**Natural Environment Study Template**

**August 2022**

**Caltrans Division of Environmental Analysis, Office of Biological Studies**

**Template Introduction and Instructions**

Pages 1 and 2 contain guidance text that should be omitted from the final document.

This Natural Environment Study template is based on the October 13, 2014 version approved by the Biological Consultancy Group (BCG). The BCG is an advisory group of senior-level biologists representing the interests of all Caltrans’ districts and regions. Edits were made to this template to meet Americans with Disabilities Act (ADA) standards in June 2020. Questions and comments regarding this template should be forwarded to Jennifer Osmondson, Division of Environmental Analysis Office of Biological Studies at 916-208-5590 or [Jennifer.Osmondson@dot.ca.gov](file:///\\ct.dot.ca.gov\dfshq\Environmental\HQ_BIOLOGY\Templates\NES%20Revisions\NES%20Revisions%20Spring%202020%20ADA\Jennifer.Osmondson@dot.ca.gov) or to any member of the BCG.

All new Biological Assessment (BA), Natural Environment Study (NES) and NES (MI) documents prepared for projects on the State Highway System will be prepared by or reviewed by an Associate Environmental Planner (Natural Science), or by a Senior Environmental Planner with experience as an Associate Environmental Planner (Natural Science). See [Quality Control Guidance for Standard Biological Technical Documents and Reports](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/qc-guidance-a11y.pdf) for additional guidance. The NES is not acceptable or allowable as the Biological Assessment. A NES describes the existing biological environment and how the project alternatives affect that environment. A NES or NES (MI) must be prepared for all projects and serves as the technical basis for statements made in the environmental document, concerning plants, animals, and natural communities occurring in the biological study area. The NES summarizes technical documents such as focused species studies, wetland assessments, and biological assessments related to effects on biological resources in the Biological Study Area (BSA) for use in the environmental document.

The Biologist will work with the Environmental Generalist/Planner on the data gathering for this study as it will be overlapping and should be consistent. The purpose and need should be obtained from the Environmental Generalist/Planner. The level of analysis shall be commensurate with the level of the project.

The [Standard Environmental Reference (SER)](http://www.dot.ca.gov/ser/) provides conventions and guidance for the preparation of content relevant to this document. See also SER [Acronyms and Abbreviations List](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/main-acronym-abbrev-a11y.pdf) and [Glossary](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser-glossary-a11y.docx). Please see SER [Volume 3, Chapter 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-2-natural-environment-study) for additional information regarding the content to be included in this template.

Document standards:

* Italicize scientific names [*Arundo donax*].
* If acronyms are used, use all three terms for a species at the first occurrence in the document, e.g., Giant reed (GR) [*Arundo donax*]. Use only the acronym after the first occurrence.
* If acronyms are not used, use the common name and the scientific name at the first occurrence, e.g., Giant reed [*Arundo donax*]. Use only the common name after the first occurrence.

Standards used in this template are designed to comply with Caltrans ADA policies. Colored text is used to convey meanings throughout the template and in some cases the sections of colored text are preceded with the definition of the colored text in parenthesis to convey the meaning of the colored text to users relying on screen reading software. The definitions of the colored text and examples of the use of preceding definitions in parenthesis are below.

Text key:

* Black text = required headings.
* Blue text = (Guidance text) – guidance text and instructions to be considered and deleted from the final document.
* Red text = (Boilerplate text) – boilerplate text to be inserted into document, as appropriate.
* Purple text = (Sample text) – sample text that can be used and edited in document, as appropriate.
* Green text = (Local Assistance guidance text) – special guidance text for Local Assistance projects (local roadway projects off the State Highway System using federal-aid funds) to be deleted from the final document.
* Underlined text (regardless of text color) = Internet web links.

**The text in this document is guidance unless it is a heading (headings should be retained and used) or is otherwise specified.**

**Enter project title** NES

A photograph of your project can be added below this line. Remember to tag the photograph with alt text if posting to the internet.

Natural Environment Study

Enter discussion of Biological Assessments, Wetland Studies, Mitigation Plan, Monitoring Plan, etc., if applicable

Enter general location information

Enter general location information

Enter District-County-Route-Post Mile(s)

Enter project number(s)

**Enter month and year**



This page is used for documents that are **prepared by Caltrans**. Please use the form fill boxes on this page to include information specific to your project. This page must include a paragraph telling the public how to obtain the document in alternative formats.

Natural Environment Study

Enter discussion of Biological Assessments, Wetland Studies, Mitigation Plan, Monitoring Plan, etc., if applicable

Enter general location information

Enter general location information

Enter District-County-Route-Post Mile(s)

Enter project number(s)

**Enter month and year**

STATE OF CALIFORNIA

Department of Transportation

Prepared By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter preparer's name and title

Enter phone number

Enter office name

Enter District/Region

Recommended for

Approval By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter reviewer's name and title

Enter phone number

Enter office name

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Approved By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

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Enter District/Region

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This page is used for documents that are **prepared by a consultant or local agency, NOT Caltrans**. Please use the form fill boxes on this page to include information specific to your project. This page must include a paragraph telling the public how to obtain the document in alternative formats.

Natural Environment Study

Enter discussion of Biological Assessments, Wetland Studies, Mitigation Plan, Monitoring Plan, etc., if applicable

Enter general location information

Enter general project information

Enter District-County-Route-Post Mile(s)

Enter Federal project number

**Enter month and year**

STATE OF CALIFORNIA

Department of Transportation

Enter local agency or agencies

Prepared By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter preparer's name and title

Enter phone number

Enter office name and address

Enter consulting form name

Prepared By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter name and title of authorized local agency representative

Enter phone number

Enter office name and address

Enter agency name

Approved By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter name and title of Caltrans Peer Reviewer

Enter phone number

Enter office name

Enter cooperating agency name

Approved By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Enter name and title

Enter phone number

Enter office name

Enter cooperating agency name

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To create a list of tables or figures, first create a caption for each table or figure title: under the References tab, click on Insert Caption and select option type table or figure. To insert the list of tables or figures in the Table of Contents: under the References tab, click on Insert Table of Figures (use caption label under General to specify table or figure).

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**Acronyms List**

The acronyms listed below are used in this template. Please update this list to include acronyms used in your document.

ADA Americans with Disabilities Act

ASBS Areas of Special Biological Significance

BA Biological Assessment

BCDC San Francisco Bay Conservation and Development Commission

BCG Biological Consultancy Group

BO Biological Opinion

BSA Biological Study Area

CCC California Coastal Commission

CDP Coastal Development Permit

CEQA California Environmental Quality Act

CESA California Endangered Species Act

CNDDB California Natural Diversity Database

CNPS California Native Plant Society

CWA Clean Water Act

DED Draft Environmental Document

DOT Department of Transportation

ED Environmental Document

EFH Essential Fish Habitat

EO Executive Order

ESA Environmentally sensitive area

FED Final Environmental Document

FESA Federal Endangered Species Act (referred to as ESA in USFWS/NOAA Fisheries literature)

FHWA Federal Highway Administration

HCP Habitat Conservation Plan

IPaC Information for Planning and Consultation

LAA Likely to Adversely Affect

MMPA Marine Mammal Protection Act

NEPA National Environmental Policy Act

NES Natural Environment Study

NES (MI) Natural Environment Study (Minimal Impacts)

NLAA Not Likely to Adversely Affect

NOAA Fisheries NOAA’s National Marine Fisheries Service (sometimes abbreviated as NMFS)

NPDES National Pollutant Discharge Elimination System

PDT Project Development Team

RWQCB Regional Water Quality Control Board

SB Senate Bill

SER Standard Environmental Reference

Services U. S. Fish and Wildlife Service and NOAA’s National Marine Fisheries Service

STEVE Standard Tracking and Exchange Vehicle for Environmental

SWRCB State Water Resources Control Board

TRPA Tahoe Regional Planning Agency

USACE U. S. Army Corps of Engineers

USFWS U. S. Fish and Wildlife Service

USGS U. S. Geological Survey

WDR Waste Discharge Requirements

Summary

The Summary of Findings and Conclusions includes the results of the impact analysis, findings of the supporting technical reports and a summary of the general biological studies. The negative and positive impacts, as well as the agreed upon mitigation measures and permits that will be required are included in this section. The following information should be included:

* Brief, introductory description of project purpose and need, consistent with the purpose and need developed for the environmental document (ED).
* Summarized quantity of habitat impacted; permanent, temporary, direct, indirect and cumulative impacts.
* Summarized quantity of special status species impacted; permanent, temporary, direct, indirect and cumulative impacts.
* Permits required.
* Presence of invasive species.
* Beneficial impacts.
* Description of mitigation agreements.

The term “significant” shall not be used in biological technical documents. Impacts/effects are described and quantified in the technical documents. The determination of significance will be addressed in the California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) document. Discuss impacts and their potential significance in the transmittal memo. See SER [Volume 3, Chapter 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-2-natural-environment-study) for additional information.

Chapter 1: Introduction

The Introduction describes the proposed project and general location, and provides a concise statement of the project’s purpose and need.

Project History

Project Purpose and Need

Describe the project’s purpose and need in this section. The purpose and need should contain a clear statement describing why the action is necessary and should be consistent with the purpose and need developed for the environmental document. The purpose and need should be obtained from the Environmental Generalist/Planner.

Project Description

Include the project description in this section, obtained from the Environmental Generalist/Planner and Environmental Study Request from Design. Include a clear and complete description of each of the project alternatives under consideration, clear statement of how the action will be accomplished, and clear description of when the action will occur.

Describe the project’s location in this section, including county, route, post mile; section, township, range and 7.5-minute U. S. Geological Survey (USGS) quadrangle map. Include figures for reference. Mapping should be consistent with the maps used in other technical studies and the environmental document.

(Sample text) **Figure 1: Project Location Map**

Project impact area (area impacted by the project design)

(Sample text) **Figure 2: Project Impact Area**

Project footprint, borrow, disposal, staging, access, utilities, detours, temporary and permanent impacts, etc.

Chapter 2 – Study Methods

Describe the study methods in this section. This discussion tells the reader what studies were conducted, why, how, and when they were conducted. See SER [Volume 1, Chapters 1 and 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance) and [Volume 3, Chapter 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-2-natural-environment-study) for more information.

Regulatory Requirements

Include a discussion of applicable regulatory requirements that are relevant to the project, such as Section 1600, 401, 404, 4f, Coastal Development Permit, etc. in this section. See SER [Volume 1, Chapters 1 and 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance) and [Volume 3, Chapter 2](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-2-natural-environment-study) for more information. This information must be specific to the project. The subheadings below describe some examples.

Clean Water Act

Provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 404: United States Army Corps of Engineers (USACE) Jurisdiction over fill materials in essentially all water bodies, including wetlands. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative. Section 404 established a permit program administered by USACE regulating the discharge of dredged or fill material into waters of the U. S. (including wetlands).

Section 401: Requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S., must obtain a state certification that the discharge complies with other provisions of the Clean Water Act (CWA). The State Water Resources Control Board (SWRCB) and Regional Water Quality Boards (RWQCB) administer the certification program in California.

The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Rivers and Harbors Act

Requires permits in navigable waters of the U.S. for all structures such as riprap and activities such as dredging. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. USACE grants or denies permits based on the effects on navigation. Most activities covered under this act.

Porter-Cologne Water Quality Control Act

This regulatory law is becoming more prominent on projects involving impacts to isolated waters of the State (non 404/401 waters). The RWQCB is increasingly requiring Waste Discharge Requirements (WDR) permits for impacts to waters of the State.

Migratory Bird Treaty Act

This treaty with Canada, Mexico and Japan makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California Fish and Game Code Sections 3503 and 3503.5 (protection of birds’ nests) and 3513 (taking Migratory Bird Treaty Act birds) also prohibit the destruction of any nest, egg, or nestling.

Executive Order 11990 – Protection of Wetlands

Established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U. S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included.

This must be documented in a specific Wetlands Only Practicable Alternative Finding.

Additional requirement is to provide early public involvement in projects affecting wetlands. FHWA provides technical assistance in the *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* ([Technical Advisory T 6640.8A](https://www.environment.fhwa.dot.gov/legislation/nepa/guidance_preparing_env_documents.aspx)) and reviews environmental documents for compliance.

Executive Order 13112 – Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the [Invasive Species Council of California](http://www.iscc.ca.gov/) to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Under the EO, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

National Wild and Scenic Rivers Act

The National Wild and Scenic Rivers Act prohibits federal agencies from activities that would adversely affect the values for which a river was designated. FHWA consults with the managing agencies during the NEPA process on projects that affect designated rivers or their immediate environments to reduce potential conflicts with wild and scenic river values that are protected by the Act.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) establishes a federal responsibility to conserve marine mammals, with management vested in the Department of Commerce (NOAA’s National Marine Fisheries Service [NOAA Fisheries]) for cetaceans and pinnipeds other than walrus. The Department of the Interior (U. S. Fish and Wildlife Service [USFWS]) is responsible for all other marine mammals, including sea otter, walrus, polar bear, dugong, and manatee. The Act generally assigns identical responsibilities to the Secretaries of the two departments.

The MMPA is the main regulatory vehicle that protects marine mammal species and their habitats in an effort to main sustainable populations. In doing so, the statute outlines prohibitions, required permits, criminal and civil penalties, and international aspects in addressing marine mammals. The Act requires consultation on any action that may adversely affect marine mammals and provides a mechanism for an “incidental” take of species not listed under the federal Endangered Species Act (FESA).

Studies Required

Describe the literature search conducted to identify required studies/surveys in this section, including the following items:

* **Mandatory** USFWS Species List (obtained from Information for Planning and Consultation [IPaC]) , attached as an appendix – these need to be dated and valid (no more than 180 days old).
* **Mandatory** NOAA Fisheries Species List (obtained from California Species List Tools), attached as an appendix – these need to be dated and valid (no more than 180 days old), unless the project is outside of NOAA Fisheries jurisdiction. If the project is located outside of NOAA Fisheries jurisdiction, then a NOAA Fisheries species list is not required, and a statement must be included in the NES that the project is located outside of NOAA Fisheries jurisdiction.
* Additional information may be obtained through agency coordination, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), FESA and California Endangered Species Act (CESA) consultations, California Native Plant Society (CNPS), etc.

Field Reviews – describe the office or drive-by review here, plus other field reviews that may have taken place.

Biological Study Area – describe methods used to define the Biological Study Area (BSA). The BSA includes all areas that could potentially be impacted by the project plus a buffer to accommodate any changes to project limits and project design that may occur during project development.

Survey Methods – describe methods to conduct surveys are described and/or referenced, including protocols, guidelines, etc. Modifications and justifications, if any, to the survey methods are described. A statement of risk for use of the chosen methods is provided.

Personnel and Survey Dates

Describe field personnel, their qualifications, and survey dates in this section.

Agency Coordination and Professional Contacts

Describe communications with agency personnel and other professionals in this section, including the following information:

* Summarize coordination efforts, including names and dates.
* Document all agreements and place copies in an appendix.

Limitations That May Influence Results

Discuss any limitations and constraints in this section, including the following information:

* Identify appropriate timing of surveys, atypical weather, seasonal opportunities or limitations, access issues, accelerated schedules, sequencing issues, etc.
* Were standard protocols (i.e., USFWS protocols) used? If not, why? Why does this protocol meet the survey need?

Chapter 3 – Results: Environmental Setting

The Environmental Setting describes the region in which the project will occur. A clear description of the setting helps to explain the context and intensity of impacts. The setting discussion gives the reader a concise description of the area’s topography, soils, habitat, watercourses and level of human or natural disturbance.

Description of the Existing Physical and Biological Conditions

This section describes the existing Physical and Biological Conditions.

Study Area

Describe the BSA in this section.

(Sample text) **Figure 3: Biological Study Area and Project Impact Area** (include both on project map or maps)

Describe land use – private or public lands. Do not include details of parcels or specific ownership. Include aerial photos of the project area (if many, include in appendix).

Physical Conditions

Describe physical conditions in this section, including the following:

* Description of the topographical features.
* Topographical map of the project area.
* Map and/or text description of soil and geologic information if pertinent.
* Description of the hydrological resources.

Biological Conditions

Describe biological conditions in this section, including the following:

* Description of the natural communities – describe each community in a separate section.
* Description of vegetation communities.
* Descriptions of the dominant plant species.
* Descriptions of the common animal species.
* Description of invasive species.
* Include mapping as appropriate.

Habitat Connectivity

Describe habitat connectivity, including the following:

* Description of dispersal/migration corridors.
* Description of home ranges.
* Description of Fish Passage issues.

Regional Species and Habitats and Natural Communities of Concern

Describe regional species and habitats and natural communities of concern in this section, including the following:

* Regional Sensitive Species list – including common names, scientific names, description of habitat requirements, status and potential to occur in project area.
* Federal and State listed species, Survey and Managed Species, Fully-Protected Species, etc. are discussed.
* Recommend using a table format to identify species. Follow up with text if necessary. Document which species require additional studies. Provide a general, regional comparison of habitat requirements per species (every species on the USFWS list must be included/analyzed) and compare project specific habitats to determine what species are likely to occur in the project area. The next section provides the survey specific results.

(Sample text) **Table 1: Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.**

| **Common Name** | **Scientific Name** | **Status** | **General Habitat Description** | **Habitat Present/ Absent1** | **Rationale** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  | P |  |
|  |  |  |  | A |  |
|  |  |  |  | CH |  |

(Sample text) 1Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS).

Chapter 4 – Results: Biological Resources, Discussion of Impacts, and Mitigation

Habitats and Natural Communities of Special Concern

Describe habitats and natural communities of special concern in this section, considering and including the following:

* Explanation of Natural Communities Status - Habitats are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring on site. {Insert name(s)} habitat(s) was found to be present within the BSA. This natural community is shown in the Biological Resources Map in Appendix X. Wetlands and waters of the United States are also considered sensitive by both federal and State agencies but are discussed in more within the Aquatic Resources Delineation Report (Wetland Delineation Report).
* Examples: Riverine, Riparian, Connectivity (fish/wildlife corridors), San Francisco Bay Conservation and Development Commission (BCDC) jurisdiction, Coastal Wetlands, California Coastal Commission (CCC) Environmentally Sensitive Habitat Areas (ESHA), Areas of Special Biological Significance (ASBS), critical habitat for a habitat type (e.g. coastal sage scrub), wetlands, Essential Fish Habitat (EFH), etc. Natural Communities of Special Concern; special areas within the project area that could be local or regional issues, that don’t fit under “species” discussions can be addressed here—present each community individually.
* Incorporate information from the Aquatic Resources Delineation Report (Wetland Delineation Report), and any other relevant reports that address natural communities and critical habitat. A table summarizing the impacts on wetlands and other waters of the U.S./state by drainage location and impact type (permanent, temporary, direct, indirect) is included to aid reviewers. Distinguish impacts to USACE jurisdictional waters (wetlands and other waters of the U.S.) from impacts to SWRCB or RWQCB waters (waters of the state) from coastal wetland resources. Also include any impacts to rivers, streams, or lakes which may require a CDFW Lake or Streambed Alteration Agreement. Summarize this information for each alternative discussed in the document so comparisons can be readily made. A text discussion needs to be provided.

Discussion of Natural Community “X”

Present each community individually.

Survey Results

Discuss/describe natural communities of special concern as listed above. A table may be useful for quantifying of survey results.

Project Impacts

Discuss and quantify the potential direct and indirect, permanent and temporary, impacts including the project alternatives on the natural communities. A table may be useful this information. Discuss the impact in terms of context and intensity to the resource. Impact examples include but are not limited to: vegetation/habitat removal/modifications, water quality, dredge/fill, connectivity/migration, and staging/storage, bioacoustic impacts.

Avoidance and Minimization Efforts

Discuss the steps taken to avoid or minimize impacts to natural resources during project development including modified or rejected alternatives and design exceptions, work windows, environmentally sensitive area (ESA) fencing, equipment inspection, biological monitoring, pre-construction surveys (protocol, bat, nesting birds, acoustic surveys). Avoidance and Minimization measures can be numbered for further reference to reduce redundancy.

Compensatory Mitigation

Describe compensatory mitigation in this section, including the following:

* Only those mitigation measures that have been approved by the Project Development Team (PDT) and/or Caltrans management will be discussed in this section. Document the approval of each measure by the PDT and/or Caltrans management. A table may be useful to convey this information. Documentation is expected and updated in Standard Tracking and Exchange Vehicle for Environmental (STEVE).
* For example: bank credit purchase, in-lieu fee, Habitat Conservation Plan (HCP) fees, endowments, project specific restoration, structural modifications – bat habitat, median barrier breaks, fish ladders.
* See SER [Volume 3, Chapter 5](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/vol3-ch5-a11y.pdf) for more information.

Cumulative Impacts

Discuss the current, future and reasonably foreseeable actions that are currently threatening the subject natural communities/species. Identify the cumulative impacts area under discussion. A table may be used to describe this information. Refer to the following resources:

* SER [Guidance for Preparers of Cumulative Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact-analysis). This guidance is for CEQA and NEPA only. The FESA definition of cumulative impacts is different and needs to be discussed in appropriate terms to that definition.
* SER [Volume 3, Chapter 4](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/f0008749-vol3-ch4-a11y.pdf) for FESA cumulative impacts.

Special Status Plant Species

Describe special status plant species in this section. This section contains boilerplate text that should be edited to describe the resources present within the BSA.

(Boilerplate text) The plants listed are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. {Insert Name(s)} plant(s) was/were found to be present within the BSA. This occurrence is shown in the Biological Resources Map in Appendix X.

Discussion of Plant Species “X”

Present and discuss each species individually. For example, if the first plant species is species “X” and the (second of many is species) is “Y,” then species “X” and species “Y” should have a separate discussion.

Incorporate information from the biological assessment, and any other relevant reports that address special status plant species, including discussion of critical habitat and primary constituent elements.

Survey Results

Discuss/describe special status plant species or species group that occur or have a potential to occur in the project area and the studies conducted to determine their presence or absence. Include a discussion of the habitat conditions that were found that would support any species of concern that were not discovered during the surveys.

Identify the particular species, its specific habitat requirements, closest known population, results of field surveys [presence/absence], and an analysis of the habitat condition when the species was not found, discuss the potential for the species to be present but not found.

Critical Habitat – discuss whether designated critical habitat exists within the project area.

Project Impacts

Describe project impacts in this section, considering and including the following:

* State the status of the resource and discuss population trends. Describe the quality and quantity of resource. A table may be useful to convey this information.
* Discuss and quantify the potential direct and indirect, permanent and temporary, impacts of each of the project alternatives on the sensitive botanical resources.
* Discuss the impacts in the context of the resource base.
* Discuss anticipated FESA determination.
* Critical Habitat – discuss potential affects to designated critical habitat.

Avoidance and Minimization Efforts

Discuss avoidance and minimization efforts in this section, considering and including the following:

* Discuss the steps taken to avoid or minimize impacts to natural resources during project development including modified or rejected alternatives and design exceptions.
* Critical habitat – discuss any avoidance and minimization related to designate critical habitat.

Compensatory Mitigation

Discuss avoidance and minimization efforts in this section, considering and including the following:

* Only those mitigation measures that have been approved by PDT and/or Caltrans management will be discussed in this section. Document the approval of each measure by the PDT and/or Caltrans management. A table may be useful to convey this information. Documentation is expected and updated in STEVE.
* For example: bank credit purchase, in-lieu fee, HCP fees, endowments, project specific restoration, structural modifications – bat habitat, median barrier breaks, fish ladders.
* Critical Habitat – discuss conservation measures related to designated critical habitat.

Cumulative Impacts

Discuss the current, future and reasonably foreseeable actions that are currently threatening the subject natural communities/species. Identify the cumulative impacts area under discussion. A table may be used to describe this information. Refer to the following resources during your analysis:

* SER [Guidance for Preparers of Cumulative Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact-analysis). This guidance is for CEQA and NEPA only. FESAs definition of cumulative impacts is different and needs to be discussed in appropriate terms to that definition.
* SER [Volume 3, Chapter 4](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/f0008749-vol3-ch4-a11y.pdf) for FESA cumulative impacts.

Special Status Animal Species

Describe special status plant species in this section. This section contains boilerplate text that should be edited to describe the resources present within the BSA.

(Boilerplate text) Animals are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. {Insert Name(s)}animal(s) was found to be present within the BSA. This occurrence is shown in the Biological Resources Map in Appendix X.

Discussion of Animal Species “X”

Present and discuss each species individually. For example, if the first animal species is species “X” and the (second of many is species) is “Y,” then species “X” and species “Y” should have a separate discussion.

Incorporate information from the biological assessment, and any other relevant reports that address special status animal species, including discussion of critical habitat.

Survey Results

Discuss/describe special status species or species group that occur or have a potential to occur in the project area and the studies conducted to determine their presence or absence. Include a discussion of the habitat conditions that were found that would support any species of concern that were not discovered during the surveys.

Identify the particular species or species group, its specific habitat requirements, closest known population, results of field surveys [presence/absence], and an analysis of the habitat condition when the species was not found, discuss the potential for the species to be present but not found.

Critical Habitat – discuss whether designated critical habitat exists within the project area.

Project Impacts

Describe project impacts in this section, considering and including the following:

* State the status of the resource and discuss population trends. Describe the quality and quantity of resource. A table may be useful to convey this information.
* Discuss and quantify the potential direct and indirect, permanent and temporary, impacts of each of the project alternatives on the sensitive botanical resources.
* Discuss the impacts in the context of the resource base.
* Discuss anticipated FESA determination
* Critical Habitat – discuss potential affects to designated critical habitat.

Avoidance and Minimization Efforts

Discuss avoidance and minimization efforts in this section, considering and including the following:

* Discuss the steps taken to avoid or minimize impacts to natural resources during project development including modified or rejected alternatives and design exceptions.
* Critical habitat – discuss any avoidance and minimization related to designate critical habitat.

Compensatory Mitigation

Discuss avoidance and minimization efforts in this section, considering and including the following:

* Only those mitigation measures that have been approved by PDT and/or Caltrans management will be discussed in this section. Document the approval of each measure by the PDT and/or Caltrans management. A table may be useful to convey this information. Documentation is expected and updated in STEVE.
* For example: bank credit purchase, in-lieu fee, HCP fees, endowments, project specific restoration, structural modifications – bat habitat, median barrier breaks, fish ladders.
* Critical Habitat – discuss conservation measures related to designated critical habitat.

Cumulative Impacts

Discuss the current, future and reasonably foreseeable actions that are currently threatening the subject natural communities/species. Identify the cumulative impacts area under discussion. A table may be used to describe this information. Refer to the following resources during your analysis:

* SER [Guidance for Preparers of Cumulative Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact-analysis). This guidance is for CEQA and NEPA only. FESAs definition of cumulative impacts is different and needs to be discussed in appropriate terms to that definition.
* SER [Volume 3, Chapter 4](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/f0008749-vol3-ch4-a11y.pdf) for FESA cumulative impacts.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

Insert a summary of the federal Endangered Species Act Section 7 consultation to date with USFWS and NOAA Fisheries with findings. For Draft Environmental Document (DED), a determination for each species and alternative is made at the no effect or may affect level. As the federal lead agency, the level of determination is made by Caltrans (for assigned projects and FHWA for non-assigned) and presented to the Services during the Formal Section 7 Consultation process. If the Services don’t agree with our determination, then that’s negotiated between DED and Final Environmental Document (FED) and reflected in the Biological Opinion (BO) included in the FED.

Include a statement when the species list was received from USFWS or NOAA Fisheries. The discussion will include the listed species and any critical habitat associated with the project. An effect determination for every listed species and critical habitat is included, either no effect; may affect, not likely to adversely affect (NLAA); or may affect, likely to adversely affect (LAA) (a table may be useful to organize and report this information). A no effect determination must include supporting documentation in the Results section. For Supplemental NES documents supporting FED, list the Section 7 effect determination for each species on the species list is a no effect. NLAA or LAA include the date informal or formal consultation was initiated and when the consultation was completed. Required: Include a copy of a recent (no more than 180 days) species list(s) requested for the proposed project. If the species list(s) area older than 180 days, the USFWS must verify, in writing, that the list is still valid. Attach a copy of the Biological Letter of Concurrence for a NLAA or Biological Opinion for a LAA as an appendix.

For projects outside of NOAA Fisheries jurisdiction, where a species list is not required, please include the following boilerplate text.

(Boilerplate text) This project is located outside of NOAA Fisheries jurisdiction; therefore a NOAA Fisheries species list is not required and no effects to NOAA Fisheries species are anticipated.

Essential Fish Habitat Consultation Summary

Insert a summary of the EFH consultation with the NOAA Fisheries with findings. This may be a statement that no EFH is present within the project limits or the EFH consultation was completed as part of the Section 7 consultation for listed anadromous fish or completed separately from the Section 7 consultation. If EFH is present include one of three determinations, no adverse effect, will not adversely affect, or may adversely affect and include the dates of the consultation and determination. Reference the Letter of Concurrence or Biological Opinion if the EFH determination is included in the Section 7 consultation. Required: attach a copy of the relevant document as an appendix if separate from the Section 7 consultation. For Essential Fish Habitat Guidance see [SER Policy Memos](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/policy-memos): [Essential Fish Habitat Delegation Authority](https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/ddd-envessentialfishhabitatdelauth-7jun04-a11y.pdf) (June 7, 2004) and Guidance for Combined Essential Fish Habitat and Endangered Species Act Consultation Process (September 20, 2004).

California Endangered Species Act Consultation Summary

Insert a summary of the California Endangered Species Act consultation with the Department of Fish and Wildlife with findings. Include either a statement that no state-listed species occur on the project, that no take of state-listed species is anticipated, or a list of the State-listed species that occur on the project. If a take may occur of state-listed species, the discussion will include that either a consistency determination (Section 2080.1 of the Fish and Game Code) if the species are also federally listed will be required or that an Incidental Take Permit will be required (Section 2081) if a state-listed only species. Required: attach a copy appropriate technical report. (Note: depending on the situation an ITP may be required for dual listed species not just a consistency determination).

Wetlands and Other Waters Coordination Summary

Insert a summary of the wetlands and other waters coordination with USACE, CDFW, CCC, RWQCB, BCDC, Executive Order 11990, etc., as appropriate. Include a discussion of the amount of wetlands and other waters on the project, whether a preliminary or approved Jurisdictional Determination was acquired and the date received from the USACE, and a list of the permits that will be required including, but not limited to, Section 1602 Streambed Alteration Agreement, Section 401 Water Quality Certification, WDR permit, Section 404 permit, Coastal Development Permit (CDP), National Pollutant Discharge Elimination System (NPDES) permit, Tahoe Regional Planning Agency (TRPA) permit, BCDC permit, etc. Reference the Delineation, Functional Assessment and Impact Analysis of Wetlands and Other Waters report as appropriate.

Invasive Species

Invasive Species (Executive Order 13112). Include a discussion of the invasive species present within the project limits, their status, and measures taken to prevent the spread or infestation of invasive species. See SER [Volume 3](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources), [Chapter 2: Natural Environment Study](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-2-natural-environment-study), Section 2-6.5 for more information.

Other

Insert other information as necessary such as:

* Senate Bill (SB) 857: Section 5901 of the Fish and Game Code, Article 3.5 (commencing with Section 156) to Chapter 1 of Division 1 of the Streets and Highways Code, relating to fish passages. Include a discussion of the results of the reconnaissance assessment and whether additional work is required. Required: include a copy of the reconnaissance assessment and photos as an appendix.
* Migratory Bird Treaty Act. Include a summary of the migratory birds present and measures taken to avoid impacts to nesting birds.
* California Fish and Game Code Sections 3503 and 3503.5 (protection of birds’ nests) and 3513 (taking Migratory Bird Treaty Act birds). Include a summary of native birds protected by this code and measures taken to avoid impacts to these birds.
* Wild and Scenic Rivers. Include consultation information.
* California Coastal Commission. Include coordination summary.

Chapter 6 – References

The standard reference system for biological technical documents is the Name-Year citation system [e.g., Smith 1999, Smith and Jones 1899] common to many wildlife and natural resource publications. A discussion of the different systems and specific usage guidance for the Name-Year System may be found in Chapter 30 of Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers, 6th ed.

Preparers should have copies of cited references available for reviewers at the reviewer’s request and are responsible for the applicability of the references to the study.

Describe references used to develop this document in this section, using the following formats:

* Books, Journal Articles, Reports: [Author(s). YEAR Title. Publisher/Source. Volume: Page begin-Page end].
* Correspondence: [Author(s). Date. Subject. Agency/Company. Pp. (pages)].
* Phone: [Contact Name. Date. Subject. Agency/Company. Phone Number. Result/Action].
* E-mail: [Contact Name. Date. Subject. Agency/Company. E-mail address. Result/Action].

Appendix A

Appendices are to be in order of the first occurrence in the text. Include a copy of species lists and other information that is available publicly in this section, including the following items:

* USFWS species list, dated and valid (no more than 180 days old) (required).
* NOAA Fisheries species list, dated and valid (no more than 180 days old) (required).
* A copy of the reconnaissance fish passage assessment and photos, if applicable (required).
* CNDDB, CNPS, or other lists of potential species in the project area.
* Copies of references, photos, etc.

DO NOT INCLUDE SPECIFIC INFORMATION, SUCH AS LOCALITY DATA, THAT IS NOT AVAILABLE PUBLICLY. FOR CNDDB SENSITIVE DATA INCLUDE ONLY THE LOCALITY RECORD NUMBER. Provide appropriate information as necessary so that a reviewer may confirm or review your findings.

Appendix B