** Caltrans logo**

**Biological Assessment Checklist**

**Caltrans and NMFS Section 7 ESA Consultations**

**February 2014**

**(minor updates October 2020)**

October 2020: Minor edits were made to this checklist to meet Americans with Disabilities Act (ADA) standards. Please see the Caltrans [Hydroacoustics](https://dot.ca.gov/programs/environmental-analysis/caltrans-biology/biological-studies/hydroacoustics) web page and [Biological Assessment template](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#faqs) for the most up to date information.

This checklist is intended to clarify and streamline coordination for Endangered Species Act (ESA) Section 7 and Magnuson-Stevens Fishery Conservation and Management Act (MSA) Essential Fish Habitat (EFH) consultations between NOAA’s National Marine Fisheries Service (NMFS or NOAA Fisheries) and the California Department of Transportation (Caltrans). The purpose of this checklist is to identify important information and analysis needed to complete Section 7 and EFH consultations in a timely and efficient manner.

The information needs included in this checklist are based on the six items that are described in 50 CFR §402.14 to initiate ESA Section 7 consultation, but are also applicable to EFH consultations, as described in 50 CFR §600.905-930. The checklist is for general project use as a guidance tool. Some items may not be applicable to specific projects and/or additional items may be identified during the course of a consultation.

# Background Steps Checklist

Title of Proposed Action: Click to enter text.

Type of Proposed Action: Click to enter text.

* (e.g. funding, carrying out, or authorizing bridge replacement, seismic retrofit, culvert replacement, placement of rock slope protection, road realignment, or other types of projects)

Request species list from NMFS:

* [California Species List Tools](https://svctenvims.dot.ca.gov/bio_link/): Click to enter date.

Request NMFS to engage in technical assistance/early informal consultation through pre-consultation meetings, site visits, and/or reviewing draft ESA documents such as the biological assessment (BA).

Prepare cover letter with project name, project location (city, county), brief project summary (2-3 sentences), request for consultation (formal or informal), and effects determinations (a table works well for this).

Request ESA and/or EFH consultation, as applicable, upon completion of final BA.

* Request Date: Click to enter date.
* Needed by Date: Click to enter date.
* Response Date: Click to enter date

Utilize relevant planning reports and guidelines:

* [Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act.](http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf) March 1998.
* [An Assessment Framework for Conducting Jeopardy Analyses under Section 7 of the Endangered Species Act](file://C:\Users\s130885\Downloads\An%20Assessment%20Framework%20for%20Conducting%20Jeopardy%20Analyses%20under%20Section%207%20of%20the%20Endangered%20Species%20Act.%20%20A%20Background%20Paper.%20%20Modified%20June%206,%202004.%20%20This%20publication%20can%20be%20found%20at%20the%20following%20link:%20https:\training.fws.gov\courses\csp\csp3116\resources\Study_Guides\07_framework_overview.pdf). Modified June 6, 2004.
* [Essential Fish Habitat Consultation Guidance, Version 1.1.](https://repository.library.noaa.gov/view/noaa/4187) April 2004.

# BA Outline and Checklist

Executive Summary: findings, including may affect and no effect determinations for all species and designated critical habitat listed on NMFS species list.

## Introduction

Purpose and need of the proposed action.

General location of the proposed action.

Brief summary of the proposed action.

Documents provided to NMFS that are related to the proposed action.

Description of any biological or habitat studies conducted for the project.

Other pertinent history.

## Consultation History

Summarize discussions, meetings, and written correspondence with regulatory agencies or other partners that are relevant to the proposed action and the ESA consultation.

## Description of the Proposed Action

### Project Summary

A summarized description of the agency action proposed to be authorized, funded, or carried out in which there is discretionary Federal involvement or control.

### Authorities and Discretion

A description of the Federal, State, and local authorities’ policies and ordinances affecting the proposed action.

A description of the extent and limits of agency discretion that are applicable to the proposed action and pertain to action-related effects on federally-listed fish and protected habitat.

### Project Location

Project location, county, route, post-mile (PM), river mile (RM), latitude/longitude coordinates, or other applicable geographic location data.

Map of project location/vicinity, including topographic representation and/or photographs if available.

River/stream name and location.

Site photographs.

Other geographic information that will help describe the physical location of the project.

Description of environmentally sensitive areas (ESAs) within the project area, including occupied fish habitat or primary constituent elements (PCEs) of critical habitat.

### Construction Methodology

#### Deconstruct the Action

Deconstruct the action by describing specific project components that may affect species and critical habitat. Details of this approach are described in [An Assessment Framework for Conducting Jeopardy Analyses under Section 7 of the Endangered Species Act](file://C:\Users\s117003\Desktop\SER_Working%20Folder\An%20Assessment%20Framework%20for%20Conducting%20Jeopardy%20Analyses%20under%20Section%207%20of%20the%20Endangered%20Species%20Act.%20%20A%20Background%20Paper.%20%20Modified%20June%206,%202004.%20%20This%20publication%20can%20be%20found%20at%20the%20following%20link:%20https:\training.fws.gov\courses\csp\csp3116\resources\Study_Guides\07_framework_overview.pdf).

#### Construction Activities: Methods, Project Footprints, Staging, Access, and Equipment

Details of construction methods to be used.

Detailed description of in-water construction footprint (quantify total area where applicable).

Description and location of work pads, staging, traffic staging, parking areas, turn outs, haul roads, access, borrow/disposal/stockpile sites, and utility relocation areas.

Detailed description of activities that will occur below the ordinary high water mark (OHWM) or within areas designated as critical habitat.

Types of equipment and materials that will be used for construction.

Location for disposal of material and vegetation, and containment methods.

Placement of workpad fill within river channels is comprised of clean washed gravel that meet Caltrans size specifications for salmon and steelhead spawning gravel.

Timing and duration of proposed conservation measures.

#### Pile Driving

Note: due to the complexity of pile driving analysis, this section includes a description of pile driving activities and acoustic analysis requirements.

Number of permanent and temporary piles.

Type and composition of pile (e.g., auger, steel, concrete, sheet pile, “H” pile).

Diameter of piles.

Length of piles.

Duration of pile driving (daily and for the entire project).

Start and end dates of pile driving (months/years).

Pile driving source or location (from barge, land, or other).

Proofing the piles load-bearing capacity by pile driving methodology (the intent here is to capture testing the load-bearing capacity of piles placed using vibratory methodology).

For temporary falsework, please include additional information:

* Determine if the piles will be left in place during consecutive seasons.
* Determine if the piles will be cut-off below the mud-line or completely removed.

Size and type of hammer to drive piles: Identify whether an impact, vibratory, or other type of hammer will be used and if pre-drilling is proposed.

Number of pile strikes per pile.

Number of piles to be driven per day (clock resets only after a 12 hour break).

Location of piles in and near the channel:

* Provide drawings that include the water depth in profile view and the channel width in plan view.
* Illustrate the approximate locations of temporary and permanent piles.
* Indicate the location and distance to the wetted channel of piles not driven in the water to the water column.

Depth the water piles will be located.

Substrate in which piles will be located.

Sound attenuation devices to be used (e.g., bubble curtain, isolation casing, dewatered cofferdam) and indicate which piles the attenuation would be used for.

Estimate the anticipated decrease in transmitted pressure (dB) due to the attenuation device.

Methodology and construction procedure of sound attenuation.

Estimate the underwater sound generated from each pile type/size (with attenuation methods if proposed), to include the metric referenced to the pressure (i.e., peak dB re: 1 µPa, and RMS re: 1 µPa and single-strike and cumulative SEL dB re: 1 µPa2-sec).

Acoustic Impact Area: Estimate the distances from the piles to reach the onset of physical injury thresholds for impact hammer pile driving (206 dB peak, and 183 and/or 187 dB cSEL depending on fish size); see the Fisheries Hydroacoustic Working Group (FHWG) [Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/bio-fhwg-criteria-agree-a11y.pdf) for more information. Include distance to reach the sub-injurious threshold (currently 150 dB RMS) from the piles during impact pile driving.

Effects analysis using the NMFS Pile Driving Calculator. Please contact your NMFS Caltrans liaison to verify the latest version of the pile driving calculator.

Sound monitoring and reporting requirement to resource agencies during project construction. Use the [Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/bio-tech-guidance-hydroacoustic-effects-110215-a11y.pdf) (November 2015).

Methodology for any marine mammal monitoring zones, if applicable.

#### Water Diversions/Coffer Dams

Description of diversion controls and de-watering actions (location, timing, and duration).

If coffer dams are proposed, include in the BA the dates they will be in place (e.g., years, months, or days) and the area they will occupy.

Complete description of the total area to be dewatered.

Measures to keep fish/wildlife out of de-watering devices (i.e., prevent fish/wildlife entrapment), if applicable.

#### Fish Relocations

Installation of water diversions and coffer dams in anadromous fish habitat may entrap or entrain listed fish. If this effect is anticipated, develop a NMFS approved fish relocation plan.

A fish relocation plan should include a description of any anticipated fish relocation activities, including the number, frequency, and environmental or construction conditions that may trigger the need for fish relocation actions.

#### Sedimentation/Erosion Control/Turbidity

Sediment/turbidity reduction best management practices (BMPs) and turbidity monitoring and reporting.

If water will be pumped to a settling pond/tank, a description of how water will be tested prior to returning it to the source river or stream.

If sediment or structure removal is proposed, quantify the volume of material to be removed below the OHWM.

#### Culverts/Bridges

Size and locations of existing culverts and other crossings.

Engineering drawings of stream crossings.

Design plans with cross-sections of culverts, bridges, and grade control structures.

Fish passage analysis:

* For projects that may affect fish passage, describe how the proposed project will meet the criteria of a stream simulation or hydraulic design. NMFS fish passage criteria are described in the [NMFS Guidelines for Fish Passage at Stream Crossings](https://23789655-514a-4d18-b49f-97d3d71f6b5f.filesusr.com/ugd/0e48c2_c195dbb2693d464da75790ced43b1fa3.pdf).
* The included analysis should evaluate the existing and proposed ultimate channel conditions within the action area and vicinity. Types of analysis used to assess fish passage conditions include hydraulic, geomorphic, and sediment and debris transport.
* Early coordination with NMFS biologists and engineering staff to review fish passage projects is recommended.

#### Rock Slope Protection

Volume and area of temporary and permanent rock slope protection or other fill to be placed below the OHWM:

* Total volume of fill for the project. This includes both above and below the
* OHWM (or mean low or mean high in tidal/marsh areas).
* Describe the amount and extent of fill along and adjacent to streambanks and shorelines.
* Size and type of material.

### Project Operations and Maintenance

Description of the completed project’s operation.

Describe how the facility will be maintained, including maintenance of restored areas or fish passage structures.

### Construction Sequencing and Schedule

Start and end dates, duration, and sequencing of construction.

Number of days of construction.

Number of construction seasons to complete the project.

When describing construction windows, specify in-water versus out-of-water windows/activities.

Describe whether construction will take place during the day, night, or both.

### Conservation and Mitigation Plan and Applicable BMPs

Conservation and mitigation practices must be described and analyzed as thoroughly as any other component of a proposed action.

Species and habitat avoidance, minimization, mitigation, and conservation measures are thoroughly described in this section of the BA, even if summarized in other sections.

Description of proposed avoidance, minimization, mitigation, and conservation actions:

* In-stream or in-channel work windows.
* Onsite and offsite mitigation (including re-vegetation plans and conservation bank credits purchase locations, ratios, or amounts).
* Fish passage monitoring plan (FPMP).
* Habitat mitigation and monitoring plan (HMMP).
* BMPs.
* Monitoring.

Sediment/turbidity reduction BMPs and turbidity monitoring and reporting.

Storm water pollution prevention plan (SWPPP).

Water pollution quality control plan (WPCP) or (WQCP).

Spill prevention control and countermeasure plan (SPCCP).

Description of specific species, life stages, habitat types, and PCEs that will be addressed with proposed conservation measures.

All water pumping or withdrawal from an anadromous waterway should comply with NMFS fish screen criteria to avoid entrainment of fish. If water pumping is expected, the amount and timing of such withdrawals should be described. [NMFS Fish Screening Criteria for Anadromous Salmonids](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwicofuHpsHsAhXBFzQIHd4qBWkQFjABegQIBxAC&url=https%3A%2F%2Farchive.fisheries.noaa.gov%2Fwcr%2Fpublications%2Fhydropower%2Fsouthwest_region_1997_fish_screen_design_criteria.pdf&usg=AOvVaw18rqEC7lbSisvlEpOMjUO9).

Operation and maintenance of proposed avoidance, minimization, mitigation, and conservation actions.

Success criteria for proposed measures.

### Interrelated and Interdependent Actions

Description of interrelated and interdependent actions that may affect federally listed anadromous fish, their designated critical habitat, or both:

* Interrelated actions are those that are part of a larger action and depend upon the larger action for their justification.
* Interdependent actions have no independent utility apart from the action under consideration.
* For detailed definition of interrelated and interdependent actions please refer to the [Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act](http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf).

### Action Area

A description of the specific area that may be affected by the action. The action area is defined in 50 CFR §402.02 as all areas to be affected directly or indirectly by the Federal action, and not merely the immediate area involved in the action.

Map of action area (if different than the project area).

Note the RM of a waterway and the total area affected upstream and downstream of the project.

## Environmental Baseline: Status of the Species and Critical Habitat in the Action Area

### Status of the Species

Describe any studies that were carried out to support the proposed action.

Identify the federally listed species that may occur in the action area.

Provide details on the presence, timing, abundance, and site-specific biological requirements of the various life stages of federally listed fish that may be present in the action area.

Describe the hydrologic, geomorphic, or geological conditions that are relevant to listed species and their habitat in the action area.

Summarize factors affecting the species in the action area.

Describe how the best available scientific and commercial information regarding the status and trends of the species that are present in the action area were used during the preparation of the BA. Include recent publications, journal articles, agency data, and technical reports that were used and cited. Include local information relative to the project vicinity, views of recognized experts, and results from recent studies on life history, population dynamics, trends, and distribution. Reference field notes, unpublished data, research in progress, and other applicable material. Include population information for the various listed species within the action area.

### Status of Critical Habitat

Identify and describe those PCEs of critical habitat within the action area.

Species-specific PCEs can be found in Federal Register (FR) notices to help support determinations for critical habitat. Contact your NMFS Caltrans liaison for a list of applicable FR notices.

Describe how the best available scientific and commercial information regarding the status and trends of critical habitat PCEs present in the action area was used in developing the BA. Include publications, journal articles, agency data, and technical reports that were used and cited. Include local information relative to the project vicinity, views of recognized experts, and results from recent studies, life history, population dynamics, trends, and distribution. Reference field notes, unpublished data, research in progress, and other applicable material.

Identify the total area and linear feet of affected critical habitat (by applicable PCE).

## Effects of the Action

### Approach to the Assessment

Analytical approach is consistent with the risk assessment framework developed by NMFS for analyzing effects to listed species and their habitat based on exposure and response to an action. This framework follows nine steps that can be consistently applied to different types of actions and used to develop replicable assessments with logical, well-reasoned, and supportable conclusions. For formal consultations, Caltrans can apply steps one through six in developing the BA. Steps seven through nine are completed by NMFS in a biological opinion.

Description of potential direct and indirect effects, including any adverse or beneficial effects.

A description of how effects analysis for individuals of a species and critical habitat will be conducted separately.

### Information Available for the Assessment

Summarize the best scientific and commercial information that will be applied to the assessment.

Supply NMFS with an electronic copy of the reference material.

### Assumptions Underlying this Assessment

A description of any assumptions that will be applied to the analysis.

### Effects: Exposure Assessment to Individuals

Description of the spatial and temporal exposure of species and specific life history stages to deconstructed elements of the proposed action in the action area.

Consider both direct and indirect effects.

Description of the potential stressors associated with deconstructed action elements within the action area. Possible assessment guidelines and stressors to consider include:

* Sound assessment regarding peak and cumulative levels without sound attenuation, using the most recent interagency hydroacoustic assessment protocols.
* Assessment of sound levels after attenuation, using the most recent interagency hydroacoustic protocols.
* Changes in turbidity and sediment delivery to stream channels.
* Changes in water quality.
* Channel dewatering and changes in flow or fish passage conditions.
* Changes in channel substrate.
* Streambed alteration or disturbance.
* Loss of riparian habitat.

### Effects: Response and Risk Assessment to Individuals

Description of the direct and indirect biological response to species and individuals that are exposed to project-related stressors associated with deconstructed action elements within the action area.

This assessment should describe the conditions that cause adverse effects to fish and quantify the amount and extent of adverse effects expected from the action (e.g., injury, death, harm, harassment, capture).

Consider the following:

* Quantification of analyzed hydroacoustic effects to fish using the most recent interagency standards and guidelines.
* Response and risk from changes in turbidity and sediment delivery to stream channels.
* Response and risk from changes in water quality.
* Response and risk from channel dewatering and changes in flow or fish passage
* conditions.
* Response and risk from changes in channel substrate.
* Response and risk from loss of riparian habitat.
* Response and risk from streambed alteration and disturbance.

### Effects: Exposure Assessment to Critical Habitat

Description of the spatial and temporal exposure of critical habitat PCEs to potential stressors.

### Effects: Risk Assessment to Critical Habitat

Description of the direct and indirect physical response of critical habitat PCEs to potential stressors associated with deconstructed action elements within the action area.

### Summary of Effects to Species and Critical Habitat

Summarize the direct and indirect effects to species and the physical response of critical habitat PCEs to potential stressors associated with deconstructed action elements within the action area.

## Cumulative Effects

Describe cumulative effects that are reasonably certain to occur within the action area:

* Cumulative effects include the effects of future state, tribal, local or private projects.
* Future Federal actions are not considered in this section because they will be subject to separate consultation pursuant to Section 7 of the ESA.

## Effects of Interrelated and Interdependent Actions

Describe the effects of interrelated and interdependent actions associated with the proposed action.

## Determination

Logic of the analysis shall support the determination. Summarize key points that link the analysis to the determination.

One of the following determinations shall be made for each listed or proposed species:

* No effect (No effect determinations do not require consultation and NMFS is not obligated to concur with no effect determinations).
* May affect, not likely to adversely affect.
* May affect, likely to adversely affect.

One of the following determinations shall be made for each listed or proposed species’ critical habitat:

* No effect.
* May affect, not likely to adversely affect.
* May affect, likely to adversely affect.

One of the following determinations shall be made for EFH:

* No effect.
* May adversely affect.

## Literature Cited

References used to prepare the BA.

Electronic copies of references compiled and supplied to NMFS.