

1. INTRODUCTION

The Interstate 5 (I-5) Columbia River Crossing (CRC) project is a multimodal project focused on improving safety, reducing congestion, and increasing mobility of motorists, freight, bicyclists, and pedestrians along a 5-mile section of the I-5 corridor connecting Vancouver, Washington and Portland, Oregon, and extending the Yellow Line MAX from Delta Park in Portland to Clark College in Vancouver. The project area stretches from State Route 500 (SR 500) in northern Vancouver, south through downtown Vancouver, and over the I-5 bridges across the Columbia River and the North Portland Harbor to just north of Columbia Boulevard in north Portland (Figure 1-1). The project area also includes other elements as described below.

There are significant congestion, safety, and mobility problems in the 5-mile project area. The existing northbound bridge was built in 1917, and the southbound bridge was added in 1958. These bridges have been classified as functionally obsolete because they do not meet current or future demands for interstate service, resulting in long delays from congestion. If no changes are made, the daily congestion period is projected to grow from today's 6 hours to 15 hours by 2030 (CRC 2008a). In addition, this section of I-5 has an accident rate more than double that of similar urban highways. Narrow lanes, short on-ramps, and non-standard shoulders on the bridges contribute to accidents. Bridge lifts to allow passage of river traffic stop all traffic using I-5 over the mainstem Columbia River, resulting in delays on connecting roadways and adding to unsafe driving conditions.

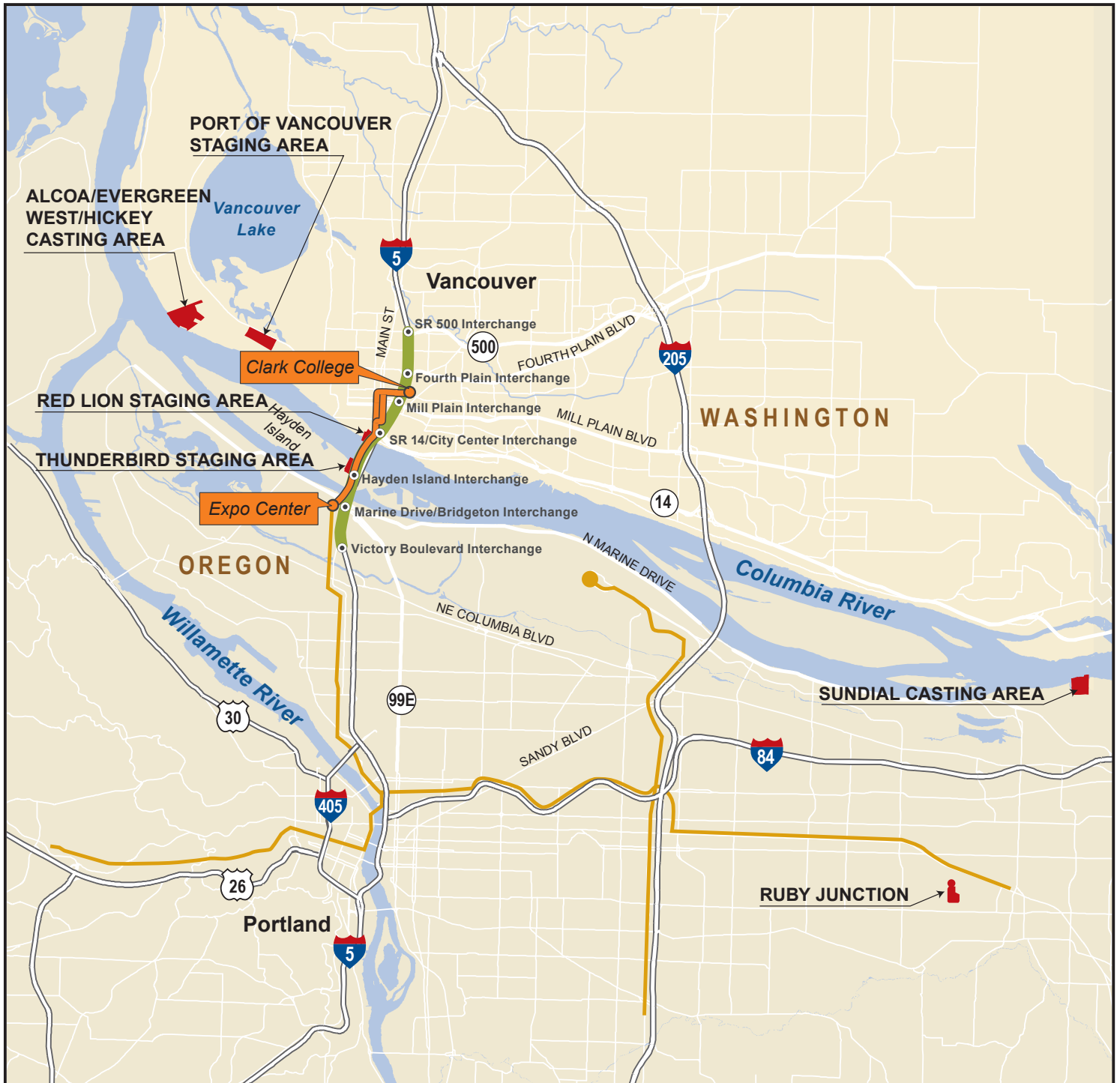
Current transit service between Vancouver and Portland is limited to bus service and constrained by the limited capacity in the I-5 corridor and is subject to the same congestion as other vehicles, which affects transit reliability and operations. Bicycle and pedestrian (bike/ped) facilities are currently substandard in much of the project area.

Seismic safety is also an important issue. Recent geotechnical studies have shown that the sandy soil under the mainstem Columbia River bridges would likely liquefy to a depth of 85 feet during an earthquake greater than Magnitude 8. This could cause irreparable damage to the bridges and potential loss of human life.

To remedy these deficiencies, the CRC project proposes to:

- Replace the existing Columbia River bridges with new structures to eliminate the need for bridge lifts, convey larger volumes of traffic and meet current design standards for safety and seismic activity.
- Retrofit the existing North Portland Harbor Bridge, and add three new structures for auxiliary ramps and light rail transit (LRT).
- Improve seven interchanges along I-5 in Portland and Vancouver.
- Extend LRT from north Portland through downtown Vancouver.
- Add improved bike/ped access on the new bridges and surrounding areas.
- Construct three new park and ride facilities in Vancouver.
- Expand the Ruby Junction Maintenance Facility to accommodate additional LRT vehicles.

These project elements are discussed in more detail in Section 3.0, Project Description.



2 MILES





-  Interchange Improvements
-  Highway Improvements
-  New Light Rail Alignment
-  Existing MAX Lines

Figure 1-1. Project Area Map

1 As required under Section 7 of the Endangered Species Act (ESA) of 1973, projects that use
2 federal funding or require federal permits and may affect listed species must undergo
3 consultation with U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries
4 Service (NMFS). The CRC project is pursuing funding from two federal agencies: Federal
5 Highway Administration (FHWA) and Federal Transit Administration (FTA). FHWA and FTA
6 are the lead federal agencies, and this Biological Assessment (BA) has been prepared on their
7 behalf. The purpose of this BA is to analyze the project's effects on: (1) species that are federally
8 listed as threatened or endangered, (2) species that are proposed for listing, (3) designated and
9 proposed critical habitat, and (4) essential fish habitat (EFH) in accordance with the Magnuson-
10 Stevens Fishery Conservation Management Act (MSA).

11 **1.1 PURPOSE AND NEED**

12 The project Purpose and Need describes the parameters for project development and decision-
13 making as based on defined problems and issues. It outlines the significance of the I-5 CRC
14 corridor, the project purpose, and the need for the project and reviews the principles used to
15 frame the physical limits and alternatives of the project. Defining the Purpose and Need for a
16 project such as this one is a crucial step in designing and evaluating alternatives under the
17 National Environmental Policy Act (NEPA). The Purpose and Need for this project was
18 developed by relying on previous planning studies, solicitation of public input, and coordination
19 with numerous stakeholder groups.

20 More than a decade of planning and multiple prior studies have evaluated transportation
21 deficiencies in the I-5 CRC project area. These studies have identified a variety of transportation
22 mobility and safety problems, many of which are being addressed through the I-5 CRC project.
23 Beginning in early 2005 and concentrated in the fall of 2005, the CRC project worked with
24 stakeholder groups and held public meetings to solicit feedback on how the overall goals and
25 objectives of this project should be defined.

26 The CRC project worked with the community to form the CRC Task Force, a broad group of
27 stakeholders representing the range of interests affected by the project. This group has met
28 regularly with the CRC project team to provide advice and recommendations on all project
29 milestones. In addition, a series of public open houses during the fall of 2005 provided more
30 input from the public regarding how the project should define its goals and objectives.

31 The CRC project team also worked with many other local, state, and federal agencies to ensure
32 that the purpose of this project would not conflict with other local and regional goals and would
33 not predispose itself to an alternative that would be difficult for agencies to permit or approve.
34 The federal co-lead agencies for this project, FTA and FHWA, were also instrumental in the
35 development of the project's Purpose and Need.

36 Ultimately, transportation planning studies of the CRC project area provided the underlying
37 scope of this project, while coordination with stakeholder groups, the public, and a variety of
38 local, state, and federal agencies provided important input on how this project should be defined
39 and what problems it seeks to address.

1 1.1.1 Project Purpose

2 The purpose of the proposed action is to improve I-5 corridor mobility by addressing present and
3 future travel demand and mobility needs in the CRC Bridge Influence Area (BIA). The BIA
4 extends from approximately Columbia Boulevard in the south to SR 500 in the north
5 (Figure 1-1). Relative to the No-Build Alternative, the proposed action is intended to achieve the
6 following objectives:

- 7 • Improve travel safety and traffic operations on the I-5 crossing's bridges and associated
8 interchanges;
- 9 • Improve connectivity, reliability, travel times and operations of public transportation
10 modal alternatives in the BIA;
- 11 • Improve highway freight mobility and address interstate travel and commerce needs in
12 the BIA; and
- 13 • Improve the I-5 river crossing's structural integrity (seismic stability).

14 1.1.2 Project Need

15 The specific needs to be addressed by the proposed action include:

- 16 • **Growing travel demand and congestion:** Existing travel demand exceeds capacity in
17 the I-5 crossing and associated interchanges. This corridor experiences heavy congestion
18 and delay lasting 4 to 6 hours during the morning and afternoon peak travel periods and
19 when traffic accidents, vehicle breakdowns, or bridge lifts occur. Due to excess travel
20 demand and congestion in the I-5 bridge corridor, many trips take the longer, alternative
21 I-205 route across the river. Spillover traffic from I-5 onto parallel arterials such as
22 Martin Luther King Jr. Boulevard (MLK) and Interstate Avenue increases local
23 congestion. The two crossings currently carry over 260,000 trips across the Columbia
24 River daily. Daily traffic demand over the I-5 crossing is projected to increase by more
25 than 35 percent during the next 20 years, with stop-and-go conditions increasing to
26 approximately 15 hours each day if no improvements are made.
- 27 • **Impaired freight movement:** I-5 is part of the National Truck Network, and the most
28 important freight highway on the West Coast, linking international, national, and regional
29 markets in Canada, Mexico, and the Pacific Rim with destinations throughout the western
30 United States. In the center of the project area, I-5 intersects with the Columbia River's
31 deep water shipping and barging as well as two river-level, transcontinental rail lines.
32 The I-5 crossing provides direct and important highway connections to the Port of
33 Vancouver and Port of Portland facilities located on the Columbia River as well as the
34 majority of the area's freight consolidation facilities and distribution terminals. Freight
35 volumes moved by truck to and from the area are projected to more than double over the
36 next 25 years. Vehicle-hours of delay on truck routes in the Portland-Vancouver
37 metropolitan area are projected to increase by more than 90 percent over the next
38 20 years. Growing demand and congestion will result in increasing delay, costs, and
39 uncertainty for all businesses that rely on this corridor for freight movement.

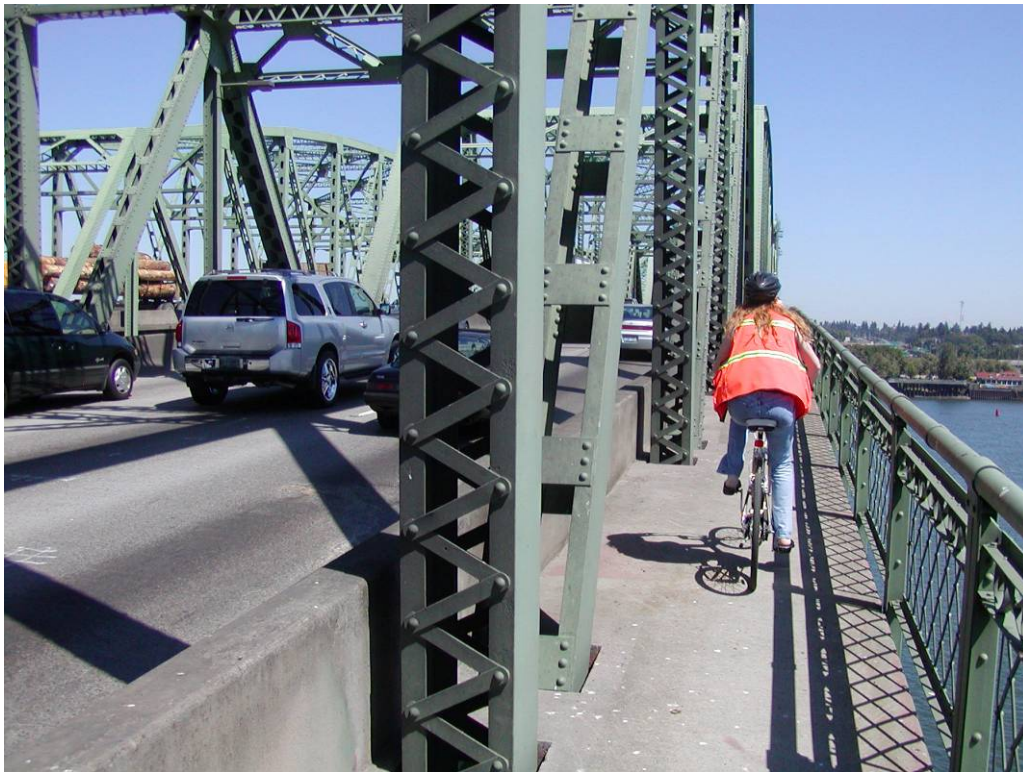
- 1 • **Limited public transportation operation, connectivity, and reliability:** Due to limited
2 public transportation options, a number of transportation markets are not well served. The
3 key transit markets include trips between central Portland and Vancouver and Clark
4 County, trips between north/northeast Portland and Vancouver and Clark County, and
5 trips connecting Vancouver and Clark County with the regional transit system in Oregon.
6 Current congestion in the corridor adversely impacts public transportation service
7 reliability and travel speed. Southbound bus travel times across the bridge are currently
8 up to three times longer during parts of the a.m. peak compared to off-peak. Travel times
9 for public transit using general purpose lanes on I-5 in the BIA are expected to increase
10 substantially by 2030.
- 11 • **Safety and vulnerability to incidents:** The I-5 river crossing and its approach sections
12 experience crash rates more than two times higher than statewide averages for
13 comparable facilities. Incident evaluations generally attribute these crashes to traffic
14 congestion and weaving movements associated with closely spaced interchanges.
15 Without breakdown lanes or shoulders, even minor traffic accidents or stalls cause severe
16 delay or more serious accidents. The number of cars using the I-5 crossing is predicted to
17 increase by more than 35 percent by 2030. Accident rates in the CRC project area could
18 double if nothing is done to improve existing conditions (see Figure 1-2).



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20
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Figure 1-2. Accident Blocking the Existing I-5 Crossing

- 1 • **Substandard bike/ped facilities:** The bike/ped lanes on the existing I-5 bridges are about 3.5 to 4 feet wide, narrower than the 10-foot standard, and are located extremely
2 close to traffic lanes, thus impacting safety for bicyclists and pedestrians (see Figure 1-3).
3 Direct bike/ped connectivity is poor in the BIA.
4
- 5 • **Seismic vulnerability:** The existing I-5 bridges are located in a seismically active zone.
6 They do not meet current seismic standards and are vulnerable to failure in an
7 earthquake.



8
9 **Figure 1-3. Existing I-5 Crossing Bike/Ped Path**

10 **1.2 BACKGROUND**

11 The primary federal nexus for this project is federal funding from FHWA and FTA through the
12 Oregon Department of Transportation (ODOT), Washington State Department of Transportation
13 (WSDOT), Clark County Public Transit Benefit Area Authority (C-TRAN), and Tri-County
14 Metropolitan Transportation District of Oregon (TriMet). The CRC office in Vancouver,
15 Washington, was established by WSDOT and ODOT to coordinate project management and
16 administration between the state agencies, and is therefore considered the project proponent.
17 Table 1-1 provides a broad project summary.

1

Table 1-1. Project Summary

Project Name:	Columbia River Crossing
Location of Project:	I-5 from Oregon milepost (MP) 305.9 to Washington MP 3.1 2.5 mile extension of the existing MAX Yellow line from the Expo Center station across North Portland Harbor, over Hayden Island, across Columbia River, and through downtown Vancouver ending at Clark College.
Watershed and Hydrologic Unit Code (HUC) Field (5th and 6th):	Columbia Slough/Willamette River, Willamette River/Columbia River: 170900120301 Salmon Creek, Vancouver: 170800010901 Hayden Island/Government Island/Mainstem Columbia: 170800030701 Lower Hood River: 170701051202 (compensatory mitigation site) Mouth of Lewis River: 170800020605 (compensatory mitigation site)
Water Resource Inventory Area (WRIA):	Salmon/Washougal WRIA #28
USGS Quadrangle Map Location:	Portland Vancouver T2N R1E S34
Size of Action Area:	Approximately 8,214 acres near project site Approximately 22.2 million acres including killer whale distribution
City:	Portland, OR Vancouver, WA
County:	Multnomah, Oregon Clark, Washington Hood River, Oregon (compensatory mitigation site)
Project Staff:	Heather Wills – CRC Environmental Manager Sharon Rainsberry – CRC Environmental Team Steve Morrow – CRC Environmental Team Jeff Heilman – CRC Environmental Team Bill Hall, Jenny Lord, Michelle Guay, Mike Parton –BA Authors Tina Farrelly – Wetland Delineation and Botany Surveys
Site Visits:	Habitat Assessment: September 1–16, 2005 Rare Plant Survey: June 23, 2006; July 25–27, 2006; July 31, 2006; August 1, 2006; and August 17, 2006
Site Access Permission:	Generally not granted by landowners at this time if site extends past Department of Transportation (DOT) right-of-way; CRC staff retains information on rights of entry.
Current Land Uses:	Urban
Waterways:	Columbia River (includes North Portland Harbor) Columbia Slough Burnt Bridge Creek Lewis River and Hood River (compensatory mitigation sites)
River Mile (River Kilometer):	RM 106 (RKm 171) of the Columbia River RM 9 (RKm 15) of the Columbia Slough RM 2 (RKm 3) of Burnt Bridge Creek RM 1 (RKm 2) of Hood River (compensatory mitigation site) RM 0.2 (RKm 0.3 of Lewis River (compensatory mitigation site)

Prior Correspondence:

InterCEP was formed in 2005 to provide regular communication between project staff and federal, state, and local regulatory agencies. Approximately 40 meetings with the full InterCEP group or specialty subgroups were conducted. Further information on dates of those meetings, attendance, and topics discussed is included in Appendix G.

1 This BA was developed in collaboration with NMFS, USFWS, and representatives from federal
 2 and state environmental regulatory agencies collectively known as the Interstate Collaborative
 3 Environmental Process (InterCEP), a group formed specifically to coordinate regulatory and
 4 permitting compliance for this project. Members of this group include: FHWA, FTA, USFWS,
 5 NMFS, U.S. Army Corps of Engineers (USACE), U.S. Coast Guard (USCG), U.S.
 6 Environmental Protection Agency (EPA), ODOT, WSDOT, Oregon Department of
 7 Environmental Quality (DEQ), Washington State Department of Ecology (Ecology), Oregon
 8 Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife
 9 (WDFW), Oregon Department of Land Conservation and Development (DLCD), Oregon
 10 Department of State Lands (DSL), Washington State Department of Archaeology and Historical
 11 Preservation (DAHP), and Oregon State Historic Preservation Office (SHPO). A total of 40
 12 InterCEP/pre-BA meetings were held between August 2005 and the submittal of this BA on June
 13 24, 2010; most meetings were held at the CRC project office in Vancouver; other meetings were
 14 located at the WSDOT region office in Vancouver. See Appendix G for the meeting minutes and
 15 lists of meeting attendees. Coordination efforts between project proponents and InterCEP
 16 representatives were initiated in 2005 and are planned to continue through issuance of the
 17 Biological Opinion (BO).

18 The InterCEP group helped guide the CRC project team during development of this BA, as well
 19 as during development of the draft environmental impact statement (DEIS), released for public
 20 review in May 2008. After publication of the DEIS and consideration of public comments, the
 21 elected or appointed bodies of the project’s six local partners (TriMet Board, C-TRAN Board,
 22 Portland City Council, Vancouver City Council, Metro Council, and Southwest Washington
 23 Regional Transportation Council [RTC] Board) selected a replacement I-5 bridge with light rail
 24 to Clark College as the project’s locally preferred alternative (LPA). The LPA is the project
 25 proposed in this BA. The selection of one alternative for further analysis represents regional
 26 consensus on a comprehensive solution for the problems on I-5 between Vancouver and
 27 Portland. The CRC project team will continue working closely with the public and project
 28 partners to refine the LPA and to address additional board and council recommendations. The
 29 InterCEP group is continuing to help inform the project team in advance of the final EIS, which
 30 is expected to be released in summer 2010.

31 **1.3 SPECIES AND CRITICAL HABITAT**

32 Table 1-2 lists the species addressed in this consultation.

33 **Table 1-2. Species Addressed**

Common Name	Scientific Name	ESU or DPS (Federal ESA Status) ^a
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Lower Columbia River ESU (Threatened) Upper Columbia River Spring-Run ESU (Endangered)

Common Name	Scientific Name	ESU or DPS (Federal ESA Status) ^a
		Upper Willamette River (Threatened) Snake River Fall-Run ESU (Threatened) Snake River Spring/Summer-Run ESU (Threatened)
Steelhead	<i>O. mykiss</i>	Lower Columbia River DPS (Threatened) Middle Columbia River DPS (Threatened) Upper Columbia River DPS (Endangered) Upper Willamette River (Threatened) Snake River DPS (Threatened)
Sockeye salmon	<i>O. nerka</i>	SNAKE RIVER ESU (Endangered)
Coho salmon	<i>O. kisutch</i>	Lower Columbia River ESU (Threatened)
Chum salmon	<i>O. keta</i>	Columbia River ESU (Threatened)
Bull trout	<i>Salvelinus confluentus</i>	Columbia River DPS of Conterminous U.S. (Threatened)
Northern (Steller) sea lion	<i>Eumetopias jubatus</i>	Eastern DPS (Threatened)
Green sturgeon	<i>Acipenser medirostris</i>	Southern DPS (Threatened)
Killer whale	<i>Orcinus orca</i>	Southern Resident Population (Endangered)
Eulachon	<i>Thaleichthys pacificus</i>	Southern DPS (Threatened)

^a ESU = Evolutionarily Significant Unit; DPS = Distinct Population Segment.

Table 1-3 lists the designated and proposed critical habitats addressed in this consultation.

Table 1-3. Critical Habitats Addressed

Species	Waterway or Geographic Extent
Chinook salmon (runs listed above)	Lower Columbia River, North Portland Harbor, Columbia Slough ^a , Lewis River, and Hood River within the action area
Steelhead (runs listed above)	Lower Columbia River, North Portland Harbor, Columbia Slough ^a , Lewis River, and Hood River within the action area
Sockeye salmon (run listed above)	Lower Columbia River and North Portland Harbor within the action area
Chum salmon (run listed above)	Lower Columbia River, North Portland Harbor, and Lewis River within the action area
Bull trout (population listed above)	Proposed in the lower Columbia River, North Portland Harbor, Lewis River, and Hood River within the action area

^a Critical habitat within the Columbia Slough is designated for Lower Columbia River Chinook salmon and steelhead ESUs.

1.3.1 Essential Fish Habitat

Essential fish habitat (EFH) for Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*O. kisutch*) (under the Pacific salmon EFH designation) is present within the action area. Designated EFH for Pacific Coast groundfish and Pacific Coast-Coastal Pelagic Species will not be affected by the proposed project. Effects to EFH are addressed in Section 9 of this BA.

1 **1.3.2 Species Not Addressed in this Document**

2 USFWS provides a regularly updated list of species that are listed under the ESA for each county
3 in Oregon and Washington. The following species are included on the lists for Clark,
4 Multnomah, and Hood River Counties, but are not addressed in this BA because no suitable
5 habitat occurs within the action area:

- 6 • Columbian white-tailed deer (*Odocoileus virginianus leucurus*) Columbia River DPS
- 7 • Northern spotted owl (*Strix occidentalis caurina*)
- 8 • Gray wolf (*Canis lupus*)
- 9 • Golden paintbrush (*Castilleja levisecta*)
- 10 • Willamette daisy (*Erigeron decumbens* var. *decumbens*)
- 11 • Nelson's checkermallow (*Sidalcea nelsoniana*)
- 12 • Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*)
- 13 • Water howellia (*Howellia aquatilis*)
- 14 • Bradshaw's desert parsley (*Lomatium bradshawii*)
- 15 • Golden paintbrush (*Castilleja levisecta*)

16 Additionally, the plant species were not observed during surveys conducted in 2006. Appendix
17 M outlines the rationale behind the No Effect determination for these species.