

Guidance Manual for Writing Biological Assessment Documents



Oregon Department of Transportation

355 Capitol Street NE
Salem, Oregon 97301-3871

Revision Date: 3 July 2008

Table of Contents

How to Use this Document.....	3
SECTION A Cover Page	4
SECTION B Signature Page.....	5
SECTION 1.0 Introduction	6
SECTION 2.0 Project Description	9
SECTION 3.0 Environmental Baseline	12
SECTION 4.0 Natural History and Species Occurrence	18
SECTION 5.0 Analysis of Effect of the Action.....	21
SECTION 6.0 Avoidance, Minimization, and Conservation Measures.....	29
SECTION 7.0 Finding of Effect	32
SECTION 8.0 Essential Fish Habitat Consultation.....	35
SECTION 9.0 References.....	38
SECTION C Resources	39

How to Use this Document

The “Guidance Manual for Writing Biological Assessment Documents” is intended to provide assistance to authors of Biological Assessments (BA) prepared on behalf of the Oregon Department of Transportation (ODOT) when projects involve ESA-listed species/critical habitat and have a federal nexus (e.g., Federal Highway Administration [FHWA]).

This BA Guidance Manual is organized to mirror the BA template which outlines the BA format required by ODOT. The BA template, the ODOT ESA Guidance Manual, other ESA relevant documents are available for download on the ODOT Natural Resources website: <http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/biology.shtml>

The BA Guidance Manual is organized as follows:

- Section A includes the BA Cover Page.
- Section B includes the Signatory Page.
- Sections 1.0 through 9.0 mirror the BA Template. Each of these sections has information on the intent of the section, applicable sub-sections, information to include, and example language (if applicable).
- Section C provides a summary of resources mentioned in this document.

Throughout the document there are call-out boxes that include “helpful hints,” “important notes,” and “don’t forgets.” These boxed call-outs are intended to draw attention to items that are most often overlooked or missing from BAs.

When example language is provided, black text contains boilerplate template information, whereas blue text contains guidance for inserting information. Red text identifies information that should be inserted into the boilerplate language (if used). Example language can be cut and pasted into the BA document template as needed.

Throughout the document there are call out boxes that include “helpful hints,” “important notes,” and “don’t forgets.”

The information presented in this document was gathered from a number of sources including the Endangered Species Act Consultation Handbook prepared by the U.S. Fish and Wildlife Service (USFWS) and advice or input provided by the National Marine Fisheries Service (NMFS) staff (collectively called “the Services”). While some of the guidance is not related to specific regulations, it may be useful as the overall intent of preparing a BA is to receive concurrence from the Services in a Letter of Concurrence or a Biological Opinion.

This Manual is a working document and may be updated periodically as new guidance becomes available or example language is modified. However, the basis of the information presented here and the organization of the document is expected to remain constant. Please check the ODOT Natural Resources website for the latest BA Template and ESA guidance. Document revisions will be dated.

SECTION A Cover Page

EXAMPLE LANGUAGE

The Cover Page should contain the following information and be formatted similarly:

BIOLOGICAL ASSESSMENT

[insert Project Name] PROJECT

(KN #####)

(Federal Aid #####)

[insert Highway Name] Highway

(This should be the standard (public) highway name/number and not the ODOT secret highway number)

[insert County Name] County

[insert 6th (NMFS) or 5th (FWS) Field HUC number] HUC

[insert Species Name including the ESU or DPS as appropriate] *(May have multiple species)*



Prepared for:

[ODOT or other appropriate entity]

[Address of above entity]

Prepared by:

[insert name], Biologist

[insert ODOT or Company Name] *(Do not include consultant firm logo)*

[insert date]

SECTION B Signature Page

EXAMPLE LANGUAGE

The signature page must include the following information and be formatted similarly:

Project Team Leader/District Manager Authorization of Conservation and Mitigation Measures

I have reviewed the **[insert project name and KN#####]** project description for accuracy. I have also reviewed the conservation and mitigation measures for this project. I agree that the conservation and mitigation measures should be incorporated into this project's contract documents or implementation plans (in the case of use of in-house forces) so that ODOT will be in compliance with the Endangered Species Act and other applicable environmental laws and regulations.

[Project Team Leader or District Manager]

(The specific title of the signatory may vary depending on the nature of the project.)

Date

**[Construction Project Manager or
Consultant Project Manager (CPM)]**

(The specific title of the signatory may vary depending on the nature of the project.)

Date

**[ODOT Biologist or
Consultant Certified Biologist & Firm/Organization Name]**

(The specific title of the signatory may vary depending on the nature of the project.)

Date

(This signatory sheet must be completed and on file prior to transmittal by ODOT to FHWA, NMFS or USFWS.)

SECTION 1.0 Introduction

INTENT

The intent of this section is to:

- Provide a summary of the information on which the BA is based, detailing how the agency's action (e.g., FHWA) affects the species and critical habitat (Section 7 [b][3][A]).
- Document that required information was requested and received by the project biologist or action agency.
- State the purpose and need of the proposed action.

Helpful Suggestion:

If the project is related to an ongoing series of projects or actions, providing a brief history of the project can provide reviewers with useful insight into the larger picture or context in which the project is situated.

SUBSECTIONS

This section should include the following subsections:

- 1.1 PURPOSE AND NEED
- 1.2 PROJECT BACKGROUND
- 1.3 SPECIES AND CRITICAL HABITAT

INFORMATION TO INCLUDE IN THIS SECTION

The project purpose and need statement should:

- Provide a clear purpose for the proposed project and the federal nexus.
- Include a brief description of proposed actions in relation to the needs discussed.

Important Note:

Ultimately, if the proposed action is determined to jeopardize ESA-listed species or destroy or adversely modify designated critical habitat, then the purpose and need will be used by the Services to develop reasonable and prudent alternatives.

Information in this section should include brief summaries of the following:

- Relevant project history, such as:
 - Communications (e.g., letters, memoranda, public notices, meetings, telephone conversations, and site visits)
 - CETAS documents
 - NEPA documents
- Information regarding consultation with regulatory agencies. This includes documentation of the date consultation was initiated, chronology of subsequent request for additional data, extensions, or other applicable past or current actions. Conclusions reached in earlier informal and formal consultations on the proposed action also may be relevant.

- Species and/or critical habitat covered in the BA.
- Add additional authorities or acts that may be applicable to the project such as:
 - Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)
 - Fish and Wildlife Coordination Act (FWCA)
 - Marine Mammal Protection Act (MMPA)
 - Migratory Bird Treaty Act (MBTA)

Don't Forget:

- If a project has an action agency (federal nexus) other than FHWA or is administered differently than most transportation projects, additional information may be needed.
- If there are multiple federal action agencies involved, list each and identify which one is the lead federal action agency for the consultation.

EXAMPLE LANGUAGE

1.1 PURPOSE AND NEED

The purpose of the proposed action is to *[insert purpose and need]*.

EXAMPLE LANGUAGE

1.2 PROJECT BACKGROUND

The purpose of this Biological Assessment (BA) is to address the effect of the *[Insert project name]* Project on ESA species, listed as endangered or threatened under the federal Endangered Species Act (ESA). Federal Highway Administration (FHWA) funds will partially finance this project and constitute the federal nexus. Oregon Department of Transportation (ODOT) will be responsible for administering the funds and the project. A summary of the key project elements are provided in the table below.

In *[insert year ADT was measured or estimated]*, the Average Daily Traffic (ADT) figure for this roadway was estimated to be *[insert ADT]* vehicles *[refer to project prospectus]*. The ADT is expected to increase to *[insert projected ADT]* vehicles by the year *[insert year of projection]* (ODOT unpublished).

Early coordination and pre-consultation with the Services was conducted during a series of site visits, meetings, and phone conversation including: *[insert list of pre-consultation coordination and dates]*.

This BA, prepared by the *[Oregon Department of Transportation] (or other appropriate entity)*, addresses the proposed action in compliance with Section 7(c) of the ESA of 1973, as amended. Section 7 of the ESA assures that, through consultation (or conferencing for proposed species) with the U.S. Fish and Wildlife Service (USFWS) and the National Marine

Fisheries Service (NMFS), federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species, or result in the destruction or adverse modification of critical habitat.

Project Summary	
Project Name:	
ODOT Key #:	KN#####
Federal Aid #:	#####
Location of Project:	Highway name and mile post, or start and stop mile post
Watershed and HUC Field (5 th and 6 th):	
USGS Quadrangle Map Location:	Quad Name, Township, Range, Section
Size of Action Area:	
City:	
County:	
Project Staff:	Name(s) of individual(s) who conducted the wetland delineation, surveys, etc.
Site Visits:	Date(s) of visit(s)
Site Access Permission:	Granted or not granted by landowner if area exceeds ROW
Current Land Use(s):	Urban, rural residential, agriculture, forest land, open space, etc.
Waterways on Site:	Drainages, creek names, river names or "unnamed tributary"
River Mile:	
Prior Correspondence:	Include dates of meetings and phone correspondences. Also include the names of the individuals involved in the correspondences.

EXAMPLE LANGUAGE

1.3 SPECIES AND CRITICAL HABITAT

The following species and critical habitats are included in this consultation.

Species and Critical Habitat Included in this Consultation		
Species:		
Common Name	Scientific Name	ESU or Population Segment (if applicable)
Critical Habitat for Species:		
Common Name	Waterway or Geographic Extent	

SECTION 2.0 Project Description

INTENT

The intent of this section is to provide a description of both the project and the resultant action area. This Section should provide sufficient information to support the effects analysis and the development/extent of the action area.

Helpful Suggestion:
This section should focus on describing the project elements as they relate to effects on species/critical habitat.

The type of information and level of detail provided should be related to the extent and duration of effects (e.g., exposure).

SUBSECTIONS

There generally are four subsections that should be included under the Project Description. However, the author should organize third tier headings (i.e., 2.x.x) in a manner that can most accurately and succinctly describe the project.

- 2.1 Project Area and Sequencing**
- 2.2 Interdependent and Interrelated Actions**
- 2.3 Mitigation and Monitoring**
- 2.4 Action Area**

INFORMATION TO INCLUDE IN THIS SECTION

The Project Area and Sequencing discussion should include:

- A brief overview of the project and anticipated construction sequencing.
- Construction techniques (e.g., general equipment, staging areas, location of project elements, and project element specifics),
- Project elements. These should be identified and explained in detail (2.1.X) as needed. For example, third tier headings could include: stormwater collection and treatment, in-water work, and vegetative clearing.
- The project schedule, with detail provided where needed (e.g., “In-water work will occur for 2 months within the designated in-water work window.”). If construction timing is not used for avoidance or will not result in effects, this information is less critical.
- Figures, as needed to adequately convey the project area and components.

Helpful Suggestion:
If project details are still in flux at the time of BA preparation, include “sideboards” or conservative assumptions to describe project components and evaluate effects.

For example: The exact staging area location may not be identified. However, it can be phrased as follows: “Staging areas will be located at least 200 feet from the creek and will not require the removal of woody vegetation.”
Continue with a relevant construction specification!

Interrelated and Interdependent Actions subsection should include:

- A description of actions that are related to or dependent on the proposed action (i.e., “but for” the “federal action” the related or dependent actions would not occur).
- The relationship of the proposed action to any interrelated and/or interdependent actions.
- A description of the effects that the interrelated and/or interdependent action will have on species and/or critical habitat.

“But-for Test.” The analysis of whether other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a “but for” test. The BA author should ask whether another activity in question would occur “but for” the proposed action under consultation. *If the answer is “no”* – that the activity in question would not occur but for the proposed action – then the activity is interrelated or interdependent and should be analyzed with the effects of the action. *If the answer is “yes,”* then the activity is not interdependent or interrelated and would not be analyzed with the effects of the action under consultation.

Important Note:

It is not always important to distinguish between an interrelated and interdependent action. However, it is important to include the location of these actions in the Action Area and to evaluate their effects on the species/critical habitat under consultation.

The Mitigation and Monitoring subsection should include:

- Any proposed beneficial components of the project intended as offsetting actions for unavoidable potential adverse effects or as enhancement opportunities (e.g., in-stream habitat enhancements, riparian plantings, fish passage improvements, wetland creation, restoration or enhancements).
- A description of mitigation actions, monitoring, or additional measures that are required by other regulatory mechanisms as part of the proposed action (e.g., Corps wetland mitigation).

The Action Area subsection should include:

- The geographic extent of physical, biological, and chemical impacts of the project in the action area (including interrelated, interdependent, and mitigation elements).
- A rationale for developing the action area (e.g., downstream effects on water quality, the extent of higher than baseline noise).
- A figure depicting the action area with effects pathways identified (if applicable).

Don't Forget:

- The action area is defined as: "...all areas to be affected directly and indirectly by the federal action, and not merely the immediate area involved in the action (ESA 50 CFR 17.11)."
- The action area is almost always larger than the project area and sometimes extends beyond the project vicinity.
- The action area is not necessarily species-specific. An appropriate action area determination often will identify which species and habitats should be included in the BA. (NOTE: The species that may be affected are dependent upon the extent of the project effect.)

SECTION 3.0 Environmental Baseline

INTENT

The intent of this section is to provide a summary of baseline habitat conditions important to the species under consultation. This section presents an analysis of the effects **within the action area** of past and ongoing human and natural factors leading to the current status of the species, its habitat (including designated critical habitat), and its ecosystem associations.

The discussion of environmental baseline conditions should focus on habitat elements that are part of the biological requirements of the species being addressed. However, indirect environmental linkages may be important to include also. For example, if the availability of prey is a limiting factor for a listed predator species, it may be beneficial to discuss the biological requirements of the prey species as well.

The information provided in this Environmental Baseline section should be used in the analysis of effects of the proposed action in Section 5.0 of the BA. Therefore, habitat descriptions in this section should focus on habitat elements that will be affected by the proposed action. The level of detail provided should commensurate with the extent of the effects. If the proposed action will not affect a particular habitat element, then this should be stated in the appropriate third tier subsection (i.e., 3.x.x).

Important Note:

The environmental baseline is a “snapshot” of a species’ health at a specified point in time. It does not include the effects of the proposed action under review. Only include environmental baseline information from the action area of relevance to the species under consultation.

Don't Forget:

The Environmental Baseline section of the BA is where the author establishes the basis for the effects analysis in Section 5.0. All data necessary for establishing the determination of effect must be included in the Environmental Baseline section.

SUBSECTIONS

The following BA subsections were developed to allow the BA template to be used for fish, wildlife and/or plant species. Subsections 3.2 through 3.4 should only be included if applicable to the proposed project. Under subsections 3.2 through 3.4, there is a series of third tier subsections related to specific habitat conditions and pathways. Lists of these for specific species groups are provided in the “Information to Include” section below.

- 3.1 Existing Baseline Conditions**
- 3.2 Fish Species**
- 3.3 Wildlife Species**
- 3.4 Plant Species**

INFORMATION TO INCLUDE IN THIS SECTION

The discussion of environmental baseline conditions should focus on habitat elements that are biological requirements of the species under consultation. Only those subsections that relate to the proposed project should be included. In general, the Environmental Baseline section of the BA should include:

- State, tribal, local, and private actions already affecting the species or that will occur contemporaneously with the consultation. Unrelated Federal actions affecting the same species or critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are Federal and other actions within the action area that may benefit listed species or critical habitat.
- A description of habitat for listed or proposed species in the action area and the amount of degradation that has occurred to date.
- As much specific data as are reasonably available. This includes information from habitat inventories and surveys completed in the action area and the methods used.
- A description of critical habitat and its condition if the action area includes designated or proposed critical habitat.
- Maps and figures of specific relevant biological features relative to the proposed action (i.e., project and action areas).
- Photographs when they can aid in describing environmental baseline conditions within the project and action areas.

Important Notes:

- Statements about baseline conditions should be supported by data or scientific rationale including site surveys and previous scientific papers.
- This section is important for setting the context for the effects discussion, which should be consistent. For example: An inconsistency would be if the baseline conditions state that there is not suitable nesting habitat in the action area, but the effects section states that nesting activity would be affected.

The following habitat elements should be included in an environmental baseline assessment for **fish species**:

- Descriptions of (as third tier subsections):
 - Water quality
 - Habitat access and connectivity
 - Habitat elements
 - Channel characteristics and dynamics

- Water flow and hydrology
- Watershed conditions
- Additional environmental baseline condition subsections (i.e., third tier subsections) as necessary to address the requirements of specific species.
- If a habitat matrix and condition ratings are used (e.g., “properly functioning,” “at risk,” “not properly functioning”), justification for each assigned rating assigned must be provided. This is especially important if standard ratings have been modified to more appropriately reflect the action area.

Important Note:

The discussion of the baseline conditions must be kept in context. For example, a discussion of watershed characteristics may not be relevant to a project affecting only tributaries.

Helpful Suggestion:

One approach to discussing baseline conditions is described in the 1999 “Habitat Approach” guidance developed by NMFS

(https://www.westcoast.fisheries.noaa.gov/publications/reference_documents/esa_refs/habitatapproach_081999-2.pdf). The Habitat Approach builds on the

1996 NMFS Matrix Paper “Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale”

(https://www.oregon.gov/ODOT/GeoEnvironmental/Documents/Biology_NMFS_Endangered-Species-Determination.pdf).

Both NMFS and USFWS have developed matrices for assessing and documenting environmental baseline conditions in the action area. Currently these matrices focus on forested watersheds; however, additional matrices are in development for a variety of habitats.

The following habitat elements should be included in an environmental baseline assessment for **wildlife species**:

- Descriptions of (as third tier subsections):
 - Habitat elements necessary to provide shelter.
 - Habitat elements and conditions necessary for food acquisition.
 - Habitat conditions necessary for reproduction.
 - Habitat connectivity and migration corridors.
- Additional environmental baseline condition subsections (i.e., third tier subsections) as necessary to address the requirements of specific species.

Helpful Suggestion:

For terrestrial species, habitat units other than the watershed may be more relevant for understanding project effects. In addition, consider the geographic extent of required habitat elements such as proximity to foraging areas or contiguous habitat.

• Discussion of Critical Habitat.

Don't Forget:

It is important to include discussion of the habitat elements as relate to overall species viability both at the action area and at a larger scale. Since a “standard” protocol (i.e., Matrix of Pathways) is not available for terrestrial species (and plants) the author must develop the all pathways that affect the overall viability of the species.

The following habitat elements should be included in an environmental baseline assessment for **plant species**:

- Description of (as third tier subsections):
 - Habitat and vegetative community associations.
 - Soil conditions necessary to support the plants under consultation.
 - Hydrologic conditions required by the species.
 - Pollinators or specific reproductive measures necessary for species propagation.
- Additional environmental baseline condition subsections (i.e., third tier subsections) as necessary to address situations specific to the species (e.g., risk of collection).

Helpful Suggestion:

For plant species, habitat units other than the watershed (e.g., ecoregions) may be more relevant for understanding project effects.

Important Note:

Because the federal ESA does not have a “take” provision for listed plant species, USFWS evaluates whether a proposed action will jeopardize the continued existence of listed plant species. Consequently, information on the extent of species must be included BAs for USFWS to make this determination (i.e., the environmental baseline analysis should focus on the relationship of the site population to populations on a larger scale).

NOTE: All plant species listed under the federal ESA are listed under the Oregon ESA also. Unlike the federal ESA, the state ESA requires the Oregon Department of Agriculture (ODA) to evaluate potential project effects only on the portion of a plant population on state land, not the entire species.

EXAMPLE LANGUAGE

3.2 Fish Species

The [insert river name] originates on the [replicate as much of the following of information as applies: “western slope of the Blue Mountains province and flows in a westerly direction through the Columbia River province until it enters the Columbia at Umatilla, Oregon. Its course takes it through several different management areas including: U.S. Forest Service land, the Umatilla Indian Reservation, and private agricultural land. The area where the proposed project occurs is within the Columbia River province (Franklin, 1973). The Columbia River province is characterized by grass/steppe vegetation, warm summers, and cold winters. Streams in the Columbia River province tend to be alkaline in nature, subject to elevated temperatures in the summer and cold in the winter with the possibility of anchor ice forming.”]

Vegetation assemblages found in the [insert watershed name] watershed include [insert vegetation communities (e.g., deciduous forest, coniferous forest, grasslands and riparian communities)]. The riparian corridor at the project site consists of [insert list of plant species]. [Describe habitat elements, as per Table 1.] [Describe relevant game and non-game fish and wildlife species and habitat features.]

The [insert the reach name] reach of the [insert river name] River, which includes the project site, [is/is not] currently listed on the Oregon Department of Environmental Quality (DEQ) 303(d) List of Water Quality Limited Water Bodies. DEQ-listed water quality problems identified in the project area include [insert deficient criteria, if any] (DEQ 1999). [Describe water quality indicators in the watershed, as per Table 1.]

[Describe hydrology of project stream(s) and channel condition and dynamics, as per Table 1. If relevant to the proposed action, describe condition of impervious surface in the watershed/subbasin.]

The ODFW defined in-water work period for the [insert river name], including the project site, is [insert start date] to [insert ending date] (ODFW 2000).

Table 1. Checklist for documenting environmental baseline of proposed actions on relevant indicators (NMFS 1996) for the [insert ESU and species name].

PATHWAYS: INDICATORS	ENVIRONMENTAL BASELINE
<u>Water Quality:</u>	
Temperature	Properly or Not Properly Functioning
Sediment/Turbidity	Properly or Not Properly Functioning
Chemical Contamination	Properly or Not Properly Functioning
<u>Habitat Access:</u>	
Physical Barriers	Properly or Not Properly Functioning
<u>Habitat Elements:</u>	
Substrate	Properly or Not Properly Functioning
Large Wood	Properly or Not Properly Functioning
Pool Frequency	Properly or Not Properly Functioning
Pool Quality	Properly or Not Properly Functioning
Off-Channel Habitat	Properly or Not Properly Functioning
Refugia	Properly or Not Properly Functioning
<u>Channel Condition and Dynamics:</u>	
Width/Depth Ratio	Properly or Not Properly Functioning
Streambank Condition.	Properly or Not Properly Functioning
Floodplain Connectivity	Properly or Not Properly Functioning
<u>Flow/Hydrology:</u>	
Peak/Base Flows	Properly or Not Properly Functioning
Drainage Network Increase	Properly or Not Properly Functioning
<u>Watershed Conditions:</u>	
Road Density & Location	Properly or Not Properly Functioning
Disturbance History	Properly or Not Properly Functioning
Riparian Reserves	Properly or Not Properly Functioning

Important Note:

The example checklist above for documenting the environmental baseline of proposed actions on relevant indicators for the Distinct Population Segments of bull trout in Oregon (adapted from USFWS 1998) may be different than NOAA regulated species checklists. Pathways/indicators should be revised as appropriate for the project and species. The baseline column should reflect the functionality of each pathway/indicator noted. Supporting data should be summarized in a table, if appropriate.

SECTION 4.0 Natural History and Species Occurrence

INTENT

The intent of this section is to provide an overview of specific natural history information for the species that is relevant to the project, and the occurrence of the species within the action area. Site specific habitat information is presented in the Environmental Baseline section (Section 3.0).

This section should focus on the critical habitat elements and life cycle stages that are germane to the project. For example, if the proposed action is *not* going to affect salmon spawning habitat, it is not necessary to provide detailed discussion of the conditions necessary for spawning. Conversely, if the project is going to affect salmon migration (e.g., migration may be delayed) or in-water timing is proposed as a minimization measure, it is important to document the timing of the runs specific to the action area, as well as how other life cycle stages may be affected (e.g., upstream spawning).

Important Note:

General species status, additional critical habitat information, and general biological requirements of the species should be provided in Appendices. Remember that the Services are the species experts, and natural history and species occurrence information in the BA should be new or project-specific only.

SUBSECTIONS

Sub-sections within the natural history section of the BA should be organized in a manner that is most relevant for the project and most effective for the species under consultation. Two organizational structures are recommended (see below). Also, it is acceptable to group species with similar natural histories and biological requirements (e.g., salmonids).

4.1 Species X

- 4.1.1 Site Specific Biological Requirements and Context
- 4.1.2 Site Specific Critical Habitat Context
- 4.1.3 Site Specific Limiting Factors for Recovery

4.2 Species Y

- 4.1.1 Site Specific Biological Requirements and Context
- 4.1.2 Site Specific Critical Habitat Context
- 4.1.3 Site Specific Limiting Factors for Recovery

OR

4.1 Site Specific Biological Requirements and Context

4.1.1 Species X

4.1.2 Species Y

4.2 Site Specific Critical Habitat Context

4.2.1 Species X

4.2.2 Species Y

4.3 Site Specific Limiting Factors for Recovery

4.2.1 Species X

4.2.2 Species Y

Helpful Suggestions:

This section can rely heavily on referenced documents, if appropriate (e.g., Federal Register).

INFORMATION TO INCLUDE IN THIS SECTION

This site specific biological requirements subsection of the BA should include information on the status of specific populations of listed species potentially occurring in the action area. The following information should be included:

- Appropriate information on the species' life history (e.g., the species uses habitat within the action area for nesting, foraging).
- Distribution of species within the action area (and watershed or habitat unit, as appropriate).
- Local population estimates.
- Timing of species use of the action area (e.g., present from April to September).
- Results of local population monitoring efforts. (Monitoring results also can be used to evaluate the success or failure of conservation measures.)

Helpful Suggestion:
ODFW, NMFS, USFWS, and local land management biologists are good sources of site specific species and habitat information.

Important Note:

When the Services assess potential project impacts, they consider the relative status of the listed species, as well as the status of populations in the action area. This may include parameters of abundance, distribution, and trends in both. The final Federal Register rule that lists the species and designates critical habitat is a good source of natural history and population status information and should be cited in the BA. Species status reviews and factors of decline reports may also provide relevant information for this section.

The site specific critical habitat subsection should include the following:

- The presence or absence designated critical habitat.
- When designated critical habitat is present, the BA should include:
 - The extent of designated critical habitat.
 - Reference to the specific unit(s) of critical habitat.
 - The primary constituent elements identified in the final rule, and any activities that have been identified as having the potential for altering the primary constituent elements (PCE) of habitat.
 - An assessment of the condition of PCEs present within the action area.

Important Note:

The BA should focus on discussion of critical habitat that may be affected by the proposed action. For example, if the action area includes designated bird nesting habitat but no vegetation will be removed, it is not necessary to discuss nesting PCEs related to vegetation. Remember that information discussed should be relevant to the action and presented logically.

The site specific limiting factors for recovery section should include:

- Information on the factors limiting recovery of the listed species that will be affected by the proposed project.
- An assessment of current pressures or new threats that were not considered when the species was first listed but have the potential to threaten its continued existence. (For example, the zebra mussel, an exotic species threatening native mussel fauna throughout its invasive range, was not considered when most native mussels were listed.

Important Notes:

- It often is important to consider historical pressures or reasons for listing a species or designating critical habitat to accurately assess potential project effects on species. For example, a species listed because of commercial exploitation may be less sensitive to habitat degradation than a species listed because of habitat loss.
- Information provided in this section should be clearly linked with the effects determination in the following section (Section 5.0). For example, further degradation of a limiting factor (e.g., gravel spawning habitat) identified in this section should result in a more significant effect determination in the following section than the removal of several riparian trees (not a limiting factor).

SECTION 5.0 Analysis of Effect of the Action

INTENT

This section of the BA includes the analysis of direct and indirect effects of the proposed action (along with interrelated and interdependent actions) on the species and/or critical habitat. Factors to consider in the analysis include: proximity of the action; nature, timing, distribution, and duration of the effect; and disturbance frequency, intensity, and severity.

Remember that the analysis of effects of the action in this section is the basis for the finding of effect (i.e., effects determination) in Section 7.0. Consequently, information should flow logically between the analysis of effect and the effects determination, and the information should be consistent.

Important Note:

Remember that a “not likely to adversely affect” (NLAA) determination must be supported with an effects analysis that does not reveal any short-term or long-term adverse or beneficial effects to ESA-listed species and/or critical habitat. Any finding of adverse effect should be coupled with a “likely to adversely affect” (LAA) determination.

The analysis of effects should include a description of how the proposed action would alter the environmental baseline described in Section 3.0. A logical analytical framework, such as the “Habitat Approach,” the “Matrix of Pathways and Indicators” (see Section 3.0), or an alternate analytical framework should be used, as appropriate. Effects from the proposed action should be assessed for each species under consultation for each of the pathways and indicators identified as important. Ratings such as “maintain,” “restore,” or “degrade” may be used to indicate effects on the environmental baseline elements.

An effects determination must be made for any designated critical habitat (NOTE: this is an ESA requirement). Effects on designated critical habitat may be coupled with the discussion of species effects. For designated and proposed critical habitat (NOTE: this is an ODOT requirement) effects of the action on primary constituent elements of critical habitat should be discussed in the BA (e.g., effects on breeding, feeding, and cover needs).

SUBSECTIONS

All the effects of the action are discussed separately in this section following the outline below. Under Direct and Indirect Effects (Subsections 5.1 and 5.2), species/groups and/or critical habitat should be presented separately. Either species effects may be discussed individually under subsections devoted to each project element (e.g., construction noise, stormwater), or all project element effects may be discussed together under individual species subsections. Interrelated and interdependent actions must be included in the effects analysis.

- 5.1 Direct Effects**
- 5.2 Indirect Effects**
- 5.3 Effect of the Proposed Action on Tribal Resources or Interests**
- 5.4 Estimating Take**
- 5.5 Cumulative Effects**

INFORMATION TO INCLUDE IN THIS SECTION

Both the Direct and Indirect Effects subsections should include effects of the proposed action on listed species and critical habitat. The discussion should include:

- Proximity of the action
- Nature of the effect
- Timing of the effect
- Proximity of the effect
- Duration of the effect
- Disturbance frequency
- Disturbance intensity
- Disturbance severity

Direct Effects. Direct effects include all immediate impacts, both adverse and beneficial, from project-related actions. According to ESA rules and regulations, direct effects occur at or very close in time to the action itself. Examples include: construction noise disturbance, habitat loss, and project-caused sedimentation.

Don't Forget:

- Indirect effects are caused by or will result from the proposed action that occur later in time, but they still are reasonably certain to occur.
- Direct effects are the immediate impacts of a project on the species or its habitat.
- Beneficial effects must be included in the effects discussion.

The direct effects subsection should include a discussion of immediate effects of the project on the species and its habitat (e.g., driving vehicles through nesting habitat of an endangered mouse). The discussion should begin with a description of likely short- and long-term effects on each species and critical habitat under consultation. Topics to address include: temporal and spatial limits of effects, species tolerances, severity of effect, mortality and other forms of “take” (e.g., harm, harass, capture), and habitat loss resulting from the proposed project. Detailed guidance on each of these topics can be found in the Section 7 Consultation Handbook.

If the project is likely to have many potential effects to ESA-listed species or critical habitat elements, it is advisable to begin this section with an introductory paragraph listing the specific effects that will be discussed in detail in subsequent paragraphs.

Helpful Suggestions:

- If the species responses are similar for multiple species, group the effects analysis discussion for these species.
- Also, include discussions regarding the interrelated and interdependent effects under the direct and indirect effects headings.

Indirect Effects. The indirect effects discussion should assess impacts caused by or resulting from the proposed action that occur later in time, but are reasonable certain to occur nonetheless. Note that indirect effects may occur outside of the area directly affected by the action and these areas should have been included in the action area (Section 2.4). Indirect effects may also result from other Federal actions that have not undergone Section 7 consultation but will result from the action under consideration.

Examples of indirect effects: (1) predators following vehicle tracks into piping plover nesting habitat and destroying nests, and (2) cats brought into a housing unit preying on endangered mice in adjacent habitat.

Important Note:

The analysis of effects section is not the time to introduce new data. All relevant information should have been presented previously in the Project Description Section (Section 2), the Environmental Baseline Section (Section 3), and the Natural History and Species Occurrence Section (Section 4).

Guidance Related to Direct and Indirect Effects Discussions

- **Conservation Measures**

Discuss the relationship of the specific conservation measures introduced as part of the project description that serve to avoid or minimize potential effects to ESA listed species and critical habitat elements. Typically these measures include avoidance or preservation activities, for example, timing restrictions or buffers around sensitive habitats or habitat features that are important to listed species. Best Management Practices (BMPs) are methods, facilities, built elements, and techniques implemented or installed during project construction to reduce short- and long-term project-related impacts. Some conservation measures are already available as ODOT specification language (see Section 6.0).

- **Stormwater**

Stormwater impacts are expected from projects that increase pollutant-generating impervious surface area, alter alignments, alter the pattern or manner of stormwater management, or add or repair bridges. Criteria for determining the level of effect and for defining the limits of the action area for stormwater remain in flux. Check the ODOT Geo/Environmental Biology and Water Resources web pages for the most current information.

Stormwater documentation should include how project stormwater will be treated and managed. If the most effective Best Management Practices (BMPs) cannot be used to treat project stormwater for the pollutants of concern, the Stormwater BMP Selection Tool should be used to select alternative treatment methods, and the process should be documented in the BA. Information on stormwater BMPs, pollutant removal effectiveness ratings, and the BMP Selection tool are available on the ODOT Geo/Environmental Water Resources web page (http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/water_resources.shtml).

- Noise and Visual Disturbance

Noise and visual effects that may result in harassment of terrestrial species are often difficult to analyze. If harassment caused by noise or visual activity are potential issues for the proposed project, provide basic information on the activity; the baseline level of noise or visual activity; and the proximity to known nests, denning or fawning areas, or the occupied or suitable unsurveyed habitat. Any information on the decibel levels expected and the noise abating or visual screening characteristics of the area are also valuable for analyzing noise effects.

- Describing Effects on Plants:

As described earlier, because incidental take does not generally apply to listed plants, a BA and BO are conducted to analyze the likelihood that a proposed action may jeopardize a species or adversely modify or destroy designated critical habitat. Thus, the analysis should be made at multiple scales that draw the connection from the project effects at the local scale to the species scale. For example, how do the X number of plants being lost from the project fit into the local population and how does the local population fit into the matrix of populations within the Willamette Valley (i.e., is the local population a critical link between other populations?).

Effect of the Proposed Action on Tribal Resources or Interests. This subsection should include a summary of discussions with the Tribes that could be affected by the proposed action.

Estimating Take. This subsection should include:

- A discussion of project elements that could cause take (e.g., project area isolation and fish handling).
- How and where take will likely occur in association with the proposed action.
- The categories of take that are likely to occur (e.g., harm, harassment).
- Estimates of take including the rationale for the take numbers.
- A list of resources used to estimate take (e.g., published data, personal communications).

Determination of the scope and extent of take is critical to ensure that the federal action agency has adequate incidental take coverage for the project. In authorizing take, the Services may provide take coverage utilizing a surrogate for “unquantifiable take” associated with project effects. As an example, a measure of habitat loss, either temporary or permanent, may be a surrogate for estimating take (e.g., length of stream habitat affected, acres of riparian disturbance). Examples of information that can be included in a BA to assist with take estimates based on surrogate variables are: square feet or acres of stream channel disturbance, square feet or acres of riparian habitat lost due to impacts, square feet or acres of new impervious surface, linear feet and area of armored bank, and expected extent of turbidity.

Cumulative Effects. When requesting initiation of formal consultation, ESA Section 7 regulations require the federal action agency to provide an analysis of cumulative effects. The Cumulative Effects Section should include the following information:

- A description of all “non-federal” actions reasonably certain to occur in the foreseeable future within the action area. Non-federal actions include state, local, private, and tribal actions (e.g., residential developments, watershed enhancement).
- A cumulative effects analysis for each species under consultation. If multiple species with very similar biology are considered and the cumulative effects on those species are likely to be the same (such as UWR Chinook Salmon and UWR Steelhead), the species may be grouped under one effects analysis. If species-specific cumulative effects are anticipated, the differences must be clearly identified by species.

Important Note:

Cumulative effects are merely presented in the BA; effects of cumulative actions are not included in the finding of effect.

Important Note:

Regarding the use of best scientific and commercially available data: The ESA requires the action agency to provide the best scientific and commercial data available to assess the impact of a proposed project on listed species or designated critical habitat. If relevant data are known to be available to the agency or will be available as the result of ongoing or imminent studies, the Services should request those data and any other analyses required by the regulations, or suggest that consultation be postponed until those data or analyses are available. Where significant data gaps exist, there are two options: (1) if the action agency concurs, extend the due date of the Biological Opinion until sufficient information is developed for a more complete analysis; or (2) develop the Biological Opinion with the available information giving the benefit of the doubt to the species.

Giving the “benefit of doubt” to the species is often called the “precautionary principle.” If information is not available or is not provided to the Services, the precautionary principle will be applied. To avoid delays and maximize the ability of the Services to complete consultation, the action agency or BA preparer should include as much up-to-date information as possible when analyzing potential effects to listed species.

EXAMPLE LANGUAGE

5.1 Direct Effects

Table 2. Checklist for Documenting Environmental Baseline and Effects of Proposed Actions on Relevant Indicators (NOAA Fisheries 1996) for the [insert ESU and species name] ESU.

PATHWAYS: INDICATORS	ENVIRONMENTAL BASELINE	EFFECTS OF THE ACTION(S)
<u>Water Quality:</u>		
Temperature	Properly or Not Properly Functioning	Degrade Maintain Restore
Sediment/Turbidity	Properly or Not Properly Functioning	Degrade Maintain Restore
Chemical Contamination	Properly or Not Properly Functioning	Degrade Maintain Restore
<u>Habitat Access:</u>		
Physical Barriers	Properly or Not Properly Functioning	Degrade Maintain Restore
<u>Habitat Elements:</u>		
Substrate	Properly or Not Properly Functioning	Degrade Maintain Restore
Large Wood	Properly or Not Properly Functioning	Degrade Maintain Restore
Pool Frequency	Properly or Not Properly Functioning	Degrade Maintain Restore
Pool Quality	Properly or Not Properly Functioning	Degrade Maintain Restore
Off-channel Habitat	Properly or Not Properly Functioning	Degrade Maintain Restore
Refugia	Properly or Not Properly Functioning	Degrade Maintain Restore
<u>Channel Condition and Dynamics:</u>		
Width/Depth Ratio	Properly or Not Properly Functioning	Degrade Maintain Restore
Streambank Condition.	Properly or Not Properly Functioning	Degrade Maintain Restore
Floodplain Connectivity	Properly or Not Properly Functioning	Degrade Maintain Restore
<u>Flow/Hydrology:</u>		
Peak/Base Flows	Properly or Not Properly Functioning	Degrade Maintain Restore
Drainage Network Increase	Properly or Not Properly Functioning	Degrade Maintain Restore
<u>Watershed Conditions:</u>		
Road Density & Location	Properly or Not Properly Functioning	Degrade Maintain Restore
Disturbance History	Properly or Not Properly Functioning	Degrade Maintain Restore
Riparian Reserves	Properly or Not Properly Functioning	Degrade Maintain Restore

Restore = system-wide beneficial effect.

Maintain(+) = localized benefit; no system-wide effect.

Maintain(-) = localized, temporary impact; no system-wide effect.

Maintain = no localized, temporary, or system-wide effect.

Degrade = system-wide impact.

EXAMPLE LANGUAGE

5.4 Estimating Take

In this example, a culvert will be replaced, 250 feet of stream channel will be dewatered, and fish will be salvaged via electrofishing.

Type of Project: Culvert replacement

ESA-listed Species Present: Upper Willamette River (UWR) Chinook salmon

Stream: Camp Creek tributary to the McKenzie River

Dewatered Section: 250 feet

Habitat Types: 60 feet of pool habitat and 190 feet of riffle habitat

Using Streamnet, it was determined that Camp Creek is 7-miles long and it has a Chinook salmon smolt capacity of 15,251 individuals. This averages out to 2,179 smolts per mile. The length of stream that will be dewatered is 250 feet (0.05 mile). Therefore, the potential Chinook smolt capacity for the dewatered section of stream is 103 individuals.

ODFW was contacted for specific information about Chinook salmon in Camp Creek.

Questions asked included:

- Do you feel that Camp Creek is fully seeded or underseeded?
- Which habitat types do Chinook salmon use during the summer?
- Are there expected temperature issues that may limit Chinook salmon use or distribution in the area during the summer when the project will occur?

(Include answers to the questions in the BA)

Answers to these questions were used to refine the Streamnet smolt estimate for the section of Camp Creek that will be dewatered for the project. Because Chinook salmon prefer cool pool-type habitat over riffle or fast water habitat types during summer rearing, it is expected that most Chinook salmon within the dewatering area of the project will utilize the 60 feet of pool habitat rather than the riffle habitat. Thus 25 Chinook salmon are expected in the pool habitat within the work area. In addition, fish become stressed during electrofishing, and five percent lethal take is usually expected. Most lethal take is from delayed mortality and may not be evident at the time of fish release. Five percent mortality of 25 fish results in an estimated two lethal and 23 non-lethal takes of Chinook salmon for the proposed project.

Example of information gathered from Streamnet.org

Reach No.:	1709000408200.00	Name:	Camp Cr
From:	Mouth	To:	Wegner Cr
Length:	7.0 mi	Width:	12.0 ft
Species:	Chinook salmon	Run:	Spring
Percent Present:	100%		
Smolt Capacity:	15,251		
Use Type:	Spawning and rearing		
Habitat Quality:	Fair		
Major Habitat Constraints:	Flow Levels Low (Dewatering) High Temperatures		

SECTION 6.0 Avoidance, Minimization and Conservation Measures

INTENT

In this section, all avoidance, minimization, and conservation measures for the project should be summarized and comprehensively listed so that none are omitted when contract language is developed. Most or all of these avoidance, minimization, and conservation measures should have been discussed previously in the project description section and included in the analysis of effects.

This section should also describe how ODOT will implement these measures. ODOT liaisons with the Services often include information from this section in the Biological Opinion.

SUBSECTIONS

The following subsections should be included in this section:

- 6.1 Standard Specifications
- 6.2 Special Provisions Specifications
- 6.3 Non-contractual Obligations and Agreements
- 6.4 Summary of Avoidance, Minimization and Conservation Measures

INFORMATION TO INCLUDE IN THIS SECTION

The following information should be included in this section:

- A list of applicable ODOT specifications. (http://www.oregon.gov/ODOT/HWY/SP/ECS/standard_specifications.shtml)
- A list of applicable ODOT special provisions specifications. (http://www.oregon.gov/ODOT/HWY/SP/ECS/2008_special_provisions.shtml) (An ODOT Biologist or the ODOT Specifications Unit should be contacted for the most current environmental special provisions language.)
- A summary of non-contractual obligations and agreements. (Non-contractual obligations and agreements are items that ODOT will complete, **not** the contractor. They often are made internally within

Important Notes:

- Agreements or contractual obligations of contractors must be included in contract documentation (e.g., plans and specifications).
- “Non-contractual obligations” are performed by ODOT; they are not discretionary.
- It is critical that all commitments made to the Services are implemented on the ground.

ODOT, as well as between ODOT and various state and federal agencies, such as ODFW, DEQ, and USACE. An ODOT agreement with ODFW to review contractor Planting Plans is an example of a non-contractual obligation.)

- A summary of all avoidance, minimization, and conservation measures. (This can be a bulleted list of the measures, for example, “Vegetation will be cleared during the non-nesting season of migratory birds”).

EXAMPLE LANGUAGE

Avoidance, minimization, and conservation measures are intended to limit or reduce environmental impacts to listed species or critical habitat. Avoidance, minimization, and conservation measures for this project will follow practices outlined in the “Oregon Standard Specifications for Construction (2008). Standard Specifications for the project will be amended in Special Provisions to include conservation measures outlined in this BA.

Additional avoidance, minimization, and conservation measures may be agreed upon by state and federal government representatives, as conditions of the resulting federal Letter of Concurrence or Biological Opinion. These agreements will be incorporated into contract documents and will be treated as non-contractual obligations for ODOT. Failure to meet these non-contractual obligations may have repercussions on the project.

6.1 Standard Specifications

Section 00280 - Erosion and Sediment Control

These specifications require the Contractor to implement the Erosion and Sediment Control Plan (ESCP) that ODOT developed to comply with federal, state, and local laws, rules and regulations, and the National Pollution Discharge Elimination System (NPDES) General Construction Permit regarding erosion prevention and sediment control for on-site construction activities. Erosion and sediment control specification typically focus on soil and slope protection and stabilization measures, and site restoration methods (including planting materials and methods).

Section 00290 – Environmental Protection

These specifications direct the Contractor to implement measures and comply with laws and regulations designed to protect sensitive environmental resources. This specification section addresses hazardous waste and hazardous substances (00290.20); pollution control (00290.30); protection of fish, wildlife, and plants (00290.31 through 00290.40); protection of wetlands (00290.41); and protection of sensitive cultural resources and sites (00290.50 and 00290.51); as well as other applicable safety, health, and human resources issues.

Section 00320 - Clearing and Grubbing

These specifications direct the Contractor on clearing operations (00320.40), including the removal, preservation, and trimming of trees and other vegetation. This specifications section

also addresses grubbing operations (00320.41), and it provides limits on the Contractor's area of approved activity and scope of actions. These specifications provide protection to vegetation both inside and outside of approved work areas.

Section 01040 – Planting

These specifications provide the Contractor with guidelines for furnishing, planting and establishing specified plant materials in planting areas shown or directed in the project plans. This specification section also includes directions for specific planting seasons, layout and preparation of planting areas, preparation of planting materials, and requirements for plant establishment to assure satisfactory growth and survival.

EXAMPLE LANGUAGE

6.3 Non-Contractual Obligations and Agreements

- (1) Prior to the pre-construction conference, environmental inspection staff shall review the ESCP, PCP, BRCP, and additional containment measures.
- (2) A copy of the Biological Assessment and Biological Opinion will be available at the Construction Project Manager's field office.

SECTION 7.0 Finding of Effect

INTENT

The intent of this section is to provide an effect determination (i.e., finding of effect) for each listed species and designated critical habitat under consultation. The determinations should reflect the analysis provided in Section 5.0 and they should be logically connected with all the information presented in the BA. In this section, it also is important to justify the effects determinations reached.

Helpful Suggestion:

Reviewers at the Services often read the finding of effect section first. They then review the document with the expectation that all the information presented in the BA will ultimately support this determination. Once all effects analyses have been completed, it often is helpful to write this section first and then develop the remaining sections in support of the finding.

SUBSECTIONS

Subsections should be added for each species and each designated critical habitat likely to be present within the action area.

- 7.1 **Species X**
- 7.2 **Species Y**
- 7.3 **Critical Habitat X**
- 7.4 **Critical Habitat Y**

Helpful Suggestion:

- If multiple listed species with very similar biology are under consultation and the effect determination is the same, the species may be grouped for the finding of effect.
- If project effects are species specific, the differences must be clearly identified by species.

INFORMATION TO INCLUDE IN THIS SECTION

This section should include a finding of effect for each listed species and designated critical habitat. The effects determination should be one of the following:

- **No Effect (NE)**. This designation literally means no effect whatsoever, neither beneficial nor detrimental, to the listed species or designated critical habitat. If a No Effect determination is reached, a No Effect Memo should be written, not a BA.
- **May Affect, Not Likely to Adversely Affect (NLAA)**. This designation means that the effects to the listed species or designated critical habitat are insignificant and/or

discountable. A NLAA determination of NLAA also should be made for those activities that have only beneficial effects with no short- or long-term adverse effects.

- **Likely to Adversely Affect (LAA).** This designation means that the project will result in immediate or postponed incidental take of listed species or short- or long-term adverse effects on designated critical habitat. Definitive thresholds or triggers that result in a LAA determination of effect may include, but are not limited to, actions that involve salvage and rescue of listed fish or incidental take, fatal or not, associated with the project. The LAA determination is appropriate when adverse effects may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effects are not discountable, insignificant, or beneficial.

Important Note:

Insignificant Effects are effects that never reach the level where take occurs.

Discountable Effects are effects that are extremely unlikely to occur. This means that based on best judgment, a person (1) would not be able to meaningfully measure, detect, or evaluate insignificant effects, or (2) would reasonably expect discountable effects to occur.

EXAMPLE LANGUAGE

7.1 Species X

The following is an example of a NLAA species determination. Edit accordingly.

Having evaluated potential project effects (Section 5.0), ODOT Environmental Services concludes that the proposed actions described for the [insert project name] Project will result in a negligible probability of “take” for [insert ESU/DPS species name]. Although this species is present at the project site, the proposed action will not “hinder the attainment of relevant functioning indicators” as defined in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). Therefore, ODOT makes a determination of **may affect, not likely to adversely affect** with regard to this ESU. [List justifications for determination].

The following is an example of a NLAA critical habitat determination. Edit or delete accordingly.

The proposed action **may affect, but will not adversely affect** the critical habitat of the [insert ESU name species name]. The proposed conservation measures are expected to limit potential project-related effects to the action area. Impacts will be temporary and will not result in any net change in function of the existing critical habitat. [List justifications for determination].

The following is an example of a LAA species determination. Edit or delete accordingly.

Having evaluated potential effects (Section 5.0), ODOT Environmental Services concludes that the project elements described for the [insert project name] will result in a more than negligible probability of “take” for [insert ESU/DPS species name]. Although the project may result in short-term adverse effects in the action area, the project will not “hinder the attainment of relevant functioning indicators” as defined in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). Therefore, ODOT makes a determination of **may affect, likely to adversely affect** with regard to this [insert ESU/DPS species name]. The project will likely affect [insert ESU/DPS species name] by trapping juvenile Salmonids in the work isolation areas and by creating minor, short-term turbidity within [water body name]. The proposed project may affect [insert ESU/DPS species name] through minor short-term downstream effects such as turbidity or displacement within [water body name].
[List justifications for determination.]

Following is an example of a LAA critical habitat determination. Edit or delete accordingly.

Having evaluated potential project effects (Section 5.0), ODOT Environmental Services concludes that the proposed actions described for the [insert project name] **may affect, is likely to adversely affect** designated critical habitat. Adverse effects associated with this project will be temporary and ultimately will not result in any net change in function of existing critical habitat. [List justifications for determination.]

Due to this finding of effect, ODOT is requesting initiation of [informal/formal] consultation [include “and conferencing” if there is a proposed species or critical habitat] in accordance with Section 7 of the ESA.

[Add a “request for take” statement if a LAA determination is made.]

SECTION 8.0 Essential Fish Habitat (EFH) Consultation

INTENT

The intent of this section is to outline and document the EFH Consultation under the Magnuson-Stevens Act (i.e., Magnuson-Stevens Fishery Conservation and Management Act). EFH is broadly defined by the Magnuson-Stevens Act to include “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” This language is interpreted in the 1997 Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions].

- “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if appropriate.
- “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- “Necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.
- “Spawning, breeding, feeding, or growth to maturity” covers a species’ full life cycle.

The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH. The consultation requirements of section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) provide that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.
- EFH Consultation is required on all coastal pelagic fish, and for non-coastal areas, on all coho, pink, and chinook salmon, regardless of ESU status.
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH.
- Thirty days after receiving conservation recommendations from NMFS, federal agencies shall provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the federal agency shall explain its reasons for not following the recommendations.

SUBSECTIONS

The following subsections should be included in this section:

- 8.1 Identification of Essential Fish Habitat**
- 8.2 Analysis of Effects**
- 8.3 Conclusion**

INFORMATION TO INCLUDE IN THIS SECTION

The following information should be included in the Identification of Essential Fish Habitat section of the BA:

- Identification of all relevant streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to Salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers identified by Pacific Fisheries Management Council (PFMC 1999).
- Denotation of the extent of EFH in the action area which extends from the near shore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California north of Point Conception (PFMC 1999).

The analysis of effects subsection should include:

- Analysis of the effects of the project on EFH. (The analysis of effects for fish habitat in Section 5.0 (Analysis of Effects) can be referenced if the effects to EFH are identical. However, if EFH for a composite of groundfish or coastal pelagics is being analyzed, project effects are likely to be different than those for Salmonids.)
- Conservation measures and special provisions described in Section 6.0 that are considered adequate to prevent adverse effects on EFH.

Important Notes:

- Only effects to EFH should be described in the Analysis of Effects, and **not** effects to individual fish.
- Species included in the EFH consultation are not necessarily the same as those covered in the ESA consultation. Consequently, it is important to specifically identify the species for which the EFH consultation is being conducted.

The conclusion to this section of the BA should include the following:

- A determination that the project either will **or** will not adversely affect EFH.
- Justification of the conclusion.

EXAMPLE LANGUAGE

8.3 Conclusion

The conservation measures and special provisions described in this BA (section 6.0) are considered adequate to prevent adverse effects on EFH for [insert species name here for groundfish/salmon] in this project. The ODOT believes that the proposed action [will not/will] adversely affect EFH for [insert ESU information here] salmon. [List justification for conclusion.]

SECTION 9.0 References

INTENT

The author of the BA must retain all documents referenced in the BA, and provide them to the federal action agency, ODOT, and the Services, if requested.

INFORMATION TO INCLUDE IN THIS SECTION

References should include all information used in the preparation of the BA including:

- Internet data
- Publications
- Personal communications

EXAMPLE LANGUAGE

Endangered Species Consultation Handbook. 1998. *Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act*. U.S. Fish and Wildlife Service and National Marine Fisheries Service. March 1998 Final. [Endangered Species Section 7 Consultation, U.S. Fish & Wildlife Service](#)

National Marine Fisheries Service (NMFS). 1996. *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale*. Environmental and Technical Services Division, Habitat Conservation Branch.

Oregon Department of Environmental Quality (ODEQ). 1999. *DEQ's 1998 303(d) List of Water Quality Limited Waterbodies and Oregon's Criteria Used for Listing Waterbodies*. Salem, Oregon.

Oregon Department of Fish and Wildlife. 2000. *Oregon Guidelines for Timing of In-water Work to Protect Fish and Wildlife Resources*.

Oregon Department of Transportation (ODOT). [date]. Unpublished. Project Prospectus: [insert project name]. Oregon Department of Transportation, Salem, Oregon.

Oregon Department of Transportation (ODOT). 2008. *Oregon Standard Specifications for Construction*. Oregon Department of Transportation, Salem, Oregon.

For bull trout consultations:

Buchanan, D. V., M. L. Hanson, and R. M. Hooton. 1997. *Status of Oregon's bull trout*. Fish Division, Oregon Department of Fish and Wildlife, Portland, OR.

United States Fish and Wildlife Service (USFWS). 1998. *A Framework to Assist in Making Endangered Species Act Documentations of Effect for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale*. Department of the Interior.

SECTION C Resources

INTENT

Data Sources	Information Location
NMFS information on species, critical habitat	https://www.westcoast.fisheries.noaa.gov/
ODOT Information: BAs, Guidance Documents	http://egov.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/index.shtml
'NMFS' ESA habitat analytical frameworks and guidance	https://www.westcoast.fisheries.noaa.gov/publications/reference_documents/esa_refs/habitatapproach_081999-2.pdf https://www.oregon.gov/ODOT/GeoEnvironmental/Documents/Biology_NMFS_Endangered-Species-Determination.pdf
Estimating Take	https://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=smoltreports https://www.streamnet.org/ http://oregonstate.edu/Dept/ODFW/inforeports/98-4.pdf http://oregonstate.edu/Dept/ODFW/freshwater/inventory/projects.html
Additional guidance for EFH analyses can be found at the NOAA Fisheries	https://www.fisheries.noaa.gov/national/habitat-conservation/consultations-essential-fish-habitat