

## **Endangered Species Act Section 7 Consultation Process NAS Briefing Material**

The purposes of the Endangered Species Act (ESA), “...are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.”

Under section 7(a)(2) of the ESA, Federal agencies are required to consult with the U.S. Fish and Wildlife Service (FWS) and/or NOAA’s National Marine Fisheries Service (NMFS; jointly, the Services), as appropriate, to ensure that any Federal action in which there is discretionary Federal involvement or control is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat for those species. Consultation may be formal or informal. Formal consultation concludes with the issuance of a biological opinion. Informal consultation concludes with the issuance of a letter concurring that an action is not likely to adversely affect a listed species or critical habitat. This briefing paper will focus on the formal consultation process.

### **Jeopardy Standard**

“Jeopardize the continued existence of” is defined 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” (50 CFR 402.02). It is important to note that the purpose of the analysis is to determine whether or not appreciable reductions are reasonably expected, but not to precisely quantify the amount of those reductions. Therefore, assessments often focus on whether an appreciable reduction is expected or not, but not on detailed analyses designed to quantify the absolute amount of reduction or the resulting population characteristics (absolute abundance, for example) that could occur as a result of implementing a proposed action.

### **Destruction or Adverse Modification Standard**

For critical habitat, the existing regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02 has been invalidated by the courts. Therefore the Services use the statutory provisions of the ESA to complete the analysis with respect to critical habitat.

The Services evaluate “destruction or adverse modification” of critical habitat by determining if the action results in the direct or indirect alteration that appreciably reduces the conservation value of critical habitat. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.

### **Best Available Data**

In fulfilling the requirements of section 7(a)(2) for each Federal agency to insure that its action is not likely to jeopardize listed species or result in the destruction or adverse modification of critical habitat, “each agency shall use the best scientific and commercial data available.” Best

available data are generally, data or evidence that is: reliable, explicit, rational, and objective. This ranges from peer-reviewed to unpublished empirical information.

In order to bridge gaps in knowledge, or uncertainties, Federal agencies are to clearly state their assumptions, including: reasoning, available evidence (including available theory, inference from pattern, and appropriate surrogates), and addressing counter-evidence or rebuttals. In addition, in formulating its biological opinion, NMFS and/or FWS must provide the “benefit of the doubt” to the species concerned<sup>1</sup>.

### **Biological Opinion Requirements**

Section 7 of the ESA and the implementing regulations (50 CFR 402), and associated guidance documents (*e.g.*, USFWS and NMFS Handbook<sup>2</sup>) require Opinions to present: (1) a description of the proposed Federal action; (2) a summary of the status of the affected species and its critical habitat; (3) a summary of the environmental baseline within the action area; (4) a detailed analysis of the effects of the proposed action on the affected listed species and designated critical habitat; (5) a description of cumulative effects; and (6) a conclusion as to whether it is reasonable to expect the proposed action is not likely to appreciably reduce the species’ likelihood of both surviving and recovering in the wild by reducing its numbers, reproduction, or distribution (figure 1), or result in the destruction or adverse modification of the species designated critical habitat (figure 2). Additional requirements on the analysis of the effects of an action are described in regulation (50 CFR 402) and our conclusions related to “jeopardy” and “destruction or adverse modification” generally require an expansive evaluation of the direct and indirect effects of the proposed action, related actions, and the overall context of the impacts to the species and habitat from past and present actions, and future non-Federal actions as well as the condition of the affected species and critical habitat [for example, see the definitions of “cumulative effects,” “effects of the action,” and the requirements of 50 CFR 402.14(g)]. The following provides a more detailed description regarding each step in the consultation process.

### **A Description of the Proposed Federal Action**

The biological opinion does not have to provide a comprehensive description of the proposed action, as it can refer to other existing documents, but it should contain a basic summary of the proposed action, including any interrelated and interdependent actions. A comprehensive project description, including the timing, duration, and location of each element of the proposed action, is critical to the rest of the analysis of effects and determining the stressors expected to result from each element of the proposed action. The description of the proposed action also includes a description (usually a geographic area) of the action area, defined as all areas to be affected directly or indirectly by the Federal action, and not merely the immediate area involved in the action (50 CFR 402.02).

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<sup>1</sup> June 3, 1986, 51 FR 19952

<sup>2</sup> USFWS and NMFS. 1998. Endangered Species Consultation Handbook. Procedures for Conducting Consultations and Conference Activities Under Section 7 of the Endangered Species Act. March.

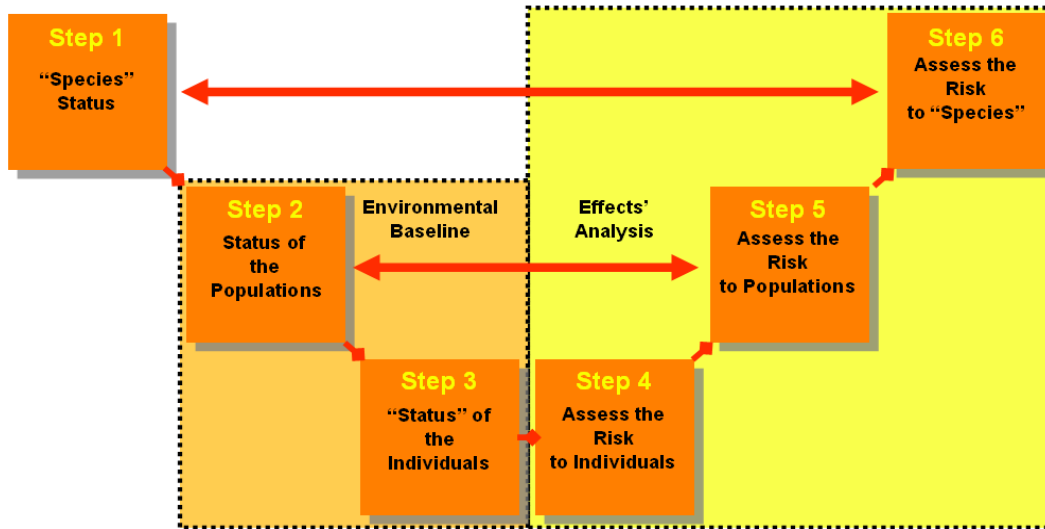


Figure 1. A conceptual model of the steps and process to analyze the effects of a proposed action on listed species in a formal consultation. Step 6, Assess the Risk to the “Species,” culminates in our conclusion that the proposed action is likely (or not likely) to jeopardize the continued existence of the listed species.

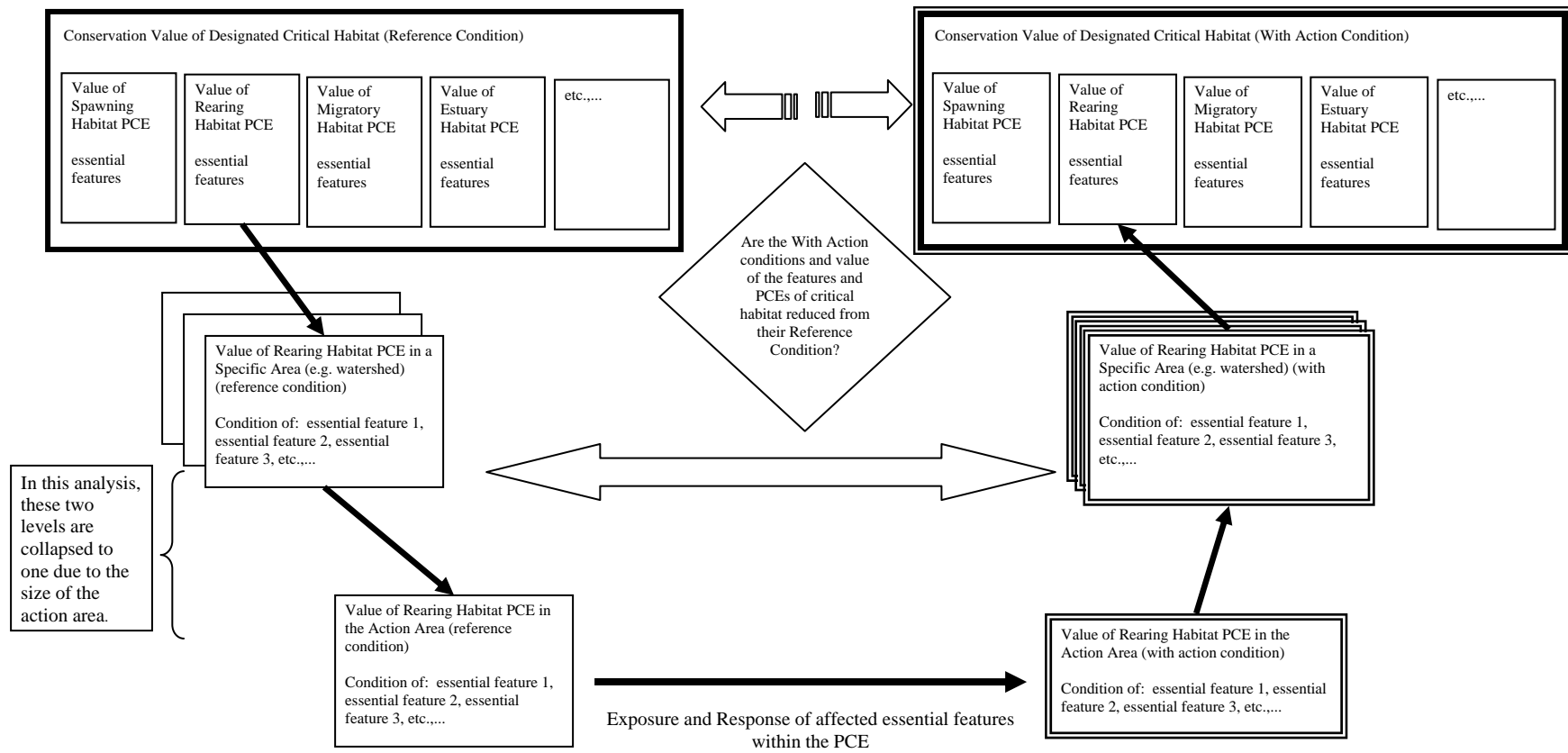


Figure 2. A conceptual diagram of the critical habitat analyses following the hierarchical organization of critical habitat and the comparison between the reference (without action) condition of the conservation value of critical habitat and the conservation value of critical habitat with action implementation. For illustration purposes, the Rearing Habitat PCE is pulled out to show the basic flow of the analysis. Full analyses consider the effects to all PCEs and essential features of critical habitat.

#### A Summary of the Status of the Affected Species and its Critical Habitat

This section presents the biological or ecological requirements on the species' life history, its habitat and distribution, and other data on factors necessary to their survival and recovery, and provides the reference condition (a population's base condition as a point of reference to measure how near to or far from a species is to extinction or recovery) for the species and critical habitat at the listing and designation scale, respectively. The analysis provided in this section documents the effects of all past human and natural activities or events that have led to the current status of the species from existing stressors, including any rangewide trends. The analysis for critical habitat is similar to that for the species, however, the analysis evaluates the range-wide condition of designated critical habitat in terms of its primary constituent elements (PCE).

#### A Summary of the Environmental Baseline within the Action Area

This section provides the reference condition for the species and critical habitat within the action area, the factors responsible for that condition, and the role of the action area in survival and recovery. By regulation, the baseline includes the impacts of past, present, and certain future actions (except the effects of the proposed action) on the species and critical habitat. An understanding of the impacts of the environmental baseline on the viability of the species or the conservation value of the critical habitat is key to the analysis of the effects of any proposed action since the effects of the proposed action do not occur in a vacuum but rather in a system or to a species already exposed to other adverse and beneficial factors.

In the case of the consultation on OCAP, because the action area covers nearly the entire range of the delta smelt, the Status and Environmental Baseline sections of the FWS' Opinion for Delta smelt and its critical habitat are combined into one section.

Similarly, in NMFS' Opinion, much of the analysis of the baseline condition in the action area is contained within the Status section due to the large size of the action area (which entirely or almost entirely encompasses the freshwater geographic ranges of the listed fish species). This section also contains summaries of the impacts from stressors that will be ongoing in the same areas and times as the effects of the proposed action (including the effects of climate change).

In the Delta smelt Opinion, the FWS provided a more thorough analysis of the past and present effects of ongoing OCAP operations in its Environmental Baseline section (figure 3). In the Effects of the Action section, the FWS summarized the effects from ongoing OCAP operations, then provided a detailed analysis of the effects resulting from the proposed changes in OCAP operations.

In NMFS' Opinion, NMFS summarizes in the Environmental Baseline section the past and present impacts leading to the current status of the species in the action area, including the effects of OCAP operations in the past (figure 4). Also in the Environmental Baseline section, NMFS sets the stage for the analysis of effects of the proposed action by describing the future non-project stressors to which the listed species and their critical habitats will be exposed at the same time or in the same areas they are exposed to the effects of the proposed OCAP operations.

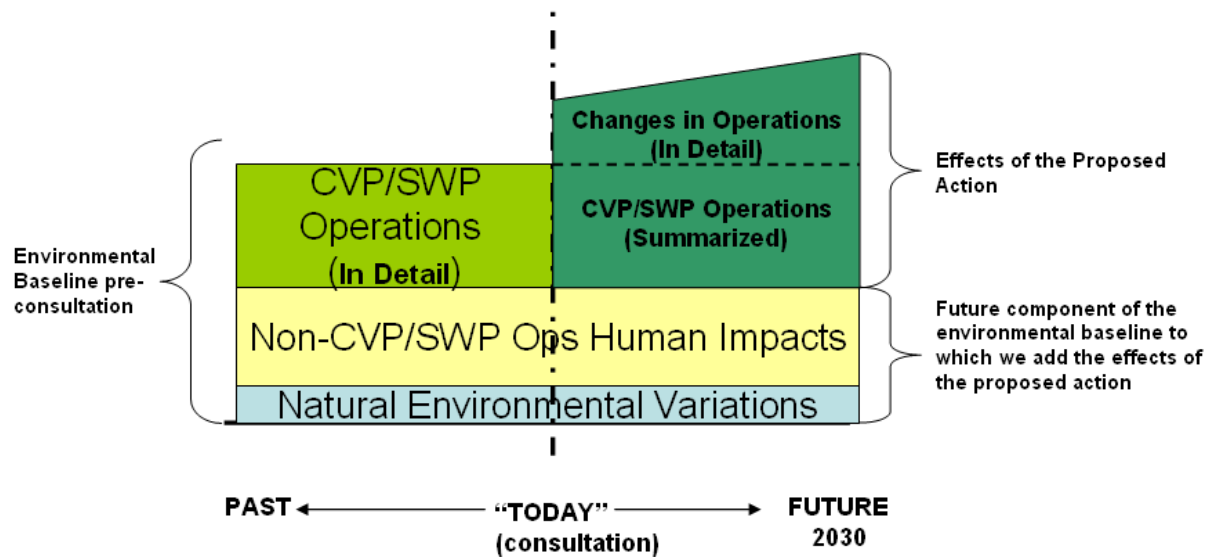


Figure 3. FWS' Delta smelt Opinion: A conceptual diagram of the amount of detail provided in the analysis of the environmental baseline compared to the effects of the proposed action. The FWS provided a more thorough analysis of the past and present impacts of ongoing OCAP operations in the Environmental Baseline section. In the Effects of the Action section, the FWS summarized the effects from ongoing OCAP operations, then provided a detailed analysis of the effects resulting from the proposed changes in OCAP operations. Note that the slopes of the curves are only for graphical representation.

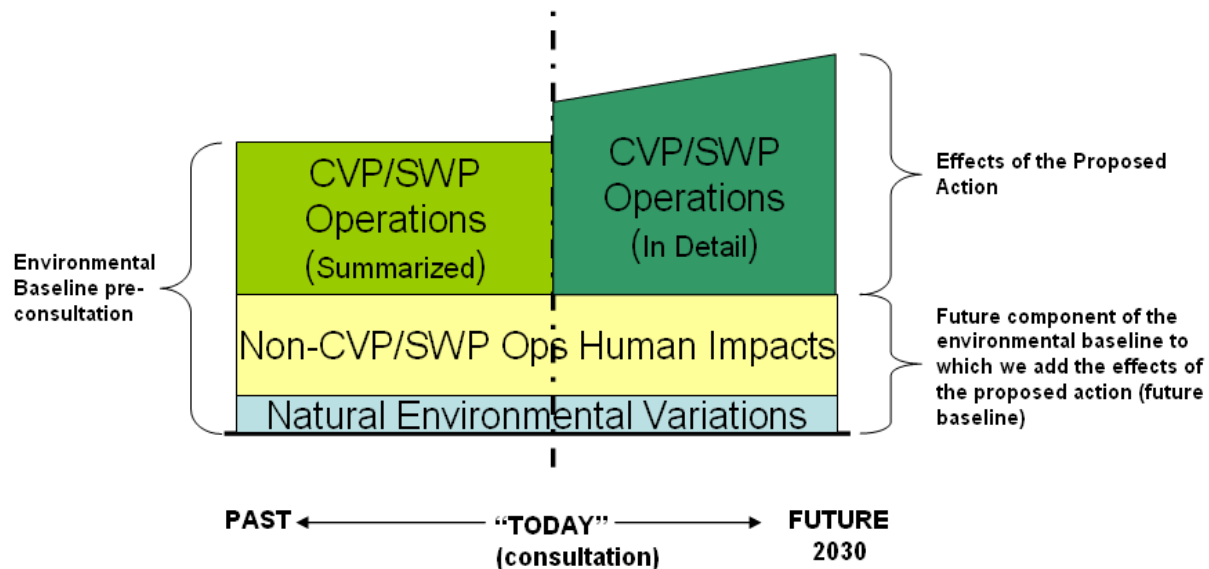


Figure 4. NMFS' Opinion baseline: A conceptual diagram of the amount of detail provided in the analysis of the environmental baseline compared to the effects of the proposed action. NMFS summarized the past and present impacts of ongoing OCAP operations in the Environmental Baseline section. In the Effects of the Action section of the Opinion, NMFS provides a detailed analysis of predicted effects of OCAP operations throughout the duration of the proposed action (until December 31, 2030). Note that the slopes of the curves are only for graphical representation.

In the Effects of the Action section of the Opinion, NMFS provides a detailed analysis of predicted effects of OCAP operations throughout the duration of the proposed action (until December 31, 2030). The difference in presentation between the FWS and NMFS documents is

of no consequence to the outcomes of the consultation analyses, since both agencies made their ultimate determinations by (1) finding that proposed operations cause additional harm to listed species, and (2) aggregating all future stressors, as regulations and case law require.

#### A Detailed Analysis of the Effects of the Proposed Action on the Affected Species and Critical Habitat

This section details the results of the exposure, response, and risk analyses conducted for individuals of the listed species and the PCEs, functions, and areas of critical habitat. Factors considered in the analysis include the proximity of the action to individuals or PCEs of critical habitat; location of the disturbance; timing of the disturbance relative to the species' life cycle; nature of the effect; duration of the effect; and disturbance frequency, intensity, and severity. The analysis of effects includes direct effects (direct or immediate effects of the project on the species or its habitat, including the effects of interrelated and interdependent actions) and indirect effects (effects caused by or result from the proposed action, are later in time, and are reasonably certain to occur). The section 7 regulations define the effects of the action as "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" (50 CFR 402.02). It is important to note that when analyzing the forward-going effects of an action that has been in existence or operating already, as is the case with the OCAP operations, the Services are required to analyze all of the effects of the action and not only the incremental changes in operations that are proposed.

#### A Description of Cumulative Effects

This section summarizes the impacts of future non-Federal actions reasonably certain to occur within the action area, as required by regulation. Similar to the rest of the analysis, if cumulative effects are expected, NMFS determines the exposure, response, and risk posed to individuals of the species and PCEs of critical habitat.

#### Conclusion

This section presents NMFS' and/or FWS' opinion regarding whether the aggregate effects of the factors analyzed under the environmental baseline effects of the action, and cumulative effects in the action area, when viewed against the status of the species or critical habitat as listed or designated, is likely to jeopardize the continued existence of the listed species, or result in the destruction or adverse modification of critical habitat.

#### Reasonable and Prudent Alternative

If NMFS and/or the FWS find that a proposed action is likely to jeopardize a listed species or adversely modify designated critical habitat, the ESA requires NMFS and/or the FWS to suggest those reasonable and prudent alternatives (RPA) that it believes would enable the project to go forward in compliance with the ESA. By regulation, a RPA is defined as "alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction, that is economically and technologically feasible, and that the [NMFS and/or FWS] Director believes would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat" (50 CFR 402.02). Importantly, the RPA(s) should be designed to ensure that

appreciable reductions in the likelihood of both the survival and recovery of the species or destruction or adverse modification of critical habitat (from implementing the proposed action) are now unreasonable to expect. However, a biological opinion need not provide detailed analyses designed to quantify the absolute improvements or resulting population characteristics (absolute abundance, for example) that could occur as a result of implementing a RPA.

Regulations also require that NMFS and FWS discuss its findings and any RPAs with the action agency and utilize the action agency's expertise in formulating the RPA, if requested [50 CFR 402.14(g)(5)]. NMFS' and FWS' findings of jeopardy to the listed species and adverse modification to critical habitat were discussed with the Bureau of Reclamation (Reclamation) soon after their draft analyses were completed. Multiple meetings between Reclamation, California Department of Water Resources, California Department of Fish and Game, FWS, and NMFS occurred throughout the development of the NMFS and FWS RPAs to ensure that: (1) all available expertise, including the action agency's, was utilized; (2) the regulatory requirements for an RPA were met; and (3) any potential interspecies conflicts were minimized.