA requires certain toxicity data for the registration of a pesticide, but the availability of further information varies based on the research performed since the pesticide's registration. It is often necessary to extrapolate toxicity data from one or more standard test species to the species that you are evaluating. Compare the concentrations at which effects have been noted with the estimated environmental concentration. If effects are likely to occur, describe the duration and magnitude to the extent possible, and the number of individuals that will likely be affected. For chemicals that accumulate in tissue, consider food chain effects. For indirect effects, use the same toxicity information to assess effects to the habitat of the species of concern, including but not limited to reduction in prey, reduction in cover, and changes in community composition.

Consider any available information on the toxicity of mixtures that may be concurrently applied (tank mixtures or formulated product mixtures) or that may result from adding a new chemical to those that may already be present in the area of concern (environmental mixtures). In the absence of information indicating synergism or antagonism, assume the effects of any two chemicals on an individual to be additive.

For all sensitive species and habitats, describe how the proposed pesticide use will affect individuals and habitat characteristics.

For endangered and threatened species and designated critical habitats, determine whether the direct and indirect effects described above are: 1) insignificant (effects that can't be meaningfully measured, detected, or evaluated), 2) discountable (extremely unlikely to occur), or 3) completely beneficial (positive effects without any adverse effects). For designated critical habitats, consider effects to all physical and biological features (formerly called 'primary constituent elements'), and determine whether the effects are insignificant, discountable, or completely beneficial.

Where you can't consider effects to covered species insignificant, discountable, or completely beneficial, describe the various types of affects you anticipate are reasonably likely to occur. In the analysis, include any implementation measures that will avoid or reduce the severity of these effects.

Pesticide Use and No Surprises in HCPs

Keep in mind that in the future EPA may change label restrictions based on new information and section 7 consultation on the pesticide in question. Because authorized take on the permit is valid only for otherwise lawful activities, the permittee would need to comply with any changed label

instructions, even if an approved HCP is based on an out-of-date label. Advise the applicant that, should such an event occur, the 'No Surprises' rule does not apply even if the new label is more restrictive because label compliance is legally required. The HCP's changed circumstances section should identify this possibility along with contingency responses for potential adjustment of conservation measures.

Appendix C

Required Habitat Conservation Plan (HCP) Elements and Recommended HCP Outline

Required HCP Elements

During the habitat conservation plan (HCP) development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must be in accordance with the ESA [Section 10(a)(2)(A)] and Federal Regulation [50 CFR 17.22(b)(1), 17.32(b)(1), and 222.22]. The plan must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, minimize, and mitigate impacts; funding that will be made available to undertake such measures; and procedures to deal with unforeseen circumstances;
- alternative actions considered by the applicant that would not result in take and the reasons why such alternatives are not being used; and
- additional measures Service may require as necessary or appropriate for purposes of the plan.

Based on a long history of providing technical assistance to applicants and reviewing HCPs in the context of making an incidental take permit decision, the Service is providing the following recommended HCP format. A more detailed template document is provided in the HCP Handbook Toolbox [*Link will be added in final version*].

Recommended HCP Outline

Title Page

Chapter 1.0 Introduction

- 1.1 Overview and Background
- 1.2 Purpose and Need
- 1.3 Permit Duration
- 1.4 Permit Area / Covered Lands
- 1.5 Covered Species
- 1.6 Permit Structure
- 1.7 Regulatory Framework
 - 1.7.1 Federal Endangered Species Act
 - 1.7.2 National Environmental Policy Act
 - 1.7.3 National Historic Preservation Act
 - 1.7.4 Other Relevant Laws and Regulations
- 1.8 Coordination with Federal and State Agencies

Chapter 2.0 Project Description and Covered Activities

- 2.1 Project Description
- 2.2 Covered Activities

Chapter 3.0 Environmental Setting and Biological Resources

- 3.1 Environmental Setting
 - 3.1.1 Climate
 - 3.2.2 Topography/Geology
 - 3.2.3 Hydrology/Streams, Rivers, and Drainages
 - 3.2.4 Existing Land Use
- 3.2 Covered Wildlife, Fish and Plant Species
 - 3.2.1 Species Name
 - 3.2.1.1 Status and Distribution
 - 3.2.1.2 Habitat Characteristics and Use
 - 3.2.1.3 Occurrence in the Project Area

Chapter 4.0 Potential Biological Impacts and Take Assessment

- 4.1 Direct and Indirect Impacts
- 4.2 Anticipated Take of Each Covered Species
- 4.3 Anticipated Impacts of Take for Each Covered Species
- 4.4 Cumulative Impacts

Chapter 5.0 Conservation Program

- 5.1 Biological Goals and Objectives
- 5.2 Measures to Avoid and Minimize Take
- 5.3 Measures to Mitigate the Unavoidable Take
- 5.4 Monitoring
- 5.5 Adaptive Management Strategy
- 5.6 Reporting

Chapter 6.0 Plan Implementation

- 6.1 Plan Implementation (Optional)
- 6.2 Changed Circumstances
- 6.3 Unforeseen Circumstances
- 6.4 Amendments
- 6.5 Permit Suspension/Revocation
- 6.6 Permit Renewal
- 6.7 Permit Transfer
- 6.8 Other Measures as Required by Director (as appropriate)

Chapter 7.0 Funding

- 7.1 Costs and Budget for Conservation Program and Plan Implementation
- 7.2 Funding Assurances

Chapter 8.0 Alternatives to the Taking

- 8.1 Summary
- 8.2 Alternative #1: Alternative
- 8.3 Alternative #2: Alternative

Chapter 9.0 References

- 9.1 Literature Cited

9.2 Personal Communications

9.3 List of Preparers

Appendices

Appendix A: Maps/Figures

Appendix B: Covered Lands (legal description)

Appendix C: Background Reports/Supporting Documents

Appendix D: Implementing Agreement (Optional)

Appendix E: Conservation Easement (if applicable)

Appendix F: Other Project Specific Materials