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National Oceanic and Atmospheric Administration

50 CFR Part 226

Endangered and Threatened Species; Designation of Critical Habitat for 13 Evolutionarily Significant Units of Pacific Salmon (*Oncorhynchus* spp.) and Steelhead (*O. mykiss*) in Washington, Oregon, and Idaho; Proposed Rule

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 030716175–4327–03; I.D. No. 070303A]

RIN No. 0648–AQ77

Endangered and Threatened Species; Designation of Critical Habitat for 13 Evolutionarily Significant Units of Pacific Salmon (*Oncorhynchus* spp.) and Steelhead (*O. mykiss*) in Washington, Oregon, and Idaho

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: We, the National Marine Fisheries Service (NMFS), propose to designate critical habitat for 13 Evolutionarily Significant Units (ESUs) of Pacific salmon (chum, *Oncorhynchus keta*; coho, *O. kisutch*, sockeye, *O. nerka*; chinook, *O. tshawytscha*) and *O. mykiss* (inclusive of anadromous steelhead and resident rainbow trout) listed under the Endangered Species Act of 1973, as amended (ESA). The specific areas proposed for designation in the rule text set out below include approximately 27,553 mi (44,342 km) of lake, riverine, and estuarine habitat in Washington, Oregon, and Idaho, as well as approximately 2,121 mi (3,413 km) of marine nearshore habitat in Puget Sound, Washington. Some of the proposed areas are occupied by two or more ESUs. However, as explained below, we are also considering excluding many of these areas from the final designation based on existing land management plans and policies, voluntary conservation efforts and other factors that could substantially reduce the scope of the final designations. The net economic impacts of ESA section 7 associated with designating the areas described in the proposed rule are estimated to be approximately $223,950,127, but we believe the additional exclusions under review could reduce this impact by up to 90 percent or more. We solicit information and comments from the public on all aspects of the proposal, including information on the economic, national security, and other relevant impacts of the proposed designation. We may revise this proposal and solicit additional comments prior to final designation to address new information received during the comment period.

DATES: Comments on this proposed rule must be received by 5 p.m. P.S.T. on February 14, 2005. Requests for public hearings must be made in writing by January 28, 2005. We have already scheduled public hearings on this proposed rule as follows:

Tuesday, January 11, 2005, from 6:30–9:30 p.m. at the Doubletree Hotel Columbia River, 1401 North Hayden Island Drive in Portland, OR;

Thursday, January 13, 2005, from 6:30–9:30 p.m. at the Red Lion Hotel Columbia Center, 1101 North Columbia Center Blvd. in Kennewick, WA;

Tuesday, January 18, 2005, from 6:30–9:30 p.m. at the Radisson Hotel Seattle Airport, 17001 Pacific Highway South in Seattle, WA; and

Tuesday, January 25, 2005, from 6:30–9:30 p.m. at the Red Lion Hotel Boise Downtown, 1800 Fairview Avenue in Boise, ID.

Details regarding the hearing format and related information will be posted by December 24, 2004, on our Web site at *http://www.nwr.noaa.gov/1salmon/salmesa/crithab/CHsite.htm.*

ADDRESSES: You may submit comments, identified by docket number [030716175–4327–03] and RIN number [0648–AQ77], by any of the following methods:

- E-mail: *critical.habitat.nwr@noaa.gov.* Include docket number [030716175–4327–03] and RIN number [0648–AQ77] in the subject line of the message.
- Federal e-Rulemaking Portal: *http://www.regulations.gov.* Follow the instructions for submitting comments.
- Agency Web site: *http://ocio.nmfs.noaa.gov/ibrm-ssi/index.shtml.* Follow the instructions for submitting comments at *http://ocio.nmfs.noaa.gov/ibrm-ssi/process.shtml.*
- Mail: Submit written comments and information to Chief, NMFS, Protected Resources Division, 525 NE Oregon Street, Suite 500, Portland, OR, 97232–2737. You may hand-deliver written comments to our office during normal business hours at the address given above.
- Fax: 503–230–5435.

FOR FURTHER INFORMATION CONTACT: Steve Stone at the above address, at (503) 231–2317, or by facsimile at (503) 230–5435; or Marta Nammack at (301) 713–1401. The proposed rule, maps, and other materials relating to this proposal can be found on our Web site at *http://www.nwr.noaa.gov/1salmon/salmesa/crithab/CHsite.htm.*

SUPPLEMENTARY INFORMATION:

Background

We are responsible for determining whether species, subspecies, or distinct population segments of Pacific salmon and *O. mykiss* (inclusive of anadromous steelhead and some populations of resident rainbow trout) are threatened or endangered, and for designating critical habitat for them under the ESA (16 U.S.C. 1531 *et seq*). To be considered for ESA listing, a group of organisms must constitute a ''species.'' Section 3 of the ESA defines a species as ''any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' Since 1991 NMFS has identified distinct population segments of Pacific salmon or *O. mykiss* by dividing the U.S. populations of each species into evolutionarily significant units (ESUs) which it determines are substantially reproductively isolated and represent an important component in the evolutionary legacy of the biological species. (56 FR 58612; November 20, 1991.) (In some cases, an ESU may contain a single population of fish.) Under this approach, every Pacific salmon and *O. mykiss* population in the U.S. is part of a distinct population segment that is eligible for listing as threatened or endangered under the ESA. In ESA listing determinations for Pacific salmon and *O. mykiss* since 1991, we have identified 52 ESUs in Washington, Oregon, Idaho and California. Presently 25 of the ESUs are listed as threatened or endangered. One additional ESU (Oregon Coast coho) was listed as threatened from 1998 to 2004 when it was removed from the list of threatened or endangered species as a result of a court order.

In a **Federal Register** document published on June 14, 2004 (69 FR 33101), we proposed to list 27 ESUs as threatened or endangered. The ESUs proposed for listing include 25 currently-listed species, but in most cases the ESUs are being redefined in either or both of two significant ways: by including hatchery fish that are no more than moderately divergent genetically from naturally spawning fish within the ESU, and in the case of *O. mykiss* species, by including some resident trout. We have also proposed to list the previously-listed Oregon Coast coho (redefined to include some such fish reared in hatcheries) and we proposed to list one new ESU (Lower Columbia River *O. mykiss*) previously believed to be extinct in the wild. In this document, ''*O. mykiss*'' ESUs refer to ESUs including populations of both anadromous steelhead and resident

rainbow trout. Also, references to ''salmon'' in this notice generally include all members of the genus *Oncorhynchus*, including *O. mykiss*.

This **Federal Register** document describes proposed critical habitat designations for the following 13 ESUs of salmon and *O. mykiss*: (1) Puget Sound chinook salmon; (2) Lower Columbia River chinook salmon; (3) Upper Willamette River chinook salmon; (4) Upper Columbia River spring-run chinook salmon; (5) Oregon Coast coho salmon; (6) Hood Canal summer-run chum salmon; (7) Columbia River chum salmon; (8) Ozette Lake sockeye salmon; (9) Upper Columbia River *O. mykiss*; (10) Snake River Basin *O. mykiss*; (11) Middle Columbia River *O. mykiss*; (12) Lower Columbia River *O. mykiss*; and (13) Upper Willamette River *O. mykiss*.

Section 3 of the ESA defines critical habitat as ''the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species.''

Section 3 of the ESA (16 U.S.C. 1532(3)) also defines the terms ''conserve,'' ''conserving,'' and ''conservation'' to mean ''to use, and the use of, all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.''

Section 4 of the ESA requires that before designating critical habitat we must consider the economic impacts, impacts on national security and other relevant impacts of specifying any particular area as critical habitat, and the Secretary may exclude any area from critical habitat if the benefits of exclusion outweigh the benefits of inclusion, unless excluding an area from critical habitat will result in the extinction of the species concerned. Once critical habitat for a salmon or *O. mykiss* ESU is designated, Section 7(a)(2) of the ESA requires that each Federal agency shall, in consultation with and with the assistance of NMFS, ensure that any action authorized, funded or carried out by such agency is not likely to result in the destruction or adverse modification of critical habitat.

Previous Federal Action and Related Litigation

Many Pacific salmon and *O. mykiss* populations in California and the Pacific Northwest have suffered broad declines over the past hundred years. We have conducted several ESA status reviews and status review updates for Pacific salmon and *O. mykiss* in California, Oregon, Washington, and Idaho. The most recent ESA status review and proposed listing determinations were published on June 14, 2004 (69 FR 33101). Six of the currently listed ESUs have final critical habitat designations. Table 1 summarizes the NMFS scientific reviews of West Coast salmon and *O. mykiss* and the ESA listing determinations and critical habitat designations made to date.

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		56 FR 58619; 11/20/1991 (Final rule).	
	.....		56 FR 14055; 04/05/1991 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		58 FR 68543; 12/28/1993 (Final rule).	
Snake River sockeye ESU	Endangered	1991	57 FR 57051; 12/02/1992 (Proposed rule).	NMFS 1991a.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		64 FR 14528; 03/25/1999 (Final rule).	
	.....		63 FR 11750; 03/10/1998 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998d.
Ozette Lake sockeye ESU	Threatened	1999	63 FR 11750; 03/10/1998 (Proposed rule).	NMFS 1997f.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		59 FR 440; 01/01/1994 (Final rule).	
	.....		57 FR 27416; 06/19/1992 (Proposed rule).	
	.....		55 FR 49623; 11/30/1990 (Final rule).	
	.....		55 FR 12831, 04/06/1990 (Emergency rule).	
	.....		55 FR 102260; 03/20/1990 (Proposed rule).	
	.....		54 FR 10260; 08/04/1989 (Emergency rule).	
	.....		52 FR 6041; 02/27/1987 (Final rule).	

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS—Continued

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
Sacramento River winter-run chinook ESU.	Endangered	1994	*Critical Habitat Designations.*	
			65 FR 7764; 02/16/2000 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Listing Determinations.	
			69 FR 33102; 06/14/04 (Proposed rule).	
			64 FR 50394; 09/16/1999 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	
			68 FR 55900; 09/29/2003 (removal).	
			68 FR 55900; 09/29/2003 (removal).	
			65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998b.
Central Valley spring-run chinook ESU	Threatened	1999	63 FR 11482; 03/09/1998 (Proposed rule).	NMFS 1999d.
			Listing Determinations.	
			69 FR 33102; 06/14/04 (Proposed rule).	
			64 FR 50394; 09/16/1999 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	
			68 FR 55900; 09/29/2003 (removal).	
			65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998b.
California Coastal chinook ESU	Threatened	1999	63 FR 11482; 03/09/1998 (Proposed rule).	NMFS 1999d.
			Listing Determinations.	
			69 FR 33102; 06/14/04 (Proposed rule).	
			64 FR 14308; 03/24/99 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	
			68 FR 55900; 09/29/2003 (removal)	NMFS 1998b.
			65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998e.
Upper Willamette River chinook ESU	Threatened	1999	63 FR 11482; 03/09/1998 (Proposed rule).	NMFS 1999c.
				NMFS 1998b
			Listing Determinations	NMFS 1998e.
Lower Columbia River chinook ESU	Threatened	1999	69 FR 33102; 06/14/04 (Proposed rule).	NMFS 1999c.
			64 FR 14308; 03/24/99 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	
			68 FR 55900; 09/29/2003 (removal).	
			65 FR 7764; 02/16/2000 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Listing Determinations.	
			69 FR 33102; 06/14/04 (Proposed rule).	
			64 FR 14308; 03/24/99 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	
			68 FR 55900; 09/29/2003 (removal)	NMFS 1998b.
			65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998e.
Upper Columbia River spring-run chinook ESU.	Endangered	1999	63 FR 11482; 03/09/1998 (Proposed rule).	NMFS 1999c.
			Listing Determinations.	
			69 FR 33102; 06/14/04 (Proposed rule).	
			64 FR 14308; 03/24/99 (Final rule).	
			63 FR 11482; 03/09/1998 (Proposed rule).	
			Critical Habitat Designations.	

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS—Continued

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1998b.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1998e.
Puget Sound chinook ESU	Threatened	1999	63 FR 11482; 03/09/1998 (Proposed rule).	NMFS 1999c.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		63 FR 1807; 0/12/1998 (Proposal withdrawn).	
	.....		59 FR 66784; 12/28/1994 (Proposed rule).	
	.....		59 FR 42529; 08/18/1994 (Emergency rule).	
	.....		57 FR 23458; 06/03/1992 (Correction).	
	.....		57 FR 14653; 04/22/1992 (Final rule).	
	.....		56 FR 29547; 06/27/1991 (Proposed rule).	NMFS 1991c.
Snake River fall-run chinook ESU	Threatened	1992	*Critical Habitat Designations*	NMFS 1999d.
	.....		58 FR 68543; 12/28/1993 (Final rule).	
	.....		57 FR 57051; 12/02/1992 (Proposed rule).	
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		63 FR 1807; 0/12/1998 (Proposal withdrawn).	
	.....		59 FR 66784; 12/28/1994 (Proposed rule).	
	.....		59 FR 42529; 08/18/1994 (Emergency rule).	
	.....		57 FR 23458; 06/03/1992 (Correction).	
	.....		57 FR 34639; 04/22/92 (Final rule).	
	.....		56 FR 29542; 06/27/1991 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		58 FR 68543; 12/28/1993 (Final rule) ..	NMFS 1991b.
Snake River spring/summer-run chinook ESU.	Threatened	1992	57 FR 57051; 12/02/1992 (Proposed rule).	NMFS 1998b.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		61 FR 56138; 10/31/1996 (Final rule).	
	.....		60 FR 38011; 07/25/1995 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		64 FR 24049; 05/05/1999 (Final rule) ..	Bryant 1994
Central California Coast coho ESU	Threatened	1996	62 FR 62791; 11/25/1997 (Proposed rule).	NMFS 1995a.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		62 FR 24588; 05/06/1997 (Final rule).	
	.....		60 FR 38011; 07/25/1995 (Proposed rule).	NMFS 1997a.
	.....		*Critical Habitat Designations*	NMFS 1996c.
	.....		64 FR 24049; 05/05/1999 (Final rule) ..	NMFS 1996e.
Southern Oregon/Northern California Coast coho ESU.	Threatened	1997	62 FR 62791; 11/25/1997 (Proposed rule).	NMFS 1995a.
	.....		.....	NMFS 1997a.
	Proposed		.....	NMFS 1996b.
Oregon Coast coho ESU	Threatened*	1998	*Listing Determinations*	NMFS 1996d.
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		69 FR 19975; 04/15/2004 (Candidate list).	
	.....		63 FR 42587; 08/10/1998 (Final rule).	
	.....		62 FR 24588; 05/06/1997 (Proposal withdrawn).	

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS—Continued

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
	.....		61 FR 56138; 10/31/1996 (6 mo. extension).	
	.....		60 FR 38011; 07/25/1995 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule).	
	.....		64 FR 24998; 05/10/1999 (Proposed rule).	NMFS 1995a.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		69 FR 19975; 04/15/2004 (Candidate list).	
	.....		60 FR 38011; 07/25/1995 (Not warranted).	NMFS 1996e.
	Proposed		*Critical Habitat Designations*	NMFS 1995a.
Lower Columbia River coho ESU	Threatened	1995	n/a	NMFS 1991a.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		64 FR 14508; 03/25/1999 (Final rule).	
	.....		63 FR 11774; 03/10/1998 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1997e.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1999b.
Columbia River chum ESU	Threatened	1999	63 FR 11774; 03/10/1998 (Proposed rule).	NMFS 1999c.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		64 FR 14508; 03/25/1999 (Final rule).	
	.....		63 FR 11774; 03/10/1998 (Proposed rule).	
	.....		*Critical Habitat Designations*	NMFS 1996d.
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1997e.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1999b.
Hood Canal summer-run chum ESU	Threatened	1999	63 FR 11774; 03/10/1998 (Proposed rule).	NMFS 1999c.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		67 FR 21568; 05/01/2002 (Redefinition of ESU).	
	.....		62 FR 43937; 08/18/1997 (Final rule).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1996b.
Southern California *O. mykiss*+ ESU ..	Endangered	1997	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1997b.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		62 FR 43937; 08/18/1997 (Final rule).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1996b.
South-Central California Coast *O. mykiss* ESU.	Threatened	1997	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1997b.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		62 FR 43937; 08/18/1997 (Final rule).	

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS—Continued

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1996b.
Central California Coast *O. mykiss* ESU.	Threatened	1997	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1997b.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	NMFS 1996b.
	.....		63 FR 13347; 03/19/1998 (Final rule) ..	NMFS 1997b.
	.....		62 FR 43974; 08/18/1997 (6 mo. extension).	NMFS 1997c.
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	NMFS 1997d.
California Central Valley *O. mykiss* ESU.	Threatened	1998	*Critical Habitat Designations*	NMFS 1998a.
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule).	
	.....		64 FR 5740; 03/10/1999 (Proposed rule).	
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		65 FR 36074; 06/07/2000 (Final rule).	
	.....		65 FR 6960; 02/11/2000 (Proposed rule).	
	.....		63 FR 13347; 03/19/1998 (Not Warranted).	
	.....		62 FR 43974; 08/18/1997 (6 mo. extension).	NMFS 1996b.
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	NMFS 1997c.
	.....		*Critical Habitat Designations*	NMFS 1998a.
Northern California *O. mykiss* ESU	Threatened	2000	n/a	NMFS 2000.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		64 FR 14517; 03/25/1999 (Final rule).	
	.....		63 FR 11798; 03/10/1998 (Proposed rule).	
	.....		62 FR 43974; 08/18/1997 (6 mo. extension).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*	NMFS 1996b.
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1997d.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1999a.
Upper Willamette River *O. mykiss* ESU	Threatened	1999	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1999c.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		63 FR 13347; 03/19/1998 (Final rule).	
	.....		62 FR 43974; 08/18/1997 (6 mo. extension).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*	NMFS 1996b.
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1997c.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1997d.
Lower Columbia River *O. mykiss* ESU	Threatened	1998	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1998a.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		64 FR 14517; 03/25/1999 (Final rule).	
	.....		63 FR 11798; 03/10/1998 (Proposed rule).	

TABLE 1.—SUMMARY OF PREVIOUS ESA LISTING ACTIONS AND CRITICAL HABITAT DESIGNATIONS FOR WEST COAST SALMON AND O. MYKISS—Continued

Evolutionarily Significant Unit (ESU)	Current Endangered Species Act (ESA) status	Year listed	Previous ESA listing determinations and critical habitat designations—**Federal Register** citations	Previous scientific viability reviews and updates
	.....		62 FR 43974; 08/18/1997 (6 mo. extension).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*	NMFS 1996b.
	.....		68 FR 55900; 09/29/2003 (removal)	NMFS 1997d.
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1999a.
Middle Columbia River *O. mykiss* ESU	Threatened	1999	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1999c.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		62 FR 43937; 08/18/1997 (Final rule).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1996b.
Upper Columbia River *O. mykiss* ESU	Endangered	1997	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1997b.
	.....		*Listing Determinations*.	
	.....		69 FR 33102; 06/14/04 (Proposed rule).	
	.....		62 FR 43937; 08/18/1997 (Final rule).	
	.....		61 FR 41541; 08/09/1996 (Proposed rule).	
	.....		*Critical Habitat Designations*.	
	.....		68 FR 55900; 09/29/2003 (removal).	
	.....		65 FR 7764; 02/16/2000 (Final rule)	NMFS 1996b.
Snake River Basin *O. mykiss* ESU	Threatened	1997	64 FR 5740; 03/10/1999 (Proposed rule).	NMFS 1997b.

* Previously listed as a "threatened" species (63 FR 42587, August 10, 1998). Threatened listing set aside in *Alsea Valley Alliance v. Evans* (*Alsea Valley Alliance v. Evans*, 161 F.Supp.2d 1154 (D.Or. 2001), *appeals dismissed,* 358 F.3d 1181 (9th Cir. 2004).

+ *O. mykiss* ESUs include both anadromous "steelhead" and resident "rainbow trout" in certain areas (see 69 FR 33101; July 14, 2004).

On February 16, 2000, we published final critical habitat designations for 19 ESUs, thereby completing designations for all 25 ESUs listed at the time (65 FR 7764). The 19 designations included more than 150 river subbasins in Washington, Oregon, Idaho, and California. Within each occupied subbasin, we designated as critical habitat those lakes and river reaches accessible to listed fish along with the associated riparian zone, except for reaches on Indian land. Areas considered inaccessible included areas above long-standing natural impassable barriers and areas above impassable dams, but not areas above ephemeral barriers such as failed culverts.

In considering the economic impact of the February 16, 2000, action, we determined that the critical habitat designations would impose very little or no additional requirements on Federal agencies beyond those already associated with the listing of the species themselves. NMFS reasoned that since it was designating only occupied habitat, there would be few or no actions that destroy or adversely modify critical habitat that did not also jeopardize the continued existence of the species. Therefore, the agency reasoned that there would be no economic impact as a result of the designations (65 FR 7764, 7765; February 16, 2000).

The National Association of Homebuilders (NAHB) challenged the designations in District Court in Washington, DC on the ground that the agency did not adequately consider the economic impacts of the critical habitat designations (*National Association of Homebuilders* v. *Evans,* 2002 WL 1205743 No. 00–CV–2799 (D.D.C.)). NAHB also challenged NMFS' designation of Essential Fish Habitat (EFH) (Pacific Coast Salmon Fishery Management Plan, 2000). While the NAHB litigation was pending, the Court of Appeals for the 10th Circuit issued its decision in *New Mexico Cattlegrowers' Association* v. *U.S. Fish and Wildlife Service,* 248 F.3d 1277 (10th Cir. 2001) (*NMCA*). In that case, the Court rejected the U.S. Fish and Wildlife Service (FWS) approach to economic analysis, which was similar to the approach taken by NMFS in the final rule designating critical habitat for 19 ESUs of West Coast salmon and *O. mykiss.* The Court ruled that "Congress intended that the FWS conduct a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes." Subsequent to the 10th Circuit decision, we entered into and sought judicial approval of a consent decree resolving the NAHB litigation. That decree provided for the withdrawal of critical habitat designations for the 19 salmon and *O. mykiss* ESUs and dismissed NAHB's challenge to the EFH designations. The District Court approved the consent decree and vacated the critical habitat designations by Court order on April 30, 2002 (*National Ass'n of Homebuilders* v. *Evans,* 2002 WL 1205743 (D.D.C. 2002)).

Subsequently, in response to a complaint filed in the District of Columbia by the Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, the Center for Biological Diversity, the Oregon Natural Resources Council, the Pacific Rivers Council, and the

Environmental Protection Information Center (PCFFA *et al.*) alleging that NMFS had failed to timely designate critical habitat for the 19 ESUs for which critical habitat had been vacated (as well as the northern California *O. mykiss* ESU), PCFFA and NMFS filed—and the court approved—an agreement resolving that litigation and establishing a schedule for designation of critical habitat. On July 13, 2004, the D.C. District Court approved a First Amendment to the Consent Decree and Stipulated Order of Dismissal providing for a revised schedule for the submission of proposed and final rules designating critical habitat for the 20 ESUs to the **Federal Register.** For those ESUs that are included on the list of threatened and endangered species as of September 30, 2004, and which fall under the responsibility of the Northwest Regional office of NMFS, proposed rules must be submitted to the **Federal Register** for publication no later than September 30, 2004. For those ESUs that are included on the list of threatened and endangered species as of November 30, 2004, and which fall under the responsibility of NMFS' Southwest Regional office, proposed rules must be submitted to the **Federal Register** for publication no later than November 30, 2004. For those of the 20 ESUs addressed in the proposed rules and included on the lists of threatened and endangered species as of June 15, 2005, final rules must be submitted to the **Federal Register** for publication no later than June 15, 2005. On September 17, 2004, NMFS filed a motion with the court seeking an additional 60 day extension of the deadline for submitting to the **Federal Register** a proposed rule for the 13 ESUs subject to the September 30, 2004, deadline. On October 7, 2004, the court granted the motion.

Past critical habitat designations have generated considerable public interest. Therefore, in an effort to engage the public early in this rulemaking process, we published an advance notice of proposed rulemaking (ANPR) on September 29, 2003 (68 FR 55926). The ANPR identified issues for consideration and evaluation, and solicited comments regarding these issues and information regarding the areas and species under consideration. We received numerous comments in response to the ANPR and considered them during development of this proposed rulemaking. Where applicable we have referenced these comments in this **Federal Register** notice as well as in other documents supporting this proposed rule. We encourage those who submitted comments on the ANPR to review and comment on this proposed rule as well. We will address all comments in the final rule.

Methods and Criteria Used To Identify Proposed Critical Habitat

Salmon Life History

Pacific salmon are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating back to the ocean to forage until maturity. The migration and spawning times vary considerably across and within species and populations (Groot and Margolis, 1991). At spawning, adults pair to lay and fertilize thousands of eggs in freshwater gravel nests or ''redds'' excavated by females. Depending on lake/stream temperatures, eggs incubate for several weeks to months before hatching as ''alevins'' (a larval life stage dependent on food stored in a yolk sac). Following yolk sac absorption, alevins emerge from the gravel as young juveniles called ''fry'' and begin actively feeding. Depending on the species and location, juveniles may spend from a few hours to several years in freshwater areas before migrating to the ocean. The physiological and behavioral changes required for the transition to salt water result in a distinct ''smolt'' stage in most species. On their journey juveniles must migrate downstream through every riverine and estuarine corridor between their natal lake or stream and the ocean. For example, smolts from Idaho will travel as far as 900 miles from the inland spawning grounds. En route to the ocean the juveniles may spend from a few days to several weeks in the estuary, depending on the species. The highly productive estuarine environment is an important feeding and acclimation area for juveniles preparing to enter marine waters.

Juveniles and subadults typically spend from 1 to 5 years foraging over thousands of miles in the North Pacific Ocean before returning to spawn. Some species, such as coho and chinook salmon, have precocious life history types (primarily male fish known as ''jacks'') that mature and spawn after only several months in the ocean. Spawning migrations known as ''runs'' occur throughout the year, varying by species and location. Most adult fish return or ''home'' with great fidelity to spawn in their natal stream, although some do stray to non-natal streams. Salmon species die after spawning, except anadromous *O. mykiss* which may return to the ocean and make one or more repeat spawning migrations. This complex life cycle gives rise to complex habitat needs, particularly during the freshwater phase (see review by Spence *et al.,* 1996). Spawning gravels must be of a certain size and free of sediment to allow successful incubation of the eggs. Eggs also require cool, clean, and well-oxygenated waters for proper development. Juveniles need abundant food sources, including insects, crustaceans, and other small fish. They need places to hide from predators (mostly birds and bigger fish), such as under logs, root wads and boulders in the stream, and beneath overhanging vegetation. They also need places to seek refuge from periodic high flows (side channels and off channel areas) and from warm summer water temperatures (coldwater springs and deep pools). Returning adults generally do not feed in fresh water but instead rely on limited energy stores to migrate, mature, and spawn. Like juveniles, they also require cool water and places to rest and hide from predators. During all life stages salmon require cool water that is free of contaminants. They also require rearing and migration corridors with adequate passage conditions (water quality and quantity available at specific times) to allow access to the various habitats required to complete their life cycle.

The homing fidelity of salmon has created a metapopulation structure with distinct populations distributed among watersheds (McElhany *et al.,* 2000). Low levels of straying result in regular genetic exchange among populations, creating genetic similarities among populations in adjacent watersheds. Maintenance of the meta-population structure requires a distribution of populations among watersheds where environmental risks (*e.g.*, from landslides or floods) are likely to vary. It also requires migratory connections among the watersheds to allow for periodic genetic exchange and alternate spawning sites in the case that natal streams are inaccessible due to natural events such as a drought or landslide. More detailed information describing habitat and life history characteristics of the ESUs addressed in this proposed rulemaking is described later in this document.

Identifying the Geographical Area Occupied by the Species and Specific Areas within the Geographical Area

In past critical habitat designations, we had concluded that the limited availability of species distribution data prevented mapping salmonid critical habitat at a scale finer than occupied river basins. (65 FR 7764; February 16, 2000). Therefore, the 2000 designations defined the ''geographical area occupied

by the species, at the time of listing'' as all accessible river reaches within the current range of the listed species. Comments received on the ANPR expressed a range of opinions about the appropriate scale for defining occupied areas; many expressed concern that the 2000 designations were overly broad and inclusive and encouraged us to use a finer scale in designating critical habitat for salmon.

In the 2000 designations, we relied on the U.S. Geological Survey's (USGS) identification of subbasins, which was the finest scale mapped by USGS at that time, to define the ''specific areas'' within the geographical area occupied by the species. The subbasin boundaries are based on an area's topography and hydrography, and USGS has developed a uniform framework for mapping and cataloging drainage basins using a unique hydrologic unit code (HUC) identifier (Seaber *et al.* 1986). The code contains separate two-digit identifier fields wherein the first two digits refer to a region comprising a relatively large drainage area (*e.g.,* Region 17 for the entire Pacific Northwest), while subsequent fields identify smaller nested drainages. Under this convention, fourth field hydrologic units contain eight digits and are commonly referred to as ''HUC4s'' or ''subbasins.'' In the 2000 designations, then, we identified as critical habitat all areas accessible to listed salmon within an occupied HUC4 subbasin. Since the previous designations in 2000, additional scientific information has significantly improved our ability to identify freshwater and estuarine areas occupied by salmonids and to group the occupied stream reaches into finer scale ''specific areas.''

We can now be somewhat more precise about the ''geographical area occupied by the species'' because Federal, state, and tribal fishery biologists have made progress mapping actual species distribution at the level of stream reaches. The current mapping identifies occupied stream reaches where the species has been observed. It also identifies stream reaches where the species is presumed to occur based on the professional judgment of biologists familiar with the watershed. However, such presumptions may not be sufficiently rigorous or consistent to support a critical habitat designation, and we therefore solicit information as to which stream reaches are actually occupied by the various species addressed in this rule.

Much of the available data can now be accessed and analyzed using geographic information systems (GIS) to produce consistent and fine-scale maps. As a result, nearly all salmonid freshwater and estuarine habitats in Washington, Oregon, and Idaho are now mapped and available in GIS at a scale of 1:24,000 (NMFS, 2004a). Previous distribution data were often compiled at a much coarser scale of 1:100,000 or greater. We made use of these finer-scale data for the current critical habitat designations, and we now believe that they enable a more accurate delineation of the ''geographical area occupied by the species'' referred to in the ESA definition of critical habitat. The final critical habitat designations will be based on the final listing decisions for these ESUs due by June 2005 and thus will reflect occupancy ''at the time of listing'' as the ESA requires.

We are now also able to identify ''specific areas'' (section 3(5)(a)) and ''particular areas'' (section 4(b)(2)) at a finer scale than in 2000. Since 2000, various Federal agencies have identified fifth field hydrologic units (referred to as ''HUC5s'' or hereafter ''watersheds'') throughout the Pacific Northwest using the USGS mapping conventions referred to above. This information is now generally available from these agencies and via the internet (California Spatial Information Library, 2004; Interior Columbia Basin Ecosystem Management Project, 2003; Regional Ecosystem Office, 2004). We used this information to organize critical habitat information systematically and at a scale that is relevant to the spatial distribution of salmon. Organizing information at this scale is especially relevant to salmonids, since their innate homing ability allows them to return to the watersheds where they were born. Such site fidelity results in spatial aggregations of salmonid populations that generally correspond to the area encompassed by subbasins or HUC5 watersheds (Washington Department of Fisheries *et al.,* 1992; Kostow, 1995; McElhany *et al.,* 2000). However, it must be recognized that even the fifth field watershed is a very broad geographic unit. We therefore solicit information on ways to further improve the geographical precision of our habitat analysis.

The USGS maps watershed units as polygons, bounding a drainage area from ridge-top to ridge-top, encompassing streams, riparian areas and uplands. Within the boundaries of any watershed, there are stream reaches not occupied by the species. Land areas within the HUC boundaries are also generally not ''occupied'' by the species (though certain areas such as flood plains or side channels may be occupied at some times of some years). We used the watershed boundaries as a basis for aggregating occupied stream reaches, for purposes of delineating ''specific'' areas. This document refers to the occupied stream reaches within the watershed boundary as the ''habitat area'' to distinguish it from the entire area encompassed by the watershed boundary.

At the same time, the ESA requires that an area cannot be designated as critical habitat unless at the time of listing it in fact contained physical or biological features essential to the conservation of the species. The ESA does not permit an area lacking such features to be designated as critical habitat in the hope that it may over time acquire such features and therefore aid in the conservation of the species.

The watershed-scale aggregation of stream reaches also allowed us to analyze the impacts of designating a ''particular area,'' as required by ESA section 4(b)(2). As a result of watershed processes, many activities occurring in riparian or upland areas and in non-fish-bearing streams may affect the physical or biological features essential to conservation in the occupied stream reaches. The watershed boundary thus describes an area in which Federal activities have the potential to affect critical habitat (Spence *et al.* 1996). Using watershed boundaries for the economic analysis ensured that all potential economic impacts were considered. Section 3(5) defines critical habitat in terms of ''specific areas,'' and section 4(b)(2) requires the agency to consider certain factors before designating ''particular areas.'' In the case of Pacific salmonids, the biology of the species, the characteristics of its habitat, the nature of the impacts and the limited information currently available at finer geographic scales made it appropriate to consider ''specific areas'' and ''particular areas'' as the same unit.

In addition, watersheds are often being used in recovery efforts for West Coast salmon. In its review of the long-term sustainability of Pacific Northwest salmonids, the National Research Council's Committee on Protection and Management of Pacific Northwest Anadromous Salmonids concluded that ''habitat protection must be coordinated at landscape scales appropriate to salmon life histories' and that social structures and institutions ''must be able to operate at the scale of watersheds'' (National Research Council, 1996). Watershed-level analyses are now common throughout the West Coast (Forest Ecosystem Management Assessment Team, 1993; Montgomery *et al.,* 1995; Spence *et al.,* 1996). There are presently more than 400 watershed councils or groups in

Washington, Oregon, and California alone (For the Sake of the Salmon, 2004). Many of these groups operate at a geographic scale of one to several watersheds and are integral parts of larger-scale salmon recovery strategies (Northwest Power Planning Council, 1999; Oregon Plan for Salmon and Watersheds, 2001; Puget Sound Shared Strategy, 2002; CALFED Bay-Delta Program, 2003). Aggregating stream reaches into watersheds allowed us to consider ''specific areas,'' within or outside the geographical area occupied by the species, at a scale that often corresponds well to salmonid population structure and ecological processes.

Occupied estuarine and marine areas were also considered. In previous designations of salmonid critical habitat we did not designate marine areas outside of estuaries and Puget Sound. In the Pacific Ocean, we concluded that there may be essential habitat features, but they did not require special management considerations or protection (see *Physical or Biological Features Essential to the Conservation of the Species* and *Special Management Considerations or Protection* sections below). Several commenters on that previous rule questioned the finding, and we stated that we would revisit the issue (65 FR 7764; February 16, 2000). Since that time we have carefully considered the best available scientific information, and related agency actions, such as the designation of Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act.

We now conclude that it is possible to delineate specific estuarine areas in Puget Sound, the Columbia River, and along the Oregon Coast as well as specific nearshore marine areas of Puget Sound that are occupied, contain physical or biological features essential to the conservation of the species, that may require special management considerations or protection (NMFS, 2004a). Estuarine areas are crucial for juvenile salmonids, given their multiple functions as areas for rearing/feeding, freshwater-saltwater acclimation, and migration (Simenstad *et al.,* 1982; Marriott *et al.* 2002). In many areas, especially the Columbia River estuary, these habitats are occupied by multiple ESUs. We are proposing to designate occupied estuarine areas in similar terms to our past designations, as being defined by a line connecting the furthest land points at the estuary mouth.

Nearshore marine areas also provide important habitat for rearing/feeding and migrating salmonids. Puget Sound supports multiple populations of Puget Sound chinook and Hood Canal summer-run chum salmon (Beamish *et al.,* 1998; Washington Department of Fish and Wildlife (WDFW) and Point No Point Treaty Tribes (PNPTT), 2000). As noted in previous rulemaking (65 FR 7764; February 16, 2000), the unique ecological setting of Puget Sound allowed us to focus on defining specific occupied marine areas. As with the freshwater areas described above, in Puget Sound we identified 19 nearshore marine zones (*i.e.,* areas beyond estuary mouths) eligible for designation based on water resource inventory areas defined by the State of Washington (NMFS, 2004a; Washington Department of Ecology, 2004). However, we are considering excluding these areas under Section 4(b)(2) of the ESA based on the conclusion that the benefits of exclusion outweigh the benefits of designating these areas and invite public comment on this issue. We did not identify offshore marine areas of Puget Sound and the Pacific Ocean for reasons described below under *Physical or Biological Features Essential to the Conservation of the Species* and *Special Management Considerations or Protection.* The proposed designation of marine nearshore areas in Puget Sound is restricted to areas contiguous with the shoreline out to a depth no greater than 30 m relative to the mean lower low water. This nearshore area generally coincides with the maximum depth of the photic zone in Puget Sound and contains physical or biological features essential to the conservation of salmonids (Mazer and Shepard, 1962; Bakkala, 1970; Mathews and Senn, 1975; Fraser *et al.,* 1978; Peterman, 1978; Sakuramoto and Yamada, 1980; Martin *et al.,* 1986; Healey, 1982; Bax, 1983; Salo, 1991, as cited in Johnson *et al.,* 1997; WDFW and PNPTT, 2000; Puget Sound Nearshore Ecosystem Restoration Program, 2003; Williams *et al.,* 2003).

For salmonids in marine areas farther offshore, it becomes more difficult to identify specific areas where essential habitat can be found. Links between human activity, habitat conditions and impacts to listed salmonids are less direct in offshore marine areas. Perhaps the closest linkage exists for salmon prey species that are harvested commercially (*e.g.,* Pacific herring) and, therefore, may require special management considerations or protection. However, because salmonids are opportunistic feeders we could not identify ''specific areas'' beyond the nearshore marine zone where these or other essential features are found within this vast geographic area occupied by Pacific salmon. Moreover, prey species move or drift great distances throughout the ocean and would be difficult to link to any ''specific'' areas.

Unoccupied Areas

ESA section 3(5)(A)(ii) defines critical habitat to include ''specific areas outside the geographical area occupied'' if the areas are determined by the Secretary to be ''essential for the conservation of the species.'' NMFS regulations at 50 CFR 424.12(e) emphasize that we ''shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.'' With one exception, we are not proposing to designate these stream reaches at this time but are instead soliciting further information. For the Hood Canal summer run chum salmon ESU, we are proposing approximately 8 miles (12.9 km) of unoccupied (but historically utilized) stream reaches determined to be essential for the conservation of this ESU.

Primary Constituent Elements and Physical or Biological Features Essential to the Conservation of the Species

In determining what areas are critical habitat, agency regulations at 50 CFR 424.12(b) require that we must ''consider those physical or biological features that are essential to the conservation of a given species * * *, including space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.'' The regulations further direct us to ''focus on the principal biological or physical constituent elements * * * that are essential to the conservation of the species,'' and specify that the ''known primary constituent elements shall be listed with the critical habitat description.'' The regulations identify primary constituent elements (PCE) as including, but not limited to: ''roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.'' An occupied area must contain one or more of the PCEs at the time the species is listed to be eligible for

designation as critical habitat; an area lacking a PCE may not be designated in the hope it will acquire one or more PCEs in the future.

NMFS biologists developed a list of PCEs specific to salmon for the ANPR (68 FR 55926; September 29, 2003), based on a decision matrix (NMFS, 1996) that describes general parameters and characteristics of most of the essential features under consideration in this critical habitat designation. We received very few comments specifically addressing PCEs. As a result of biological assessments supporting this proposed rule (*see* Critical Habitat Analytical Review Teams section), we are now proposing slightly revised PCEs.

The ESUs addressed in this proposed rulemaking share many of the same rivers and estuaries and have similar life history characteristics and, therefore, many of the same PCEs. These PCEs include sites essential to support one or more life stages of the ESU (sites for spawning, rearing, migration and foraging). These sites in turn contain physical or biological features essential to the conservation of the ESU (for example, spawning gravels, water quality and quantity, side channels, forage species). Specific types of sites and the features associated with them include:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;

2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks;

3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival;

4. Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.

6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

The habitat areas designated in this proposal currently contain PCEs within the acceptable range of values required to support the biological processes for which the species use the habitat. It is important to note that the contribution of the PCEs to the habitat varies by site and biological function, illustrating the interdependence of the habitat elements such that the quality of the elements may vary within a range of acceptable conditions. An area in which a PCE no longer exists because it has been degraded to the point where it no longer functions as a PCE cannot be designated in the hope that its function may be restored in the future.

Special Management Considerations or Protection

An occupied area cannot be designated as critical habitat unless it contains physical and biological features that ''may require special management considerations or protection.'' Agency regulations at 424.02(j) define ''special management considerations or protection'' to mean ''any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.'' Many forms of human activity have the potential to affect the habitat of listed salmon species: (1) Forestry; (2) grazing; (3) agriculture; (4) road building/maintenance; (5) channel modifications/diking; (6) urbanization; (7) sand and gravel mining; (8) mineral mining; (9) dams; (10) irrigation impoundments and withdrawals; (11) river, estuary, and ocean traffic; (12) wetland loss/removal; (13) beaver removal; (14) exotic/invasive species introductions. In addition to these, the harvest of salmonid prey species (e.g., herring, anchovy, and sardines) may present another potential habitat-related management activity (Pacific Fishery Management Council, 1999). In recent years the Federal government and many non-federal landowners have adopted many changes in land and water management practices that are contributing significantly to protecting and restoring the habitat of listed species. Thus, many of the available special management considerations or protections for these areas are already in place, and the need for designating such areas as critical habitat is diminished correspondingly. We request comment on the extent to which particular areas may require special management considerations or protection in light of existing management constraints. The contributions of these management measures are also relevant to the exclusion analysis under section 4(b)(2) of the ESA, and will be considered further in a later section of this notice.

Military Lands

The Sikes Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an Integrated Natural Resource Management Plan (INRMP). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes: An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management, fish and wildlife habitat enhancement or modification, wetland protection, enhancement, and restoration where necessary to support fish and wildlife and enforcement of applicable natural resource laws.

The recent National Defense Authorization Act for Fiscal Year 2004 (Public Law No. 108–136) amended the ESA to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the ESA (16 U.S.C. 1533(a)(3)(B)(i)) now provides: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.''

To address this new provision we contacted the Department of Defense and requested information on all INRMPs that might benefit Pacific salmon. (In response to the ANPR (68 FR 55926, September 29, 2003) we had already received a letter from the U.S. Marine Corps regarding this and other issues associated with a possible critical habitat designation on its facilities in the range of the Southern California *O. mykiss* ESU, which is not addressed in this notice). The military services identified 16 installations in Washington, Oregon, and Idaho with INRMPs in place or under development. We determined that the following 11 facilities with INRMPs overlap with habitat areas under consideration for critical habitat designation: (1) Naval Submarine Base, Bangor; (2) Naval Undersea Warfare Center, Keyport; (3) Naval Ordinance Center, Port Hadlock (Indian Island); (4) Naval Radio Station, Jim Creek; (5) Naval Fuel Depot, Manchester; (6) Naval Air Station, Whidbey Island; (7) Naval Air Station, Everett; (8) Bremerton Naval Hospital; (9) Fort Lewis (Army); (10) Pier 23 (Army); and (11) Yakima Training Center (Army). The first ten facilities are located within the range of the Puget Sound chinook salmon ESU, and two of these sites—Bangor and Port Hadlock (Indian Island)—are also within the range of the Hood Canal summer-run chum salmon ESU. The Army's Yakima Training Center is located within the range of the Upper Columbia River *O. mykiss* ESU. All of these INRMPs are final except for Pier 23 and Bremerton Naval Hospital, which should be finalized in the near term.

We identified habitat of value to listed salmonids in each INRMP and reviewed these plans, as well as other information available regarding the management of these military lands. Our preliminary review indicates that each of these INRMPs addresses habitat for salmonids, and all contain measures that provide benefits to ESA-listed salmon and steelhead (NMFS, 2004b). Examples of the types of benefits include actions that control erosion, protect riparian zones, minimize stormwater and construction impacts, reduce contaminants, and monitor listed species and their habitats. Also, we have received information from the DOD identifying national security impacts at all of their affected sites if designated as critical habitat (see Impacts on National Security section). Our consideration of such impacts is separate from our assessment of INRMPs, but the result is that we are not proposing to designate critical habitat in areas subject to the final INRMPs or the draft INRMPs for Pier 23 and for the Bremerton Naval Hospital.

Critical Habitat Analytical Review Teams

To assist in the designation of critical habitat, we convened several Critical Habitat Analytical Review Teams (Teams) organized by major geographic domains that roughly correspond to salmon recovery planning domains. The Teams consisted of Federal salmonid biologists (from NMFS and other federal natural resource agencies) with demonstrated expertise regarding salmonid habitat within the domain and habitat specialists. The Teams were tasked with assessing biological information pertaining to areas under consideration for designation as critical habitat.

The Teams examined each habitat area within the watershed to determine whether the stream reaches or lakes occupied by the species contain the physical or biological features essential to conservation. The Teams also relied on their experience conducting section 7 consultations to determine whether there are management activities in the area that threaten the currently-existing primary constituent elements identified for the species. Where such activities occur, the Teams concluded that there were ''any methods or procedures useful in protecting physical and biological features'' for the area (50 CFR 424.02(j)) and therefore that the features ''may require special management considerations or protection.''

However, the Teams were not asked to evaluate the effects of existing management protections on the species, or analyze the usefulness of protective methods or procedures in addressing risks to PCEs. Thus, the Teams' evaluations do not reflect the extent to which an area will contribute to conservation of the species in the absence of a critical habitat designation.

In addition to occupied areas, the definition of critical habitat also includes unoccupied areas if we determine the area is essential for conservation. Accordingly, the Teams were next asked whether there were any unoccupied areas within the historical range of the ESUs that may be essential for conservation. Where information was currently available to make this determination, the Teams identified those currently unoccupied areas essential for conservation (*i.e.* in Hood Canal summer chum ESU). In most cases, the Teams did not have information available that would allow them to draw that conclusion. The Teams nevertheless identified areas they believe may be determined essential through future recovery planning efforts. These are identified under the Species Descriptions and Area Assessments section, and we are specifically requesting information regarding such areas under Public Comments Solicited.

The Teams were next asked to determine the relative conservation value of each area for each ESU. The Teams scored each habitat area based on several factors related to the quantity and quality of the physical and biological features. They next considered each area in relation to other areas and with respect to the population occupying that area. Based on a consideration of the raw scores for each area, and a consideration of that area's contribution in relation to other areas and in relation to the overall population structure of the ESU, the Teams rated each habitat area as having a ''high,'' ''medium'' or ''low'' conservation value.

The rating of habitat areas as having a high, medium or low conservation value provided information useful for the discretionary balancing consideration in ESA section 4(b)(2). The higher the conservation value for an area, the greater may be the likely benefit of the ESA section 7 protections. The correlation is not perfect because the Teams did not take the additional step of separately considering two factors: how likely are section 7 consultations in an area (that is, how strong is the ''Federal nexus''), and how much protection would exist in the absence of a section 7 consultation (that is, how protective are existing management measures and would they likely continue in the absence of section 7 requirements). We considered the Teams' ratings one useful measure of the ''benefit of designating a particular area as critical habitat'' as contemplated in section 4(b)(2). We are soliciting public comment on approaches that would better refine this assessment.

As discussed earlier, the scale chosen for the ''specific area'' referred to in section 3(5)(a) was a watershed, as delineated by the USGS. There were some complications with this delineation that required us to adapt the approach for some areas. In particular, a large stream or river might serve as a rearing and migration corridor to and from many watersheds, yet be embedded itself in a watershed. In any given watershed through which it passes, the stream may have a few or several tributaries. For rearing/migration corridors embedded in a watershed, the Teams were asked to rate the conservation value of the watershed based on the tributary habitat. We

assigned the rearing/migration corridor the rating of the highest-rated watershed for which it served as a rearing/migration corridor. The reason for this treatment of migration corridors is the role they play in the salmon's life cycle. Salmon are anadromous—born in fresh water, migrating to salt water to feed and grow, and returning to fresh water to spawn. Without a rearing/migration corridor to and from the sea, salmon cannot complete their life cycle. It would be illogical to consider a spawning and rearing area as having a particular conservation value and not consider the associated rearing/migration corridor as having a similar conservation value.

Most of the preliminary Team findings were sent to state and tribal comanagers for review and comment; findings for the Oregon Coast coho salmon ESU were not submitted for comanager review due to time constraints (see Previous Federal Rulemaking section). These comanager reviews resulted in several changes to the Teams' preliminary assessments (e.g., revised fish distribution as well as conservation value ratings) and helped to ensure that the Teams' revised findings (NMFS, 2004a) incorporated the best available scientific data. These revised preliminary assessments, along with this proposed rulemaking, will once again be made available to these comanagers, as well as the general public and peer reviewers, during the public comment period leading up to the final rule. The Teams will be reconvened to review the comments and any new information that might bear on their assessments before we publish final critical habitat designations.

Lateral Extent of Critical Habitat

In past designations we have described the lateral extent of critical habitat in various ways ranging from fixed distances to ''functional'' zones defined by important riparian functions (65 FR 7764, February 16, 2000). Both approaches presented difficulties, and this was highlighted in several comments (most of which requested that we focus on aquatic areas only) received in response to the ANPR (68 FR 55926; September 29, 2003). Designating a set riparian zone width will (in some places) accurately reflect the distance from the stream on which PCEs might be found, but in other cases may over- or understate the distance. Designating a functional buffer avoids that problem, but makes it difficult for Federal agencies to know in advance what areas are critical habitat. To address these issues we are proposing to define the lateral extent of designated critical habitat as the width of the stream channel defined by the ordinary high-water line as defined by the U.S. Army Corps of Engineers (Corps) in 33 CFR 329.11. In areas for which ordinary high-water has not been defined pursuant to 33 CFR 329.11, the width of the stream channel shall be defined by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain (Rosgen, 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.,* 1992). Such an interval is commensurate with nearly all of the juvenile freshwater life phases of most salmon and *O. mykiss* ESUs. Therefore, it is reasonable to assert that for an occupied stream reach this lateral extent is regularly ''occupied''. Moreover, the bankfull elevation can be readily discerned for a variety of stream reaches and stream types using recognizable water lines (e.g., marks on rocks) or vegetation boundaries (Rosgen, 1996).

As underscored in previous critical habitat designations, the quality of aquatic habitat within stream channels is intrinsically related to the adjacent riparian zones and floodplain, to surrounding wetlands and uplands, and to non-fish-bearing streams above occupied stream reaches. Human activities that occur outside the stream can modify or destroy physical and biological features of the stream. In addition, human activities that occur within and adjacent to reaches upstream (e.g., road failures) or downstream (e.g., dams) of designated stream reaches can also have demonstrable effects on physical and biological features of designated reaches.

In the relatively few cases where we are proposing to designate lake habitats (e.g., Lake Ozette), we believe that the lateral extent may best be defined as the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of ordinary high water, whichever is greater. In estuarine and nearshore marine areas we believe that extreme high water is the best descriptor of lateral extent. For nearshore marine areas we focused particular attention on the geographical area occupied by the Puget Sound ESUs (chinook and Hood Canal summer-run chum salmon) because of the unique ecological setting and well-documented importance of the area's nearshore habitats to these species (*see* the *Geographical Area Occupied by the Species and Specific Areas within the Geographical Area* section). We are proposing the area inundated by extreme high tide because it encompasses habitat areas typically inundated and regularly occupied during the spring and summer when juvenile salmon are migrating in the nearshore zone and relying heavily on forage, cover, and refuge qualities provided by these occupied habitats. However, it may be more appropriate to use the ordinary high water level in estuarine and nearshore marine areas and we request comment on this issue. As noted above for stream habitat areas, human activities that occur outside the area inundated by extreme or ordinary high water can modify or destroy physical and biological features of the nearshore habitat areas, and Federal agencies must be aware of these important habitat linkages as well.

Species Descriptions and Area Assessments

This section provides descriptions of the 13 subject Pacific salmon and *O. mykiss* ESUs noting specific life-history traits and associated habitat requirements, and summarizes the Teams' assessment of habitat areas for each ESU. The Teams' assessments addressed PCEs in the habitat areas within watersheds (as well as rearing/migration corridors and nearshore zones for some ESUs). For ease of reporting and reference these watersheds have been organized into ''units'' based on their associated subbasin. Similarly, we assigned units to (1) distinct corridors outside the spawning range of several Columbia River Basin ESUs and (2) nearshore zones assessed for two Puget Sound ESUs.

Puget Sound Chinook Salmon ESU

The Puget Sound chinook ESU includes all naturally spawned populations of chinook salmon from rivers and streams flowing into Puget Sound including the Strait of Juan De Fuca from the Elwha River, westward, including rivers and streams flowing into Hood Canal, South Sound, North Sound and the Strait of Georgia in Washington (64 FR 14208; March 24, 1999). We have proposed that 22 artificial propagation (*i.e.,* hatchery) programs also be considered to be part of the ESU (69 FR 33101; June 14, 2004)): the Kendal Creek Hatchery, Marblemount Hatchery (fall, spring yearlings, spring subyearlings, and summer run), Harvey Creek Hatchery, Whitehorse Springs Pond, Wallace River Hatchery (yearlings and subyearlings), Tulalip Bay, Soos Creek Hatchery, Icy Creek Hatchery, Keta Creek Hatchery, White River Hatchery, White Acclimation Pond, Hupp Springs Hatchery, Voights Creek Hatchery, Diru Creek, Clear Creek, Kalama Creek,

Dungeness/Hurd Creek Hatchery, and Elwha Channel Hatchery Chinook hatchery programs.

The Puget Sound chinook ESU includes genetically similar spring-, summer-, and fall-run chinook populations that overlap substantially in their migration and spawn timing (Myers *et al.,* 1998). A Technical Recovery Team (TRT) has been formed to assist recovery planning efforts in the Puget Sound domain. The Puget Sound TRT has released several recent technical reports describing independent populations of chinook salmon in Puget Sound (Ruckelshaus *et al.,* 2001, 2002, 2004). To date the Puget Sound TRT has identified 22 independent chinook populations: the North Fork Nooksack River, South Fork Nooksack River, Lower Skagit River, Upper Skagit River, Lower Sauk River, Suiattle River, Upper Sauk River, Cascade River, North Fork Stillaguamish River, South Fork Stillaguamish River, Skykomish River, Snoqualmie River, North Lake Washington, Cedar River, Green/Duwamish River, Puyallup River, White River, Nisqually River, Skokomish River, Mid-Hood Canal, Dungeness River, and Elwha River. Some naturally spawning aggregations of chinook were not recognized as part of these populations (e.g., the Deschutes River in South Puget Sound). The TRT has concluded that chinook salmon using smaller streams in south and central Puget Sound probably did not occur there in large numbers historically and were not independent populations. It is not clear whether these smaller streams are occupied due to recent hatchery releases or whether historically they supported small satellite ''sink'' populations that were dependent on larger independent ''source'' populations (Ruckelshaus *et al.,* 2002; B. Graeber, NMFS, personal communication). The Puget Sound TRT has identified five ''geographic regions of diversity and correlated risk'' in Puget Sound that are intended to assist in evaluating the need for a geographical distribution of viable populations across the range of such regions in an ESU (Ruckelshaus *et al.,* 2002). The regions are based on similarities in hydrographic, biogeographic, geologic, and catastrophic risk characteristics and where groups of populations have evolved in common (Ruckelshaus *et al.,* 2002). The Puget Sound chinook salmon ESU occupies all of these regions.

Adult spring-run chinook salmon in the Puget Sound typically return to freshwater in April and May and spawn in August and September (Orrell, 1976; WDFW *et al.,* 1993). Adults migrate to the upper portions of their respective river systems and hold in pools until they mature. In contrast, summer-run fish begin their freshwater migration in June and July and spawn in September, while summer/fall-run chinook salmon begin to return in August and spawn from late September through January (WDF *et al.,* 1993). In rivers with an overlap in spawning time, temporal runs on the same river system maintain a certain amount of reproductive isolation through geographic separation.

The majority of Puget Sound fish emigrate to the ocean as subyearlings. Many of the rivers have well-developed estuaries that are important rearing areas for emigrating ocean-type smolts. In contrast, the Suiattle and South Fork Nooksack Rivers have been characterized as producing a majority of yearling smolts (Marshall *et al.,* 1995). Glacially influenced conditions on the Suiattle River may be responsible for limiting juvenile growth, delaying smolting, and producing a higher proportion of 4- and 5-year-old spawners compared to other Puget Sound chinook stocks which mature predominantly as 3- and 4-year-olds. Based on Coded Wire Tag (CWT) recoveries in ocean fisheries, Puget Sound chinook stocks exhibit similar marine distributions in Canadian coastal and Puget Sound waters.

Myers *et al.* (1998) also noted that anthropogenic activities have limited the access to historical spawning grounds and altered downstream flow and thermal conditions. Water diversion and hydroelectric dams have prevented access to portions of several rivers. Watershed development and activities throughout the Puget Sound, Hood Canal, and Strait of Juan de Fuca regions have resulted in increased sedimentation, higher water temperatures, decreased large woody debris recruitment, decreased gravel recruitment, a reduction in river pools and spawning areas, and a loss of estuarine rearing areas (Bishop and Morgan, 1996). These impacts on the spawning and rearing environment may also have altered the expression of many life-history traits, and masked or exaggerated the phenotypic distinctiveness of many stocks. Nevertheless, PCEs exist under current conditions in these areas today and therefore, as explained earlier, NMFS is proposing to designate these areas as critical habitat.

Juvenile chinook salmon in freshwater feed on a variety of terrestrial and aquatic insects and crustaceans, while subadults feed on similar items as well as larger prey including fishes, shrimp, and squid (Scott and Crossman, 1973). One study noted that adults in marine waters forage on a large array of fish species, especially herring and sand lance (Pritchard and Tester, 1944, as cited in Scott and Crossman, 1973).

The Puget Sound Team's assessment for this ESU addressed habitat areas within 61 occupied watersheds in 18 associated subbasins (identified below as ''units'' with unique HUC4 numbers) as well as the nearshore marine area. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the five geographical regions of correlated risk identified by the Puget Sound TRT. The Puget Sound Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Puget Sound chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described under Methods and Criteria Used to Identify Proposed Critical Habitat.

Unit 1. Strait of Georgia Subbasin (HUC4# 17110002)

This subbasin contains three occupied watersheds encompassing approximately 428 sq mi (1,109 sq km). Fish distribution and habitat use data from WDFW identify approximately 71 mi (114.3 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). However, Ruckelshaus *et al.* (2001, 2004) did not identify any historically independent populations in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, irrigation impoundments and withdrawals, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Nooksack Subbasin (HUC4# 17110004)

This subbasin contains five occupied watersheds encompassing approximately 795 sq mi (2,059 sq km). Fish distribution and habitat use data from WDFW identify approximately 256 mi (412 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: North Fork Nooksack River

and South Fork Nooksack River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, irrigation impoundments and withdrawals, and roadbuilding. Of the five watersheds reviewed by the Team, habitat areas in four were rated as having high and in one were rated as having medium conservation value to the ESU (NMFS, 2004). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Upper Skagit Subbasin (HUC4# 17110005)

This subbasin contains eight watersheds, five of which are occupied and encompass approximately 999 sq mi (2,587 sq km). Fish distribution and habitat use data from WDFW identify approximately 105 mi (169 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified six historically independent populations in this subbasin: Lower Skagit River, Upper Skagit River, Cascade River, Lower Sauk River, Suiattle River, and Upper Sauk River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including dams, forestry, and roadbuilding. The Team also concluded that habitat areas in four of the occupied watersheds in this subbasin warrant a high rating and those in one warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Sauk Subbasin (HUC4# 17110006)

This subbasin contains four occupied watersheds encompassing approximately 741 sq mi (1,919.2 sq km). Fish distribution and habitat use data from WDFW identify approximately 118 mi (189.9 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified three historically independent populations in this subbasin: Lower Sauk River, Suiattle River, and Upper Sauk River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry and roadbuilding. Of the four watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Lower Skagit Subbasin (HUC4# 17110007)

This subbasin contains two occupied watersheds encompassing approximately 447 sq mi (1,157.7 sq km). Fish distribution and habitat use data from WDFW identify approximately 149 mi (239.8 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified six historically independent populations in this subbasin: Lower Skagit River, Upper Skagit River, Cascade River, Lower Sauk River, Suiattle River, and Upper Sauk River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, wetland loss/removal, and urbanization. Of the two watersheds reviewed by the Team, habitat areas in both were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Stillaguamish Subbasin (HUC4# 17110008)

This subbasin contains three occupied watersheds encompassing approximately 704 sq mi (1,823.3 sq km). Fish distribution and habitat use data from WDFW identify approximately 132 mi (212.4 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: North Fork Stillaguamish River and South Fork Stillaguamish River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, roadbuilding, urbanization, and wetland loss/removal. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Skykomish Subbasin (HUC4# 17110009)

This subbasin contains five occupied watersheds encompassing approximately 853 sq mi (2,209.3 sq km). Fish distribution and habitat use data from WDFW identify approximately 153 mi (246.2 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified one historically independent population (Skykomish River) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, irrigation impoundments and withdrawals, and roadbuilding. Of the five watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Snoqualmie Subbasin (HUC4# 17110010)

This subbasin contains four watersheds, two of which are occupied and encompass approximately 504 sq mi (1,305.3 sq km). Fish distribution and habitat use data from WDFW identify approximately 90 mi (144.8 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified one historically independent population (Snoqualmie River) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture and forestry. Of the two watersheds reviewed by the Team, habitat areas in both were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Snohomish Subbasin (HUC4# 17110011)

This subbasin contains two occupied watersheds encompassing approximately 278 sq mi (720 sq km). Fish distribution and habitat use data from WDFW identify approximately 101 mi (162.5 km) of occupied riverine/estuarine habitat in the watersheds

(WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: Skykomish River and Snoqualmie River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, dams, forestry, and urbanization. Of the two watersheds reviewed by the Team, habitat areas in one were rated as having high and those in the other were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Lake Washington Subbasin (HUC4# 17110012)

This subbasin contains four occupied watersheds encompassing approximately 619 sq mi (1,603.2 sq km). Fish distribution and habitat use data from WDFW identify approximately 190 mi (307.4 km) of occupied riverine/estuarine habitat in these watersheds. Lake Washington contains approximately 40 sq mi (103.6 sq km) of lake habitat in these watersheds and the Team identified three additional small tributaries to the southern portion of the lake that are important rearing habitat for this ESU (Tabor *et al.*, 2002). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: North Lake Washington and Cedar River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, dams, forestry, irrigation impoundments and withdrawals, and urbanization. Of the four watersheds reviewed by the Team, habitat areas in one were rated as having high and those in three were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Duwamish Subbasin (HUC4# 17110013)

This subbasin contains three occupied watersheds encompassing approximately 487 sq mi (1,261.3 sq km). Fish distribution and habitat use data from WDFW identify approximately 171 mi (275.2 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified one historically independent population (Green/Duwamish River) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, dams, forestry, irrigation impoundments and withdrawals, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in two were rated as having high and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 12. Puyallup Subbasin (HUC4# 17110014)

This subbasin contains five watersheds occupied by this ESU, and these watersheds encompass approximately 996 sq mi (256.4 sq km). Fish distribution and habitat use data from WDFW identify approximately 243 mi (391.1 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: Puyallup River and White River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, dams, forestry, irrigation impoundments and withdrawals, urbanization. Of the five watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 13. Nisqually Subbasin (HUC4# 17110015)

This subbasin contains three watersheds, two of which are occupied by this ESU and encompass approximately 472 sq mi (1,222.5 sq km). Fish distribution and habitat use data from WDFW identify approximately 82 mi (132.0 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). Ruckelshaus *et al.* (2001, 2004) identified one historically independent population (Nisqually River) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, and urbanization. Of the two watersheds reviewed by the Team, habitat areas in both were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 14. Deschutes Subbasin (HUC4# 17110016)

This subbasin contains two occupied watersheds occupied encompassing approximately 168 sq mi (435.1 sq km). Fish distribution and habitat use data from WDFW identify approximately 53 mi (85.3 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). However, Ruckelshaus *et al.* (2001, 2004) did not identify any historically independent populations in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, and grazing. Of the two watersheds reviewed by the Team, habitat areas in both were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 15. Skokomish Subbasin (HUC4# 17110017)

This subbasin contains a single watershed encompassing approximately 248 sq mi (642.3 sq km). The Skokomish River population is the only historically independent population documented in this subbasin/watershed by Ruckelshaus *et al.* (2001, 2004). Fish distribution and habitat use data from WDFW identify approximately 72 mi (115.9 km) of occupied riverine/estuarine habitat in the watershed (WDFW, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, dams, forestry, and urbanization. The Team also concluded that habitat areas in this watershed warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 16. Hood Canal Subbasin (HUC4# 17110018)

This subbasin contains six occupied watersheds occupied encompassing approximately 605 sq mi (1,567sq km). Fish distribution and habitat use data from WDFW identify approximately 59 mi (95.0 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). The Mid-Hood Canal population is the only historically independent population documented in this subbasin by Ruckelshaus *et al.* (2004). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, roadbuilding, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in two were rated as having high, those in one were rated as having medium, and those in three were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 17. Kitsap Subbasin (HUC4# 17110019)

This subbasin contains four occupied watersheds encompassing approximately 721 sq mi (1,867 sq km). Fish distribution and habitat use data from WDFW identify approximately 56 mi (90.1 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). However, Ruckelshaus *et al.* (2001, 2004) did not identify any historically independent populations in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, grazing, and urbanization. Of the four watersheds reviewed by the Team, habitat areas in all were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 18. Dungeness/Elwha Subbasin (HUC4# 17110020)

This subbasin contains five watersheds, three of which are occupied, and encompass approximately 695 sq mi (1,800 sq km). Ruckelshaus *et al.* (2001, 2004) identified two historically independent populations in this subbasin: Dungeness River and Elwha River. Chinook salmon in the Port Angeles Harbor watershed are not currently assigned to a historically independent population for this ESU. Fish distribution and habitat use data from WDFW identify approximately 47 mi (75.6 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, forestry, irrigation impoundments and withdrawals, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in two were rated as having high and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 19. Nearshore Marine Areas

The nearshore marine area considered by the Team includes that zone from extreme high water out to a depth of 30 meters and adjacent to watersheds occupied by the ESU (described above). The Team assessment focused on this area because it generally encompasses photic zone habitats supporting plant cover (e.g., eelgrass and kelp) important for rearing, migrating, and maturing chinook salmon and their prey. Also, PCEs that may require special management considerations or protection are more readily identified in this zone (e.g., destruction of vegetative cover due to docks and bulkheads). Deeper waters are occupied by subadult and maturing fish, but it is unclear if these areas contain PCEs that require special management considerations or protection. The Team concluded that habitat areas in all nearshore zones of Puget Sound (including areas adjacent to islands), Hood Canal, and the Strait of Juan de Fuca (to the mouth of the Elwha River) warrant a high rating for conservation value to the ESU (NMFS, 2004a). These habitat areas are found along approximately 2,376 miles (3,824 km) of shoreline within the range of this ESU.

Lower Columbia River Chinook Salmon ESU

The Lower Columbia River chinook ESU includes all naturally spawned populations of chinook salmon from the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point between Washington and Oregon east of the Hood River and the White Salmon River, and includes the Willamette River to Willamette Falls, Oregon, exclusive of spring-run chinook salmon in the Clackamas River (64 FR 14208; March 24, 1999). We have proposed that 17 artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the Sea Resources Tule Chinook Program, Big Creek Tule Chinook Program, Astoria High School (STEP) Tule Chinook Program, Warrenton High School (STEP) Tule Chinook Program, Elochoman River Tule Chinook Program, Cowlitz Tule Chinook Program, North Fork Toutle Tule Chinook Program, Kalama Tule Chinook Program, Washougal River Tule Chinook Program, Spring Creek NFH Tule Chinook Program, Cowlitz Spring Chinook Program in the Upper Cowlitz River and the Cispus River, Friends of the Cowlitz Spring Chinook Program, Kalama River Spring Chinook Program, Lewis River Spring Chinook Program, Fish First Spring Chinook Program, and the Sandy River Hatchery (Oregon Department of Fish and Wildlife (ODFW) stock #11) Chinook hatchery programs.

Myers *et al.* (2003) identified 31 historical demographically independent chinook salmon populations in this ESU consisting of three life history types (spring-, fall-, and late fall-run). It is estimated that 8 to 10 historical populations in the ESU have been extirpated or nearly so. The Willamette/Lower Columbia TRT has placed groups of populations in this recovery planning domain into ''strata'' (McElhany *et al.*, 2002). The strata are based on major life-history characteristics (*e.g.*, species run-types) and ecological zones. The Lower Columbia River chinook ESU inhabits three ecological zones (Coast Range, Cascade, and Columbia Gorge) and contains three life-history types (spring-, fall-, and late-fall run chinook salmon), resulting in six strata for this ESU: Coast range fall-run populations; Cascade spring-, fall-, and late fall-run populations; and Columbia Gorge spring- and fall-run populations (McElhany *et al.*, 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata in the ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003).

Of the Pacific salmon, chinook salmon exhibit the most diverse and complex life history strategies. Chinook salmon follow one of two general freshwater cycles: stream or ocean type. After emerging from the gravel, stream-type chinook salmon reside in fresh water for a year or more before migrating to the ocean. Ocean-type chinook salmon migrate to the ocean within their first year. These two types

of chinook salmon have different life history traits, geographic distribution, and genetic characteristics. Chinook in the lower Columbia River generally follow an ocean-type life history cycle.

Runs are designated on the basis of when adults enter freshwater; however, distinct runs may also differ in the degree of maturation at river entry and time of spawning. Early, spring-run (stream-maturing) chinook salmon tend to enter freshwater as immature or bright fish, migrate upriver (holding in suitable thermal refuges for several months), and finally spawn in late summer and early autumn. Late, fall-run (ocean maturing) chinook salmon enter freshwater at an advanced stage of maturity, move rapidly to their spawning areas on the main stem or lower tributaries of the rivers, and spawn within a few days or weeks of freshwater entry. Fall chinook dominate chinook salmon runs in the Lower Columbia River chinook ESU. The once abundant natural runs of fall and spring chinook have been largely replaced by hatchery production. Large chinook runs continue to return to many of their natal streams, but there are few sustained, native, naturally reproducing populations.

Adult spring chinook return to the Lower Columbia River at 4 to 5 years of age. They enter the Columbia River in March and April and generally enter natal basins from March through June, well in advance of spawning in August and September. Spring chinook typically spawn in headwater areas where higher gradient habitat exists. Successful spawning depends on sufficient clean gravel of the right size, in addition to the constant need of adequate flows and water quality. Fall chinook return to the Columbia River at 3 to 4 years of age, although 5-year olds are common in some populations. They enter fresh water from August to September and spawning generally occurs from late September to November, with peak spawning activity in mid-October. Bright fall Chinook adults enter the Columbia River August to October; dominant age class varies by population and brood year, but is typically age 4. Spawning occurs in November to January, with peak spawning in mid November.

Chinook salmon eggs incubate throughout the autumn and winter months. As with other salmonids, water temperature controls incubation time and affects survival. During incubation, clean, well-oxygenated water flow is critical. Floods and scouring, dewatering, and sedimentation can result in high egg mortality. In the Lower Columbia River, spring chinook fry emerge from the gravel from November through March; peak emergence time is likely December and January. Fall chinook fry generally emerge from the gravel in April, depending on the time of egg deposition and incubation water temperature. The emerging fry migrate quickly to protected waters and off-stream areas where they can find food and refuge from predators and high flows.

After emerging from the gravel in the spring, most fall chinook fry rear in the freshwater habitat for 1 to 4 months before emigrating to the ocean as subyearlings. A few fall chinook remain in fresh water until their second spring and emigrate as yearlings. Conversely, spring chinook emerge from the gravel earlier than fall chinook, generally in the late winter/early spring. Normally, spring chinook spend one full year in fresh water and emigrate to sea in their second spring. After emergence fry generally search for suitable rearing habitat within side sloughs, side channels, spring-fed seep areas, and along the outer edges of the stream. These side margin, off-channel, and slough areas are vital for early juvenile habitat. The presence of woody debris and overhead cover aid in food and nutrient inputs, and provide refuge from predators during early freshwater residence.

Juvenile chinook salmon in freshwater feed on a variety of terrestrial and aquatic insects and crustaceans, while subadults in the ocean feed on similar items as well as larger prey including fishes, shrimp, and squid (Scott and Crossman, 1973). One study noted that adults in marine waters forage on a large array of fish species, especially herring and sand lance (Pritchard and Tester, 1944, as cited in Scott and Crossman, 1973).

The Lower Columbia River Team's assessment for this ESU addressed habitat areas within 47 occupied watersheds in 10 subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the lower Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the six life-history type and ecological strata identified by the Willamette/Lower Columbia TRT. The Lower Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Lower Columbia River chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Middle Columbia/Hood Subbasin (HUC4# 17070105)

This subbasin contains 13 watersheds, 8 of which are occupied by this ESU and encompass approximately 1,370 sq mi (3,548.3 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 145 mi (233.4 km) of occupied riverine habitat in the watersheds, including a 23-mi (37-km) segment of the Columbia River (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Columbia Gorge) containing four fall-run (Lower Gorge tributaries, Upper Gorge tributaries, Big White Salmon River, and Hood River) and two spring-run (Big White Salmon River and Hood River) historical demographically independent populations in this subbasin. The Upper Gorge tributaries fall-run and Big White Salmon fall- and spring-run populations have been classified by the TRT as ''core'' populations (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.*, 2003)). Native spring-run chinook salmon are believed to be extirpated in this subbasin, although efforts are underway to reestablish these fish. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in six of the watersheds in this subbasin warrant a high rating and those in two warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team noted that two watersheds contain a high value rearing and migration corridor in the Columbia River connecting high value habitat areas upstream with downstream reaches and the ocean. The Team also considered whether blocked historical habitats above Condit Dam (on the White Salmon River) may be essential for conservation of the ESU. The Team determined that accessing this habitat would likely provide a benefit to the ESU, especially for spring-run chinook salmon of which there are only two historical populations in the Gorge region. However, the Team concluded that it was unclear whether the areas above Condit Dam are essential for conservation of the entire ESU, especially in comparison to other, more extensive, historical habitats that may be of greater potential benefit to the ESU (*e.g.*, areas in the Upper Lewis River).

We seek comment on whether these areas should be proposed as critical habitat.

Unit 2. Lower Columbia/Sandy Subbasin (HUC4# 17080001)

This subbasin contains nine occupied watersheds encompassing approximately 1,076 sq mi (2,787 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 217 mi (349.2 km) of occupied riverine habitat in the watersheds, including a 26-mi (41.8-km) segment of the Columbia River (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified two ecological zones (Cascade and Columbia Gorge) containing five fall-run (Lower Gorge tributaries, Sandy River early fall, Sandy River late fall, Washougal River, and Salmon Creek/Lewis River) and one spring-run (Sandy River) historical demographically independent populations in this subbasin. The Sandy River late fall- and spring-run chinook salmon have been classified by the TRT as ''core'' populations (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). Also, the TRT classified the Sandy River spring- and late fall-runs and the Salmon Creek/Lewis River fall-run as genetic legacy populations (*i.e.*, some of ''the most intact representatives of the genetic character of the ESU'' (McElhany *et al.* 2003)). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications, dams, forestry, roadbuilding, and urbanization. Of the nine watersheds reviewed by the Team, habitat areas in seven were rated as having high, those in one were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also noted that one watershed contains a high value rearing and migration corridor in the Columbia River connecting high value habitat areas upstream with downstream reaches and the ocean. The Team also concluded that inaccessible reaches above the Bull Run Dam complex in the Bull Run River watershed may be essential to the conservation of the ESU. The Team concluded that these unoccupied areas may be essential for conservation because (1) they once supported TRT core and genetic legacy populations (Sandy River spring- and late fall-runs) and (2) they contain non-inundated habitats that are likely in good to excellent condition (*i.e.*, the watershed provides domestic drinking water for the City of Portland and may have been some of the better spawning areas) (Sieglitz, 2002; McElhany *et al.*, 2003). The Team noted that NMFS'' status review of this ESU stated that habitat loss due to ''extensive hydropower development projects'' posed a serious threat to this ESU (NMFS, 2003). This report also expressed serious concerns associated with dramatic declines in the spring-run life history type (which inhabits this watershed). Therefore, the Team concluded that the ESU would likely benefit if the extant population of spring-run fish had access to spawning/rearing habitat upstream. We seek comment on whether these areas should be proposed as critical habitat.

Unit 3. Lewis Subbasin (HUC4# 17080002)

This subbasin contains six watersheds, two of which are currently occupied by this ESU and the remaining four of which are now blocked by Merwin Dam and others upstream. Occupied watersheds encompass approximately 456 sq mi (1,181 sq km). Fish distribution and habitat use data from WDFW identify approximately 68 mi (109.4 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing one spring-run (Lewis River), one fall-run (Salmon Creek/Lewis River) and one late fall-run (Lewis River) historical demographically independent populations in this subbasin. The TRT has classified the Lewis River spring- and late fall-run populations as ''core'' populations (historically abundant and ''may offer the most likely path to recovery'') and the Lewis River late fall-run and Salmon Creek/Lewis River fall-run populations as genetic legacy populations (some of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.* 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in both of the occupied watersheds in this subbasin warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team also concluded that inaccessible reaches above Merwin, Yale and Swift dams may be essential to the conservation of the ESU. The Team believed that these unoccupied areas may be essential because: (1) They once supported TRT core and genetic legacy populations; and (2) they contain non-inundated habitats that are likely in good condition relative to other more urbanized watersheds in the Cascade region (Lower Columbia River Fish Recovery Board, 2003; McElhany *et al.*, 2003). The Team noted that NMFS' status review of this ESU stated that habitat loss due to ''extensive hydropower development projects'' posed a serious threat to this ESU (NMFS, 2003). This report also expressed serious concerns associated with dramatic declines in the spring-run life history type (which inhabits this watershed). Therefore, the Team concluded that the ESU would likely benefit if the extant population of spring-run fish had access to spawning/rearing habitat upstream. We seek comment on whether these areas should be proposed as critical habitat.

Unit 4. Lower Columbia/Clatskanie Subbasin (HUC4# 17080003)

This subbasin contains six occupied watersheds encompassing approximately 841 sq mi (2,178 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 170 mi (273.6 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified two ecological zones (Coast Range and Cascade) containing five fall-run (Elochoman River, Mill Creek, Kalama River, Clatskanie River, and Scappoose River) and one spring-run (Kalama River) historical demographically independent populations in this subbasin. The Elochoman River fall-run population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.*, 2003)). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in two were rated as having high, those in three were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Upper Cowlitz Subbasin (HUC4# 17080004)

This subbasin contains five occupied watersheds encompassing approximately 1,030 sq mi (2,667.7 sq km). Fish distribution and habitat use data from WDFW identify

approximately 104 mi (167.4 km) of occupied riverine habitat in the watersheds (WDFW, 2003). All of this habitat is located upstream of impassable dams (Mayfield and Mossyrock) and only accessible to anadromous fish via trap and haul operations. Myers *et al.* (2003) identified one ecological zone (Cascade) containing one fall-run (Upper Cowlitz River) and two spring-run (Upper Cowlitz River and Cispus River) historical demographically independent populations in this subbasin. Both spring-run populations have been classified by the TRT as ''core'' populations (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). In addition, the TRT classified the Upper Cowlitz River spring-run population as a genetic legacy population (*i.e.*, one of ''the most intact representatives of the genetic character of the ESU.'') However, there are significant uncertainties about the remaining stock structure in this subbasin (Myers *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the five watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Lower Cowlitz Subbasin (HUC4# 17080005)

This subbasin contains eight occupied watersheds encompassing approximately 1,460 sq mi (3,781.4 sq km). Fish distribution and habitat use data from WDFW identify approximately 350 mi (563.3 km) of occupied riverine habitat in the (WDFW, 2003). Habitat in two watersheds—Tilton River and Riffe Reservoir—is located upstream of impassable dams (Mayfield and Mossyrock) and only accessible to anadromous fish via trap and haul operations. Data from WDFW identified very little chinook salmon distribution in the Riffe Reservoir watershed (and did not identify the Riffe and Mayfield lakes as occupied habitat). However, the Team determined that these lakes are occupied and contain PCEs for rearing/migrating juveniles based on information regarding migrants described in Wade (2000) as well as their own knowledge of trap and haul operations in this subbasin. Myers *et al.* (2003) identified one ecological zone (Cascade) containing four fall-run (Coweeman River, Toutle River, Lower Cowlitz River, and Upper Cowlitz River) and four spring-run (Toutle River, Tilton River, Upper Cowlitz River, and Cispus River) historical demographically independent populations in this subbasin. The latter two spring-run populations as well as the Toutle River and Lower Cowlitz River fall-run populations have been classified by the TRT as ''core'' populations (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). In addition, the TRT classified the Upper Cowlitz River spring-run and Coweeman River fall-run as genetic legacy populations (*i.e.*, some of ''the most intact representatives of the genetic character of the ESU.'') The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the eight watersheds reviewed by the Team, habitat areas in four were rated as having high and those in four were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that four watersheds (Riffe Reservoir, Jackson Prairie, East Willapa, and Coweeman River) contained habitat areas with high value rearing and migration corridors connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Lower Columbia Subbasin (HUC4# 17080006)

This subbasin contains three occupied watersheds encompassing approximately 515 sq mi (1,334 sq km). Fish distribution and habitat use data from the ODFW and WDFW identify approximately 120 mi (193.1 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Coast Range) containing three fall-run historical demographically independent populations in this subbasin (Grays River, Youngs Bay, and Big Creek). The Big Creek fall-run population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in two were rated as having high and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Middle Willamette Subbasin (HUC4# 17090007)

The occupied portion of this subbasin is downstream of Willamette Falls and includes a single watershed (Abernethy Creek) encompassing approximately 134 sq mi (347.0 sq km) as well as a short segment (approximately 1 mile (1.6 km)) of the Willamette River downstream of Willamette Falls. Fish distribution and habitat use data from ODFW identify approximately 3 mi (4.8 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The occupied portions of the subbasin are in the Cascade ecological zone identified by Myers *et al.* (2003), but the TRT did not associate fish in this area with a historical demographically independent population (McElhany *et al.*, 2003). However, the mouth of Abernethy Creek enters the Willamette upstream and in close proximity (less than 0.6 mi (1 km)) to the mouth of the Clackamas River which does contain a fall-run population identified by the TRT. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, dams, roadbuilding, and urbanization. The Team also concluded that habitat areas in the Abernethy Creek watershed are of low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Clackamas Subbasin (HUC4# 17090011)

This subbasin contains six watersheds, two of which are occupied by this ESU (Lower Clackamas and Eagle Creek) and encompass approximately 270 sq mi (699.3 sq km). Fish distribution and habitat use data from the ODFW identify approximately 54 mi (86.9 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified a single ecological zone (Cascade)

containing a single historical demographically independent population in this subbasin (Clackamas River fall-run). This fall-run population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the two watersheds reviewed by the Team, habitat areas in one (Lower Clackamas River) were rated as having high and those in the other (Eagle Creek) were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Lower Willamette Subbasin (HUC4# 17090012)

This subbasin contains three occupied watersheds encompassing approximately 407 sq mi (1,054.1 sq km). Fish distribution and habitat use data from ODFW identify approximately 89 mi (143.2 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing two fall-run historical demographically independent populations in this subbasin (Clackamas River and Scappoose River). The Clackamas River fall-run population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003)). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, roadbuilding, urbanization, and wetland loss and removal. Of the three watersheds reviewed by the Team, habitat areas in one were rated as having high and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Lower Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define this corridor as that segment of the Columbia River from the confluences of the Sandy River (Oregon) and Washougal River (Washington) to the Pacific Ocean. Fish distribution and habitat use data from ODFW identify approximately 118 mi (189.9 km) of occupied riverine and estuarine habitat in this corridor (ODFW, 2003a,b). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Upper Willamette River Chinook Salmon ESU

The Upper Willamette River chinook ESU includes all naturally spawned populations of spring-run chinook salmon in the Clackamas River and in the Willamette River, and its tributaries, above Willamette Falls, Oregon (64 FR 14208; March 24, 1999). We have proposed that seven artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the McKenzie River Hatchery (ODFW stock # 24), Marion Forks/North Fork Santiam River (ODFW stock # 21), South Santiam Hatchery (ODFW stock # 23) in the South Fork Santiam River, South Santiam Hatchery in the Calapooia River, South Santiam Hatchery in the Mollala River, Willamette Hatchery (ODFW stock # 22), and Clackamas hatchery (ODFW stock # 19) spring-run chinook hatchery programs.

Historically, the Willamette River Basin provided sufficient spawning and rearing habitat for large numbers of spring-run chinook salmon. The predominant tributaries to the Willamette River that historically supported spring-run chinook salmon all drain the Cascade Range. The Willamette/Lower Columbia TRT has identified each of these seven drainages as an historically demographically independent population: Clackamas, Molalla, North Santiam, South Santiam, Calapooia, McKenzie, and Middle Fork Willamette rivers. The TRT also noted that reports of ''Chinook salmon in westside tributaries have continued to the present; however it is unlikely the abundance of spawners in any of these tributaries constitutes a [demographically independent population].'' Approximately 30 to 40 percent of total historical habitat is now inaccessible behind dams. These inaccessible areas, however, represent a majority of the historical spawning habitat. This restriction of natural production to just a few areas increases the ESU's vulnerability to environmental variability and catastrophic events. The Willamette/Lower Columbia TRT has identified groups of populations in this recovery planning domain into ''strata'' intended to assist in evaluating ESU-wide recovery scenarios (McElhany *et al.*, 2002). The strata are based on major life-history characteristics (e.g., species run-types) and ecological zones. The upper Willamette River chinook ESU consists of a single stratum as it consists of a single run-type (spring-run fish) that spawns within a single ecological zone (the Willamette River). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata/regions in an ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003).

Spring-run chinook salmon populations in the upper Willamette River basin and Clackamas River have been strongly influenced by extensive transfers of hatchery fish throughout the ESU for nearly 100 years, as well as the introduction of non-native fall-run chinook salmon. Prior to the laddering of Willamette Falls, passage by returning adult salmonids (just upstream of the confluence of the Clackamas and Willamette rivers) was only possible during winter and spring high-flow periods. Low flows during the summer and autumn months prevented fall-run salmon from accessing the upper Willamette River Basin. This isolation has provided the potential for significant local adaptation of Upper Willamette River spring-run chinook relative to other Columbia River populations. The early run-timing of adult Willamette River spring-run chinook salmon relative to other lower Columbia River spring-run populations is viewed as an adaptation to flow conditions at Willamette Falls. In some years fish returning to the upper Willamette River Basin historically may have strayed into the Clackamas River when conditions at Willamette Falls prevented upstream passage. Therefore, similarities between Clackamas River and upper Willamette River spring-run fish may reflect an historical and

evolutionary association between the two groups.

Upper Willamette River chinook salmon begin appearing in the Lower Willamette River in February, but the majority of the run ascends Willamette Falls in April and May, with a peak in mid-May. Currently, the migration of adult spring-run chinook salmon over Willamette Falls extends into July and August. Historically, passage over the falls may have been marginal in June, due to diminishing flows, with only larger fish being able to ascend.

Adults spawn in both mainstem and tributary habitats of eastside drainages to the Willamette River typically from late July to October. The juvenile life-history characteristics of Upper Willamette River spring-run salmon appear to be highly variable. Fry emerge from February to March, although sometimes as late as June. Juveniles appear to emigrate continuously out of the tributaries and into the mainstem Willamette River as fry (late winter to early spring), fingerlings (fall to early winter), and yearlings (late winter to spring). Most juveniles enter the ocean as yearlings after overwintering and rearing in the mainstem Willamette and Columbia rivers. In general, the majority of spring chinook salmon returning to the upper Willamette River basin currently mature at 4 and 5 years old.

The Upper Willamette River Team's assessment for this ESU addressed habitat areas within 56 occupied watersheds in 10 associated subbasins (identified below as ''units'' with unique HUC4 numbers) as well as the lower Willamette/Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the single life-history type and ecological stratum identified by the Willamette/Lower Columbia TRT. The Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Upper Willamette River chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Middle Fork Willamette Subbasin (HUC4# 17090001)

This subbasin contains 10 occupied watersheds encompassing approximately 1,367 sq mi (3,541 sq km). Fish distribution and habitat use data from ODFW identify approximately 273 mi (439.4 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (Middle Fork Willamette River) in this subbasin. The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in four of the watersheds in this subbasin warrant a high rating and those in six warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team noted that the habitat areas with medium overall ratings contained a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Coast Fork Willamette Subbasin (HUC4# 17090002)

This subbasin contains four occupied watersheds encompassing approximately 664 sq mi (1,719.8 sq km). Fish distribution and habitat use data from ODFW identify approximately 44 mi (70.8 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) did not identify a demographically independent population in this subbasin, and Kostow (1995) characterized them as extinct. Myers *et al.* (2003) noted that reports of ''Chinook salmon in westside tributaries have continued to the present; however it is unlikely the abundance of spawners in any of these tributaries constitutes a [demographically independent population].'' However, recent data from ODFW (ODFW, 2004a,b) indicate that several watersheds in this subbasin likely contain important rearing and migration PCEs. Therefore, the Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, roadbuilding, and urbanization. The Team also concluded that habitat areas in all four watersheds in this subbasin warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Upper Willamette Subbasin (HUC4# 17090003)

This subbasin contains six occupied watersheds encompassing approximately 1,872 sq mi (4,848 sq km). Fish distribution and habitat use data from ODFW identify approximately 225 mi (362.1 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified possibly four demographically independent populations in this subbasin. Myers *et al.* (2003) also noted that reports of ''Chinook salmon in westside tributaries have continued to the present; however it is unlikely the abundance of spawners in any of these tributaries constitutes a [demographically independent population].'' However, recent data from ODFW (ODFW, 2004a,b) indicate that some watersheds (e.g., Marys and Luckiamute rivers) in this subbasin likely contain important rearing and migration PCEs. Therefore, the Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in three of the watersheds in this subbasin warrant a medium rating and those in three warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team also concluded that all reaches of the Willamette River within this subbasin constitute a high value rearing and migration corridor connecting upstream populations (e.g., those in the McKenzie, Middle Fork Willamette, and Calapooia Rivers) and high value habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. McKenzie River Subbasin (HUC4# 17090004)

This subbasin contains seven occupied watersheds encompassing approximately 1,339 sq mi (3,468 sq km). Fish distribution and habitat use data from ODFW identify approximately 268 mi (431.3 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (McKenzie River) in this subbasin. This is probably the only self-sustaining population above Willamette Falls, and possibly in the entire ESU (Myers *et al.*, 2003; NMFS, 2003). The Team concluded that all of the occupied areas contain spawning, rearing, or

migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in five of the watersheds in this subbasin warrant a high rating and those in two warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. North Santiam River Subbasin (HUC4# 17090005)

This subbasin contains six watersheds, three of which are occupied and encompass approximately 315 sq mi (815.8 sq km). Fish distribution and habitat use data from ODFW identify approximately 125 mi (201.2 km) of occupied riverine habitat in these watersheds (ODFW, 2003A,B). Myers *et al.* (2003) identified one demographically independent population (North Santiam River) in this subbasin. Historically accessible areas in the three uppermost watersheds of this subbasin are now blocked by Big Cliff and Detroit dams. These dams block access to approximately 70 percent of the historic spawning area in this subbasin (Myers *et al.*, 2003). The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in two of the watersheds in this subbasin warrant a high rating and those in one warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team also concluded that the three inaccessible watersheds (Upper North Santiam, North Fork Breitenbush River, and Detroit Reservoir/Blowout Divide Creek) may be essential to the conservation of the ESU. All three watersheds are presently occupied by hatchery chinook salmon which are trapped downstream and released into these watersheds. The Team determined that the Detroit Reservoir/Blowout Divide Creek watershed would have a lower overall conservation value due to the large areas inundated by Detroit Reservoir. The Team concluded that these unoccupied areas may be essential because: (1) They once supported a TRT core population; (2) they contain non-inundated habitats that are still relatively abundant and in fair to good condition and improving; (3) there is evidence that the areas can support significant natural production; and (3) the naturally-reproducing population below Big Cliff Dam has limited spawning PCEs and appears to suffer from high mortality rates (Willamette National Forest [WNF], 1994; WNF, 1995; WNF, 1996; WNF, 1997; Ziller *et al.*, 2002; McElhany *et al.*, 2003). The Team noted that NMFS' status review of this ESU stated ''the declines in spring chinook salmon in the Upper Willamette River ESU can be attributed in large part to the extensive habitat blockages caused by dam construction.'' In addition, the Team also noted that providing passage at dams and diversions has been identified as a key potential conservation measure for Willamette River salmon (Martin *et al.*, 1998; Bastasch *et al.*, 2002). Therefore, the Team determined that access to these areas would likely promote the conservation of the ESU. We seek comment on whether these areas should be proposed as critical habitat.

Unit 6. South Santiam River Subbasin (HUC4# 17090006)

This subbasin contains eight watersheds, six of which are occupied by this ESU and encompass approximately 766 sq mi (1,983.9 sq km). Fish distribution and habitat use data from ODFW identify approximately 169 mi (272 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). Two watersheds in the upper Middle Santiam River (Quartzville Creek and Middle Santiam River) are blocked by Green Peter Dam. Myers *et al.* (2003) identified one historically independent population (South Santiam River) in this subbasin. The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, and roadbuilding. The Team also concluded that habitat areas in three of the watersheds in this subbasin warrant a high rating and those in three warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Middle Willamette River Subbasin (HUC4# 17090007)

This subbasin consists of four occupied watersheds encompassing approximately 712 sq mi (1,844 sq km). Fish distribution and habitat use data from ODFW identify approximately 158 mi (254.3 km) of occupied riverine habitat (all rearing/migration) in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified only a small portion of the spawning range of one demographically independent population (North Santiam River) in this subbasin, although six populations use this subbasin for rearing/migration. The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, roadbuilding, and urbanization. The Team also concluded that all of the habitat areas in this subbasin's watersheds warrant a low rating for conservation value to the ESU (NMFS, 2004a). However, that assessment pertained solely to the tributary habitat areas in these watersheds (e.g., Ash, Rickreall, and Harvey creeks), not the mainstem Willamette River. The Team concluded that all reaches of the Willamette River within this subbasin constitute a high value rearing and migration corridor. These high value reaches connect nearly all populations and watersheds in this ESU (except those in the Clackamas River) with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Yamhill River Subbasin (HUC4# 17090008)

This subbasin contains seven watersheds, four of which are occupied by this ESU and encompass approximately 495 sq mi (1,282 sq km). Fish distribution and habitat use data from ODFW identify approximately 71 mi (114.3 km) of occupied riverine habitat (all used for rearing or migration) in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) did not identify a demographically independent population in this subbasin. Myers *et al.* (2003) noted that reports of ''Chinook salmon in westside tributaries have continued to the present; however it is unlikely the abundance of spawners in any of these tributaries constitutes a [demographically independent population].'' However, recent data (ODFW, 2004a,b) indicate that several watersheds in this subbasin likely contain important rearing and migration PCEs. Therefore, the Team concluded that all of these occupied areas contain rearing and migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, roadbuilding, and urbanization. The Team also concluded that habitat areas in all four occupied watersheds in this subbasin warrant a

low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Molalla/Pudding River Subbasin (HUC4# 17090009)

This subbasin contains six occupied watersheds encompassing approximately 875 sq mi (2,266 sq km). Fish distribution and habitat use data from ODFW identify approximately 181 mi (291.3 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in two of the watersheds in this subbasin warrant a medium rating and those in four warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Clackamas River Subbasin (HUC4# 17090011)

This subbasin contains six occupied watersheds encompassing approximately 942 sq mi (2,440 sq km). This is the only subbasin with spawning habitat for this ESU below Willamette Falls. Fish distribution and habitat use data from ODFW identify approximately 137 mi (220.5 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (Clackamas River) in this subbasin. The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in five of the watersheds in this subbasin warrant a high rating and those in one warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Lower Willamette/Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define the lower Willamette/Columbia River corridor as that segment from the confluence of the Willamette and Clackamas rivers to the Pacific Ocean. This corridor also includes the Multnomah Channel portion of the Lower Willamette River. Watersheds downstream of the Clackamas River subbasin (Johnson Creek and Columbia Slough/Willamette River watersheds) are outside the spawning range of this ESU and likely used in a limited way as juvenile rearing habitat for this ESU. Fish distribution and habitat use data from ODFW identify approximately 137 mi (220.5 km) of occupied riverine and estuarine habitat in this corridor (ODFW, 2003a,b). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Willamette/Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Upper Columbia River Spring-run Chinook Salmon ESU

The Upper Columbia River spring-run chinook ESU includes all naturally spawned populations of chinook salmon in all river reaches accessible to chinook salmon in Columbia River tributaries upstream of the Rock Island Dam and downstream of Chief Joseph Dam in Washington, excluding the Okanogan River (64 FR 14208; March 24, 1999). We have proposed that six artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the Twisp River, Chewuch River, Methow Composite, Winthrop NFH, Chiwawa River, and White River spring-run chinook hatchery programs.

Spring-run chinook salmon in this ESU have a stream-type life history, which means that they enter freshwater before they are fully mature and finish maturing during their upriver spawning run. Three demographically independent populations of naturally spawning spring-run chinook salmon are identified for this ESU: the Wenatchee, Entiat, and Methow River Basin populations. Principally due to the small number of independent populations, the Interior Columbia Basin TRT (ICBTRT, 2003) has not identified separate major groupings or strata for the Upper Columbia River spring-run chinook ESU. Nonetheless, recovery planning will likely emphasize the need for a viable geographical distribution of the three populations comprising this ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003).

Adults returning to the Wenatchee River enter fresh water from late March through early May, and those returning to the Entiat and Methow Rivers enter fresh water from late March through June. The run timing of Upper Columbia River spring-run chinook tends to be relatively earlier in low flow years, and later in high flow years. Adults migrating upriver hold in deeper pools or under cover until the onset of spawning. Adults may spawn in the areas where they hold, or move further into smaller tributaries. Peak spawning for all three populations occurs from August to September, though the timing is highly dependent upon water temperature. The egg incubation/alevin stage occurs from August into December, and emergence occurs into March. The juveniles typically spend 1 year in freshwater before migrating downstream, primarily in May and June. Most adults return after spending 2 years in the ocean, although 20 to 40 percent return after 3 years at sea.

The Middle and Upper Columbia River Team's assessment for this ESU addressed habitat areas within 15 occupied watersheds in four associated subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats in the context of each of the three populations in the ESU. The Middle and Upper Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Upper Columbia River spring-run chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Chief Joseph Subbasin (HUC4# 17020005)

This subbasin contains five watersheds, three of which are occupied by the ESU and encompass approximately 817 sq mi (2,116 sq km). Fish distribution and habitat use data

from WDFW identify approximately 42 mi (67.6 km) of occupied riverine habitat in the watershed (WDFW, 2003). However, the Team determined that occupied reaches in two watersheds (Jordan/Tumwater and Foster Creek) did not contain PCEs for this ESU because these reaches are located upstream of the uppermost population in the ESU (Methow River) and in areas that were likely to be of very minimal conservation value to the ESU (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Methow River) occupying this subbasin. The Team concluded that all occupied areas in the Upper Columbia/Swamp watershed contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, fire activity and disturbance, forestry, grazing, and roadbuilding. The Team also concluded that habitat areas in this watershed warrant an overall medium rating for conservation value to the ESU and that the rearing and migration corridor in Columbia River reaches downstream of the confluence of the Methow River were of high conservation value (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Methow Subbasin (HUC4# 17020008)

This subbasin contains seven occupied watersheds encompassing approximately 1,823 sq mi (4,722 sq km). Fish distribution and habitat use data from WDFW identify approximately 202 mi (325.1 km) of occupied riverine habitat in the watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Methow River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the seven watersheds reviewed by the Team, habitat areas in five were rated as having high and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the watersheds with habitat areas having medium overall ratings (Middle Methow River and Lower Methow River) contain a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Upper Columbia/Entiat Subbasin (HUC4# 17020010)

This subbasin contains four occupied watersheds (but two of these consist of a rearing/migration corridor downstream of Rock Island Dam—see Unit 5 below). The two watersheds in this subbasin with tributary habitat (*i.e.*, tributaries to the Columbia River mainstem) encompass approximately 907 sq mi (2,349.1 sq km). Fish distribution and habitat use data from WDFW identify approximately 103 mi (165.8 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified three demographically independent populations (Methow River, Entiat River, and Wenatchee River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the two watersheds reviewed by the Team, habitat areas in one were rated as having high and those in the other were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also concluded that both watersheds contain high value rearing and migration corridors connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Wenatchee Subbasin (HUC4# 17020011)

This subbasin contains five occupied watersheds encompassing approximately 1,328 sq mi (3,440 sq km). Fish distribution and habitat use data from WDFW identify approximately 182 mi (292.9 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Wenatchee River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the five watersheds reviewed by the Team, habitat areas in three were rated as having high and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define the Columbia River corridor as that segment from Rock Island Dam downstream to the Pacific Ocean. Rock Island Dam is located near the downstream border of the Entiat River watershed, which was the furthest downstream watershed with spawning or tributary PCEs identified in the range of this ESU. Fish distribution and habitat use data from WDFW identify approximately 448 mi (721 km) of occupied riverine and estuarine habitat in this corridor (WDFW, 2003). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, dams, irrigation impoundments and withdrawals, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Oregon Coast Coho Salmon ESU

The Oregon Coast coho ESU includes all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco (63 FR 42587; August 10, 1998). We have proposed that five artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the North Umpqua River (ODFW stock # 18), Cow Creek (ODFW stock # 37), Coos Basin (ODFW stock # 37), Coquille River (ODFW stock # 44), and North Fork Nehalem River (ODFW stock # 32) coho hatchery programs.

Geographical isolation is an important factor in the evolution of these separate populations within or between basins.

The Oregon Coast coho ESU is, in general, composed of relatively small basins (the Umpqua basin, an exception to this general rule, is a relatively large basin characterized by diverse vegetation and geology). The distance between saltwater entry points of each basin may significantly affect the level of migration or connectivity among populations. Some populations may be significantly affected by migrants from larger or more productive systems The Oregon-Northern California Coast TRT has putatively identified 19 ''functionally'' and ''potentially'' independent populations and 48 additional dependent populations (Lawson *et al.*, 2004). The functionally and potentially independent populations include: the Necanicum River, Nehalem River, Tillamook Bay, Nestucca River, Salmon River, Siletz River, Yaquina River, Beaver Creek, Alsea River, Siuslaw River, Siltcoos River (lake), Tahkenitch Creek (lake), Lower Umpqua River, Upper Umpqua River, Tenmile Creek (lake), Coos Bay, Coquille River, Floras Creek, and Sixes River populations. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of the ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003). Ecological strata or regions have not been identified for the Oregon Coast coho ESU. The TRT noted that, given the dominant influence of the ocean on the Oregon Coast climate, ecological conditions are relatively uniform throughout the ESU. The Umpqua River Basin is an exception, with inland areas being drier and experiencing more extreme temperatures than the coastal areas. Ecological differences within the ESU relate to the effects of local topography on rainfall, and of local geology on vegetation composition and slope stability.

Adult coho salmon begin migrating into coastal streams and rivers with the first freshets in the fall. Spawning begins in November, peaking in December or January, and may continue into March. Eggs hatch in the spring and fry grow rapidly to the parr stage by early summer or early fall. Parr then seek out areas protected from high flows and spend a second winter in freshwater before migrating to the ocean as smolts from March through June. Smolt outmigration timing and smolt size appear to respond to small-scale habitat variability and have been shown to be affected by anthropogenic activities including: habitat degradation (Moring and Lantz, 1975) and habitat restoration (Johnson *et al.*, 1993; Rodgers *et al.*, 1993). About 20 percent of males mature at age 2 and return to freshwater as ''jacks'' in the same year they entered the ocean as adults. Although the production of jacks is a heritable trait in coho salmon (Iwamoto *et al.*, 1984), the proportion of jacks in a given coho salmon populations is strongly influenced by environmental factors (Silverstein and Hershberger, 1992). The remainder of juveniles rear in the ocean for 18 months and return as 3-year-old adults in the following fall.

Habitat capacity for coho salmon on the Oregon Coast has significantly decreased from historical levels (NMFS, 2003). During periods of poor ocean survival, high quality habitat is necessary to sustain coho populations (Nickelson and Lawson, 1998). The following habitat features have been identified as important to the recovery of Oregon Coast coho salmon (IMST, 2002): structure and function of lowland areas, wetland, floodplains, and riparian forests; the presence of large wood on beaches and stream banks, and in streams, channels, estuaries, and floodplains; water quality, including temperature; hydrologic function and flow regimes; connectivity of rivers with floodplain and off-channel habitats; and the presence of diverse native plant communities subject to natural disturbance regimes.

The Oregon Coast Team's assessment for this ESU addressed habitat areas within 80 occupied watersheds in 13 associated subbasins (identified below as ''units'' with unique HUC4 numbers). As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the populations identified by the Oregon-Northern California Coast TRT. The Oregon Coast Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Oregon Coast coho salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Necanicum River Subbasin (HUC4# 17100201)

This subbasin contains a single watershed which is occupied by the ESU and encompasses approximately 137 sq mi (355 sq km). Fish distribution and habitat use data from ODFW identify approximately 87 mi (140 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) putatively identified one ''potentially'' independent population (the Necanicum River population) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: forestry, grazing, and urbanization. The Oregon Coast Team concluded that habitat areas in the one occupied watershed comprising this subbasin are of medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Nehalem River Subbasin (HUC4# 17100202)

This subbasin contains six watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 855 sq mi (2,214.4 sq km). Fish distribution and habitat use data from ODFW identify approximately 675 mi (1,086.3 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Nehalem River population) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in all but one watershed were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Wilson-Trask-Nestucca Rivers Subbasin (HUC4# 17100203)

This subbasin contains nine watersheds, each of which are occupied by the ESU. These watersheds encompass approximately 889 sq mi (2,302 sq km). Fish distribution and habitat use data from ODFW identify approximately 632 mi (1,017.1 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified two ''functionally'' independent populations (the Tillamook Bay and Nestucca River populations) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture,

forestry, urbanization, and river, estuary and ocean traffic. Of the nine watersheds reviewed by the Team, habitat areas in seven were rated as having high, and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Siletz-Yaquina Rivers Subbasin (HUC4# 17100204)

This subbasin contains nine watersheds, eight of which are occupied by the ESU and encompass approximately 642 sq mi (1,663 sq km). Fish distribution and habitat use data from ODFW identify approximately 612 mi (984.9 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified three ''functionally'' or ''potentially'' independent populations (the Salmon, Siletz, and Yaquina River populations) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, sand and gravel mining, urbanization, and river, estuary, and ocean traffic. Of the eight watersheds reviewed by the Team, habitat areas in three were rated as having high, and those in five were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Alsea River Subbasin (HUC4# 17100205)

This subbasin contains eight watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 690 sq mi (1,787.1 sq km). Fish distribution and habitat use data from ODFW identify approximately 559 mi (899.6 km) of occupied riverine habitat in the subbasin (ODFW, 2003A,B). The Oregon-Northern California Coast TRT (2003) identified two ''functionally'' or ''potentially'' independent populations (the Beaver Creek and Alsea River populations) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, sand and gravel mining, and urbanization. Of the eight watersheds reviewed by the Team, habitat areas in four were rated as having high, those in three were rated as having medium, and those in one (the Big Creek/Vingie Creek watershed) were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Siuslaw River Subbasin (HUC4# 17100206)

This subbasin contains eight watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 776 sq mi (2,010 sq km). Fish distribution and habitat use data from ODFW identify approximately 774 mi (1,245.6 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Siuslaw River population) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, and urbanization. Of the eight watersheds reviewed by the Team, habitat areas in six were rated as having high, and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Siltcoos River Subbasin (HUC4# 17100207

This subbasin contains one watershed which is occupied by the ESU and encompasses approximately 131 sq mi (339.3 sq km). Fish distribution and habitat use data from ODFW identify approximately 137 mi (220.5 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified two ''potentially'' independent populations (the Siltcoos River (lake) and Tahkenitch Creek (lake) populations) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: forestry, grazing, and urbanization. The Oregon Coast Team concluded that habitat areas in the one occupied watershed comprising this subbasin is of high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. North Fork Umpqua River Subbasin (HUC4# 17100301)

This subbasin contains 12 watersheds; however, due to habitat blockage from the Soda Springs Dam, only the lower seven watersheds are accessible to Oregon Coast coho salmon. These seven occupied watersheds encompass approximately 924 sq mi (2,393.2 sq km). Fish distribution and habitat use data from ODFW identify approximately 175 mi (281.6 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Upper Umpqua River population) that is contained within this subbasin and the South Fork Umpqua River subbasin (HUC4# 17100302, below). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, and urbanization. Of the seven watersheds reviewed by the Team, habitat areas in one watershed were rated as having high, those in three watersheds were rated as having medium, and those in three watersheds were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. South Fork Umpqua River Subbasin (HUC4# 17100302)

This subbasin contains 13 watersheds, of which 12 are occupied by the ESU encompassing approximately 1,727 sq mi (4,473 sq km). Fish distribution and habitat use data from ODFW identify approximately 693 mi (1,115.3 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Upper Umpqua River population) that is contained within this subbasin and the North Fork Umpqua River subbasin (HUC4# 17100301, above). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, sand and gravel mining, and urbanization. Of the 12 watersheds reviewed by the Team,

habitat areas in one watershed were rated as having high, those in eight watersheds were rated as having medium, and those in three watersheds were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Umpqua River Subbasin (HUC4# 17100303)

This subbasin contains eight watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 1,514 sq mi (3,921 sq km). Fish distribution and habitat use data from ODFW identify approximately 1,083 mi (1,742.9 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Lower Umpqua River population) that is contained within this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, urbanization, and river, estuary, and ocean traffic. Of the eight watersheds reviewed by the Team, habitat areas in five watersheds were rated as having high, those in two watersheds were rated as having medium, and those in one watershed were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Coos River Subbasin (HUC4# 17100304)

This subbasin contains four watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 737 sq mi (1,909 sq km). Fish distribution and habitat use data from ODFW identify approximately 541 mi (870.6 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''potentially'' independent population (the Coos Bay population) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, and urbanization. Of the four watersheds reviewed by the Team, habitat areas in all four were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 12. Coquille River Subbasin (HUC4 # 17100305)

This subbasin contains six watersheds, each of which is occupied by the ESU. These watersheds encompass approximately 1,057 sq mi (2,738 sq km). Fish distribution and habitat use data from ODFW identify approximately 546 mi (878.7 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified one ''functionally'' independent population (the Coquille River population) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in four were rated as having high, those in one were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 13. Sixes River Subbasin (HUC4 # 17100306)

This subbasin contains four watersheds, two of which are occupied by the ESU and encompass approximately 290 sq mi (751.1 sq km). Fish distribution and habitat use data from ODFW identify approximately 149 mi (239.8 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Oregon-Northern California Coast TRT (2003) identified two ''potentially'' independent populations (the Sixes River and Floras Creek populations) in this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including: agriculture, forestry, grazing, irrigation impoundments and withdrawals, and sand and gravel mining. Of the two watersheds reviewed by the Team, habitat areas in one were rated as having high, and those in the other were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Hood Canal Summer-run Chum Salmon ESU

The Hood Canal summer-run chum salmon ESU includes all naturally spawned populations of summer-run chum salmon in Hood Canal and its tributaries as well as populations in Olympic Peninsula rivers between Hood Canal and Dungeness Bay, Washington (64 FR 14508; March 25, 1999). We have proposed that eight artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the Quilcene NFH, Hamma Hamma Fish Hatchery, Lilliwaup Creek Fish Hatchery, Union River/Tahuya, Big Beef Creek Fish Hatchery, Salmon Creek Fish Hatchery, Chimacum Creek Fish Hatchery, and the Jimmycomelately Creek Fish Hatchery summer-run chum hatchery programs.

Sixteen historical demographically independent populations of Hood Canal summer-run chum have been identified for this ESU: eight extant populations (the Union River, Lilliwaup Creek, Hamma Hamma River, Duckabush River, Dosewallips River, Big/Little Quilcene River, Snow and Salmon creeks, Jimmycomelately Creek populations), and eight extirpated or possibly extirpated populations (the Dungeness River, Big Beef Creek, Anderson Creek, Dewatto Creek, Tahuya River, Skokomish River, Finch Creek, and Chimacum Creek populations) (WDFW and PNPTT, 2000). The Puget Sound TRT has identified 5 ''geographic regions of diversity and correlated risk'' in Puget Sound (Ruckelshaus *et al.,* 2002). The regions are based on similarities in hydrographic, biogeographic, geologic, and catastrophic risk characteristics and where groups of populations have evolved in common (Ruckelshaus *et al.,* 2002). The Hood Canal summer-run chum salmon ESU occupies two of these regions—the Strait of Juan de Fuca and Hood Canal. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such regions in an ESU (Ruckelshaus *et al.,* 2002; McElhany *et al.,* 2003).

Hood Canal summer-run chum are the southernmost occurrence of the summer-run life history for the species. The ESU appears to be uniquely adapted to the local habitat conditions, with this life-history persisting in what otherwise would be deemed an inhospitable environment. The summer chum streams are characterized by low

summer/fall flows and likely experience elevated stream temperatures during the summer chum spawning periods. Given the return timing of summer-run chum and the associated low flow conditions of spawning streams, chum are confined to the lower reaches of the streams (Crawford, 1997; Turner, 1995). Degradation of spawning habitat, reduced river flows, increased urbanization of the Kitsap Peninsula, and increased pinniped populations in Hood Canal have been cited as habitat limiting factors for the Hood Canal summer-run chum ESU (Johnson *et al.,* 1997).

The Summer Chum Salmon Conservation Initiative (WDFW and PNPTT, 2000) provides a comprehensive overview of this ESU and describes the following life history and habitat requirements. Migration to spawning grounds occurs from late August through late October. Adults generally spawn in low gradient, lower mainstem reaches of natal streams, typically in center channel areas due to the low flows encountered in the late summer and early fall. Eggs incubate in redds for 5 to 6 months, and fry emerge between January and May. After hatching, fry move rapidly downstream to subestuarine habitats. WDFW and PNPTT (2000) noted that successful incubation and rearing depends on a variety of conditions including: (1) The presence of adequate large woody debris to reduce scour of incubating eggs and moderate peak winter flow velocities, (2) the absence of excessive fines within spawning gravel, (3) stable channel configuration, and (4) access to floodplain and off-channel areas. Subestuary deltas support a diverse array of habitats (tidal channels, mudflats, marshes, and eelgrass meadows) that provide essential rearing and transition environments for this ESU. Juveniles rear in these habitats for days to weeks before entering the ocean, and returning adults stage in subestuaries before ascending natal streams to spawn. Juveniles feed primarily on plankton and epibenthic organisms, while subadults feed on similar items as well as larger prey (including fishes and squid). Most adults mature and spawn as 3- and 4-year old fish (WDFW and PNPTT, 2000).

The Puget Sound Team's assessment for this ESU addressed habitat areas within 12 occupied watersheds in four associated subbasins (identified below as ''units'' with unique HUC4 numbers) as well as the nearshore marine area. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the two geographical regions of correlated risk identified by the Puget Sound TRT. The Puget Sound Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Hood Canal summer-run chum salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Skokomish Subbasin (HUC4# 17110017)

This subbasin contains a single occupied watershed encompassing approximately 245 sq mi (635 sq km). The Skokomish River population is the only historic population documented in this subbasin/watershed (WDFW and PNPTT, 2000). Fish distribution and habitat use data from WDFW identify approximately 13 mi (20.9 km) of occupied riverine/estuarine habitat in the subbasin/watershed (WDFW and PNPTT, 2000). The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, dam operations, forestry, and urbanization. The Team also concluded that habitat areas in this watershed warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Hood Canal Subbasin (HUC4# 17110018)

This subbasin contains seven occupied watersheds encompassing approximately 715 sq mi (1,852 sq km). WDFW and PNPTT (2000) identified the following historic populations in this subbasin: Union River, Lilliwaup Creek, Hamma Hamma River, Duckabush River, Dosewallips River, Big/Little Quilcene River, Big Beef Creek, Anderson Creek, Dewatto Creek, Tahuya River, and Finch Creek. Several of these have undergone recent extirpations but are now occupied through natural recolonization or re-introduction (WDFW and PNPTT, 2000; NMFS, 2004a). Fish distribution and habitat use data from WDFW identify approximately 50 mi (80.5 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003; NMFS, 2004a; WDFW, 2004). The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, forestry, and urbanization. The Team also concluded that habitat areas in six of the watersheds in this subbasin warrant a high rating, and those in one warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team identified two streams (Finch Creek and Anderson Creek) that are currently unoccupied but essential for the conservation of the ESU. These streams historically supported independent populations of summer-run chum salmon (WDFW and PNPTT, 2000) and, due to the limited number of areas occupied by this ESU, are likely to be important areas for ESU expansion during recovery (NMFS, 2004a). Moreover, the Summer Chum Salmon Conservation Initiative (WDFW and PNPTT, 2000) is being implemented and recommends both streams for reintroduction of summer-run chum.

Unit 3. Kitsap Subbasin (HUC4# 17110019)

This subbasin contains a single occupied watershed encompassing approximately 82 sq mi (212.4 sq km). The Chimacum Creek population is the only historic population documented in this subbasin/watershed (WDFW and PNPTT, 2000). Fish distribution and habitat use data from WDFW identify approximately 1 mile (1.6 km) of occupied riverine/estuarine habitat in the watershed (WDFW, 2003; WDFW, 2004). The Team concluded that this occupied area contains spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, and urbanization. The Team also concluded that habitat areas in this watershed warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team identified an additional 5-mile (8-km) stream segment in Chimacum Creek that is currently unoccupied but essential for the conservation of the ESU. This stream segment historically supported the Chimacum Creek population of summer-run chum salmon (WDFW and PNPTT, 2000) and, due to the limited number of areas occupied by this ESU, is likely to be an important area for ESU expansion during recovery (NMFS, 2004a).

Unit 4. Dungeness-Elwha Subbasin (HUC4# 17110020)

This subbasin contains three occupied watersheds encompassing approximately 350 sq mi (906 sq km). WDFW and PNPTT (2000) identified the following historic populations in this

subbasin: Dungeness River, Jimmycomelately Creek, and Snow/Salmon creeks. Fish distribution and habitat use data from WDFW identify approximately 19 mi (30.6 km) of occupied riverine/estuarine habitat in the watersheds (WDFW, 2003). The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, forestry, and urbanization. The Team also concluded that habitat areas in two of the watersheds in this subbasin warrant a high rating, and those in one warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Nearshore Marine Area

The nearshore marine area considered by the Team includes that zone from extreme high water out to a depth of 30 m and adjacent to watersheds occupied by the ESU (described above). The Team assessment focused on this area because it generally encompasses photic zone habitats supporting plant cover (*e.g.*, eelgrass and kelp) important for rearing, migrating, and maturing chum salmon and their prey. Also, PCEs that may require special management considerations or protection are more readily identified in this zone (*e.g.*, destruction of vegetative cover due to docks and bulkheads). Deeper waters are occupied by subadult and maturing fish, but it is unclear if these areas contain PCEs that require special management considerations or protection. The Team concluded that all nearshore habitat areas from the southern terminus of Hood Canal northeast to Dungeness Bay in the Strait of Juan de Fuca warrant a high conservation value to the ESU (NMFS, 2004a). These habitat areas are found along approximately 402 miles (647 km) of shoreline within the range of this ESU.

Columbia River Chum Salmon ESU

The Columbia River chum salmon ESU includes all naturally spawned populations of chum salmon in the Columbia River and its tributaries in Washington and Oregon (64 FR 14508; March 25, 1999). We have proposed that three artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the Chinook River (Sea Resources Hatchery), Grays River, and Washougal River/Duncan Creek chum hatchery programs.

The Willamette/Lower Columbia River TRT identified 16 historical demographically independent populations of chum in the Columbia River: the Youngs Bay, Grays River, Big Creek, Elochoman River, Clatskanie River, Mill Creek, Scappoose Creek, Cowlitz River fall-run and summer-run, Kalama fall-run, Salmon Creek fall-run, Lewis River fall-run, Clackamas River fall-run, Washougal River fall-run, Lower Gorge tributaries fall-run, and the Upper Gorge tributaries fall-run populations (Myers *et al.*, 2003). All but two of these historical populations appear to have been extirpated, or nearly so. Although the historical record for Columbia River chum salmon is limited, it is clear that chum salmon were present in most tributaries to the lower Columbia River and to some extent in the mainstem (Myers *et al.*, 2003). Populations in the Coast Range tributaries (*e.g.*, Grays River) differ in peak spawning activity by approximately a month relative to the Lower Gorge tributaries population. Differences in the time of spawning may be related to differences in water sources (rainfall in the Coast Range vs. groundwater in the Lower Gorge). There is insufficient information to provide a clear understanding of the migration dynamics among chum populations in the Columbia River, and hence the specific habitat characteristics to which local chum populations may be adapted is not understood. In general, extant Columbia River chum spawning aggregations are most abundant in the lower mainstem and off-channel areas. The TRT has placed groups of populations in this recovery planning domain into ''strata'' intended to assist in evaluating ESU-wide recovery scenarios (McElhany *et al.*, 2002). The strata are based on major life history characteristics (*e.g.*, species run types) and ecological zones. The Columbia River chum salmon ESU inhabits three ecological zones (Coast Range, Cascade, and Columbia Gorge) and contains a single life history type (fall run), resulting in a total of three strata for this ESU (McElhany *et al.*, 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata/regions in an ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003).

Intensive monitoring of chum spawning escapement is conducted in three Washington tributaries in the lower Columbia Basin-Grays River, Hardy Creek, and Hamilton Creek and in the mainstem Columbia River near Ives Island. The latter three populations are located immediately downstream of Bonneville Dam. Chum salmon populations exist in other river systems of the lower Columbia, but are not consistently monitored and are assumed to be extremely low in abundance.

Chum salmon returning to the Columbia River are considered a fall run. Adult fall run chum salmon return to the Columbia River from mid-October through November, but apparently do not reach the Grays River until late October–early December. Spawning occurs in the Grays River from early November to late December. Fish returning to Hamilton and Hardy Creeks begin to appear in the tributaries in early November, and their spawn timing is more protracted (mid-November–mid-January).

Chum seldom show persistence in surmounting river blockages and falls, which may be why they usually spawn in lower river reaches. Spawning chum salmon typically dig their redds in the mainstem or in side channels of rivers, often in areas just above tidal influence. They spawn in shallower, slower-running streams and side channels more frequently than do other salmonids. In some locations, subgravel flow (upwelled groundwater from seeps and springs) may be important in the choice of redd sites by chum salmon. Many Columbia River chum have been found to select spawning sites in areas of upwelling groundwater. New spawning grounds for chum were recently discovered along the northern Columbia River shoreline near the I–205 Glen Jackson Bridge where groundwater upwelling occurs. A significant number of chum returning to Hamilton Creek spawn in a spring-fed channel, and portions of the Grays River and Hardy Creek populations spawn in the area of springs. Hundreds of chum salmon once returned to spawn within spring-fed areas along Duncan Creek; efforts have been completed to restore passage to these productive areas and protect the springs that feed them.

Chum do not have a clearly defined smolt stage, but are nonetheless capable of adapting to seawater soon after emerging from gravel. Downstream migration may take only a few hours or days in rivers where spawning sites are close to the mouth of the river. Historical information concerning the timing of chum salmon emigration in the lower Columbia River is limited. Recent seining projects conducted in the Grays River and at Ives Island indicate outmigration occurs from March through May and peaks from mid-April to early May.

Chum salmon juveniles, like other anadromous salmonids, use estuaries to feed before beginning long-distance

oceanic migrations. However, chum and ocean-type chinook salmon usually have longer residence times in estuaries than do other anadromous salmonids. The period of estuarine residence appears to be the most critical phase in the life history of chum salmon and may play a major role in determining the size of the subsequent adult run back to fresh water. Chum salmon spend more of their life history in marine waters than other Pacific salmonids. Juveniles feed primarily on plankton and epibenthic organisms, while subadults feed on similar items as well as larger prey (including fishes and squid). Most adults mature and spawn as 3-year old fish.

The Lower Columbia River Team's assessment for this ESU addressed habitat areas within 19 occupied watersheds in 6 subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the lower Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the six life-history types and ecological strata identified by the Willamette/Lower Columbia TRT. The Lower Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Lower Columbia River chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Middle Columbia/Hood Subbasin (HUC4# 17070105)

This subbasin contains 13 watersheds, 3 of which are occupied by this ESU (almost exclusively as rearing/migration habitat) and encompass approximately 669 sq mi (1,733 sq mi). This subbasin may be the upstream extent of the species' distribution in the entire Columbia River basin (Myers *et al.*, 2003). Fish distribution and habitat use data from WDFW identify approximately 26 mi (41.8 km) of occupied riverine habitat in the watersheds, including a 22-mi (35.4-km) segment of the Columbia River (WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Columbia Gorge) containing two historical demographically independent populations in this subbasin (Upper Gorge Tributaries and Lower Gorge Tributaries). The Lower Gorge Tributaries population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'') as well as a genetic legacy population (*i.e.*, one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain rearing or migration (and possibly spawning) PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Lower Columbia/Sandy Subbasin (HUC4# 17080001)

This subbasin contains nine watersheds, three of which are occupied by this ESU and encompass approximately 571 sq mi (1,479 sq km). This subbasin contains some of the principal spawning habitat for the entire ESU (*e.g.*, in Hardy and Hamilton creeks and adjacent areas of the mainstem Columbia River). Fish distribution and habitat use data from the WDFW identify approximately 84 mi (135.2 km) of occupied riverine habitat in the watersheds, including a 26-mi (41.8-km) segment of the Columbia River (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified two ecological zones (Cascade and Columbia Gorge) containing three historical demographically independent populations in this subbasin: Lower Gorge Tributaries, Washougal River, and Salmon Creek. The Lower Gorge Tributaries population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'') as well as a genetic legacy population (*i.e.*, one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team also noted that the Columbia Gorge Tributaries watershed, in addition to the important mainstem spawning areas, also contains a high value rearing and migration corridor in the Columbia River connecting upstream habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Lewis Subbasin (HUC4# 17080002)

This subbasin contains six watersheds, two of which are currently occupied by this ESU with the remaining four blocked by Merwin Dam and others upstream. Occupied watersheds encompass approximately 456 sq mi (1,181 sq km). Fish distribution and habitat use data from WDFW identify approximately 71 mi (114.3 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing one historical demographically independent population in this subbasin (Lewis River). The TRT has classified this as a ''core'' population (historically abundant and ''may offer the most likely path to recovery'') and the East Fork Lewis River summer-run population as a genetic legacy population (one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, sand/gravel mining, and urbanization. The Team also concluded that habitat areas in both of the occupied watersheds warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Lower Columbia/Clatskanie Subbasin (HUC4# 17080003)

This subbasin contains six watersheds, three of which are occupied by this ESU and encompass approximately 543 sq mi (1,406 sq km). Fish distribution and habitat use data from WDFW identify approximately 51 mi (82.1 km) of occupied riverine habitat in these watersheds (WDFW, 2003). Myers *et al.* (2003) identified two ecological zones (Coast Range and Cascade) containing five historical demographically independent populations in this subbasin: Kalama River, Mill Creek, Elochoman River, Clatskanie River, and Scappoose River. The Elochoman River population has been classified by the TRT as a ''core'' population, *i.e.*, historically abundant

and ''may offer the most likely path to recovery'' (McElhany *et al.* 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Lower Cowlitz Subbasin (HUC4# 17080005)

This subbasin contains eight watersheds, six of which are occupied by this ESU and encompass approximately 1,102 sq mi (2,854 sq km). Fish distribution and habitat use data from WDFW identify approximately 243 mi (391.1 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Myers *et al.* (2003) identified one ecological zone (Cascade) containing a single historical demographically independent population (Cowlitz River) of chum salmon in this subbasin. This population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'') and a genetic legacy population (*i.e.*, one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in three were rated as having high and those in three were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that two watersheds (East Willapa and Coweeman River) contained high value rearing and migration corridors connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Lower Columbia Subbasin (HUC4# 17080006)

This subbasin contains three watersheds, two of which (Grays Bay and Big Creek) are occupied by this ESU and encompass approximately 304 sq mi (787.4 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 62 mi (99.8 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b; WDFW, 2003). The Team received recent data from ODFW (Turner, NMFS, personal communication) indicating that the Big Creek watershed is occupied by this ESU, even though ODFW data identifies these reaches as ''historically occupied.'' Myers *et al.* (2003) identified a single ecological zone (Coast Range) containing three demographically independent populations in this subbasin (Grays and Chinook Rivers, Youngs Bay, and Big Creek). The Youngs Bay, Grays and Chinook Rivers, and Big Creek populations have been classified by the TRT as ''core'' populations (*i.e.*, historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.*, 2003). In addition, the TRT classified the Grays and Chinook Rivers population as a genetic legacy population (*i.e.*, one of ''the most intact representatives of the genetic character of the ESU.'') The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and wetland loss and removal. The Team also concluded that habitat areas in both of the occupied watersheds warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Lower Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define this corridor as that segment of the Columbia River from the confluences of the Sandy River (Oregon) and Washougal River (Washington) to the Pacific Ocean. Fish distribution and habitat use data from WDFW identify approximately 118 mi (189.9 km) of occupied riverine and estuarine habitat in this corridor (WDFW, 2003). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Columbia River corridor was of high conservation value to the ESU. Other upstream reaches of the Columbia River corridor (within Units 1 and 2 above) are also high value for rearing/migration. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Ozette Lake Sockeye Salmon ESU

The Ozette Lake sockeye salmon ESU includes all naturally spawned populations of sockeye salmon in Ozette Lake and streams and tributaries flowing into Ozette Lake, Washington (64 FR 14528; March 25, 1999). We have proposed that two artificial propagation programs also be considered part of this ESU (69 FR 133101; June 14, 2004): the Umbrella Creek and Big River sockeye hatchery programs. The Puget Sound TRT considers the Ozette Lake sockeye ESU to be comprised of one historical population with multiple spawning aggregations.

Migration of adult sockeye salmon (typically 4-year-old fish) up the Ozette River generally occurs from April to early August (WDFW *et al.*, 1993). High water temperatures in the lake and river and low water flows in the summer may create a thermal block to migration and influence timing of the sockeye salmon migration (LaRiviere, 1991). Recorded water temperatures in late-July and August in the Ozette River near the lake outlet have exceeded the temperature range over which sockeye salmon are known to migrate (Gustafson *et al.*, 1997).

Disjunct spawning times for fish at different beach spawning sites within the lake suggest that Ozette Lake sockeye may be composed of discrete subpopulations or spawning aggregations (Dlugokenski *et al.*, 1981). The primary existing spawning aggregations occur in two beach locations, Allen's and Olsen's beaches, and in two tributaries, Umbrella Creek and Big River. Both of the tributary spawning groups were initiated through a hatchery introduction program. Spawning fish are occasionally found in other tributaries and may occur at other beach locations within the lake (Makah Fisheries, 2000). The extent to which sockeye spawned historically in tributaries to the lake is controversial (Gustafson *et al.*, 1997), but it is clear that multiple beach-spawning aggregations of sockeye occurred historically, and that genetically distinct kokanee currently spawn in large numbers in all surveyed lake tributaries

(except Umbrella Creek and Big River). During low water levels in summer, much of the available beach spawning habitat may become exposed (Bortleson and Dion, 1979).

Eggs and alevins reside beneath fine gravel/cobble generally from 1.3 to 10.2 cm in diameter (Reiser and Bjornn, 1979). Incubation is temperature dependent and generally takes as little as 50 days (or less) or more than 5 months (Hart, 1973). After hatching most juveniles spend one winter in Ozette Lake rearing before outmigrating to the ocean as 2-year-old fish during April and May (Dlugokenski *et al.*, 1981). Juvenile sockeye feed primarily on plankton and a variety of terrestrial and aquatic insects (Hart, 1973; Scott and Crossman, 1973). The fish typically spend 2 years in the northeast Pacific Ocean foraging on zooplankton, squid, and, infrequently, on small fishes (Scott and Crossman, 1973).

The Puget Sound Team's assessment for this ESU addressed habitat areas in the one occupied watershed. The Team evaluated these habitat areas on the basis of the physical and biological habitat requirements of Ozette Lake sockeye salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Ozette Lake Subbasin (HUC4# 17100101)

This subbasin includes a single watershed encompassing approximately 101 sq mi (262 sq km), with Ozette Lake being the dominant feature. Fish distribution and habitat use type data from WDFW identify approximately 40 mi (64.4 km) of occupied riverine/estuarine habitat in this watershed (WDFW, 2003). In addition, Ozette Lake covers approximately 12 sq mi (31.1 sq km) and contains important spawning beaches and rearing areas. The Team concluded that all of these occupied areas contained PCEs, including spawning beaches, lake and river rearing habitat, and river migration corridors (NMFS, 2004a). Management activities that may affect PCEs in this watershed include, but are not limited to, forestry and introduction of exotic invasive plants. This watershed supports the one and only population constituting this ESU; therefore, the Team concluded that the habitat areas in this watershed warrant a high rating for conservation value to the ESU. While the Team did not identify any unoccupied areas that may be essential for this ESU, they did note that tributary streams near lake spawning beaches may have a major influence on PCEs (e.g., sedimentation and substrate recruitment).

Upper Columbia River O. mykiss ESU

The Upper Columbia River *O. mykiss* ESU includes all naturally spawned populations of anadromous *O. mykiss* in streams in the Columbia River Basin upstream from the Yakima River, Washington, to the U.S.-Canada border (62 FR 43937; August 18, 1997). We have proposed that resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations also be included in the Upper Columbia River *O. mykiss* ESU (69 FR 33101; June 14, 2004). The ESU membership of native resident populations above recent (usually man-made) impassable barriers, but below natural barriers, has not been resolved. These resident populations are provisionally not considered to be part of the Upper Columbia River *O. mykiss* ESU until such time that significant scientific information becomes available affording a case-by-case evaluation of their ESU relationships. We have proposed that six artificial propagation programs also be considered part of the ESU (69 FR 33101; June 14, 2004): the Wenatchee River, Wells Hatchery (in the Methow and Okanogan Rivers), Winthrop NFH, Omak Creek, and the Ringold *O. mykiss* hatchery programs.

The Interior Columbia Basin TRT (2003) did not identify separate major ecological groupings strata for this ESU due to the relatively small number of populations. Four populations are identified for the Upper Columbia River *O. mykiss* ESU: the Wenatchee River, Methow River, Entiat River, and Okanogan Basin population.

Unlike Pacific salmon, *O. mykiss* are capable of spawning more than once before death. However, it is rare for anadromous *O. mykiss* to spawn more than twice before dying, and most that do so are females. Anadromous *O. mykiss* can be divided into two basic run types based on their level of sexual maturity at the time they enter fresh water and the duration of the spawning migration. The stream-maturing type, or summer run, enters fresh water in a sexually immature condition and requires several months in fresh water to mature and spawn. The ocean-maturing type, or winter run, enters fresh water with well-developed gonads and spawns relatively shortly after river entry. Anadromous fish in the Upper Columbia River *O. mykiss* ESU are made up entirely of summer *O. mykiss.*

Upper Columbia River *O. mykiss* spawn in cool, clear streams with suitable gravel size, depth, and current velocity. They sometimes also use smaller streams for spawning. Adult *O. mykiss* enter fresh water between May and October. During summer and fall before spawning, they hold in cool, deep pools. They migrate inland toward spawning areas, overwinter in the larger rivers, resume migration to natal streams in early spring, and then spawn. In general, adults in this ESU spawn later than in most downstream populations—often remaining in fresh water for a year before spawning.

Depending on water temperature, *O. mykiss* eggs may incubate for 1.5 to 4 months before hatching. Rearing takes place primarily in the faster parts of pools, although young-of-the-year are abundant in glides and riffles. Some older juveniles move downstream to rear in larger tributaries and mainstem rivers. Productive *O. mykiss* habitat is characterized by complexity—primarily in the form of large and small wood. The dry habitat conditions in the Upper Columbia River are less conducive to *O. mykiss* survival than in many other parts of the Columbia River Basin. Although the life history of this ESU is similar to that of other inland *O. mykiss,* smolt ages are some of the oldest on the West Coast (up to 7 years old), probably due to the area's cold water temperatures. The cold stream temperatures also lead to the possibility that many fish in this ESU may be thermally-fated to a resident (rainbow trout) life history regardless of whether they are the progeny of resident or anadromous *O. mykiss* parents. Most current natural production occurs in the Wenatchee and Methow River systems, with a smaller run returning to the Entiat River. Very limited spawning also occurs in the Okanagan River Basin. Most of the anadromous fish spawning in natural production areas are of hatchery origin. The limited data available indicate that anadromous *O. mykiss* smolts in this ESU are dominated by 2-year-olds. It also appears that anadromous *O. mykiss* from the Wenatchee and Entiat rivers return to fresh water after 1 year in salt water, whereas those in the Methow River primarily return after 2 years of ocean residence.

The Middle and Upper Columbia River Team's assessment for this ESU addressed habitat areas within 31 occupied watersheds in 10 associated subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats in the context of each of the four populations in the ESU.

The Middle and Upper Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Upper Columbia River *O. mykiss,* consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Chief Joseph Subbasin (HUC4# 17020005)

This subbasin contains five watersheds, three of which are occupied by the ESU and encompass approximately 817 sq mi (2,116 sq km). Fish distribution and habitat use data from WDFW identify approximately 42 mi (67.6 km) of occupied riverine habitat in the watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Methow River and Okanogan River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the three watersheds reviewed by the Team, habitat areas in one were rated as having medium and those in two were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that the Upper Columbia/Swamp watershed contains a high value migration corridor for the Methow River and Okanogan River populations, connecting upstream habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Okanogan Subbasin (HUC4# 17020006)

This subbasin contains five occupied watersheds encompassing approximately 2,650 sq mi (6,863 sq km). Fish distribution and habitat use data from WDFW identify approximately 131 mi (210.8 km) of occupied riverine habitat in the watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Okanogan River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, and roadbuilding. Of the five watersheds reviewed by the Team, habitat areas in two were rated as having high and those in three were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the watersheds with habitat areas having medium overall ratings contain a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Similkameen Subbasin (HUC4# 17020007)

This subbasin contains four watersheds, one of which (Lower Similkameen River) is occupied by the ESU. This watershed encompasses approximately 69 sq mi (179 sq km); other historically occupied areas in this subbasin are now blocked by Enloe Dam. Fish distribution and habitat use data from WDFW identify approximately 4 mi (6.4 km) of occupied riverine habitat in the watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Okanogan River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, grazing, and roadbuilding. The Team also concluded that habitat areas in the Lower Similkameen River watershed warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team also believed that historically occupied areas upstream of Enloe Dam may be essential for the conservation of the ESU. The Team noted that a recent report describing habitat and fish conditions in this subbasin (Talayco, 2002) observed that Enloe Dam blocks access to more than 95 percent of the potential anadromous fish habitat in the Similkameen River and that there is ''significant potential for increasing spawning and rearing habitat available to anadromous fish in this subbasin by addressing passage barriers such as Enloe Dam.'' This report also noted that ''recently there has been interest in relicensing the Enloe Dam, and fish passage alternatives are being investigated.'' Therefore, the Team concluded that the ESU would likely benefit if the extant population had access to spawning/rearing habitat upstream. We seek comment on whether these areas should be proposed as critical habitat.

Unit 4. Methow Subbasin (HUC4# 17020008)

This subbasin contains seven occupied watersheds encompassing approximately 1,823 sq mi (4,722 sq km). Fish distribution and habitat use data from WDFW identify approximately 216 mi (347.6 km) of occupied riverine habitat in the watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Methow River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the seven watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Lake Chelan Subbasin (HUC4# 17020009)

This subbasin contains two watersheds, one of which (Lower Chelan) is occupied by the ESU and encompasses approximately 262 sq mi (679 sq km). Most of the stream reaches in this watershed are above the Lake Chelan gorge and were likely historically inaccessible to anadromous fish. Fish distribution and habitat use data from WDFW identify approximately 1 mi (1.6 km) of occupied riverine habitat in the lowermost reach of this watershed (WDFW, 2003). The Interior Columbia Basin TRT (2003) did not associate a demographically independent population with this subbasin but Kaputa (2002) noted that a priority management goal for the Chelan River is to provide spawning and rearing habitat for *O. mykiss* in area near the confluence with the Columbia River. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, and roadbuilding. The Team also concluded that habitat areas in the Lower Chelan watershed warrant a medium rating for conservation value to the ESU (NMFS,

2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Upper Columbia/Entiat Subbasin (HUC4# 17020010)

This subbasin contains four occupied watersheds encompassing approximately 1,491 sq mi (3,862 sq km). Fish distribution and habitat use data from WDFW identify approximately 185 mi (298 km) of occupied riverine habitat in the subbasin (WDFW, 2003). All four demographically independent populations in this ESU (Okanogan River, Methow River, Entiat River, and Wenatchee River) occupy this subbasin (ICBTRT, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the four watersheds reviewed by the Team, habitat areas in three were rated as having high and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the Lake Entiat watershed contains a high value rearing and migration corridor connecting high value upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Wenatchee Subbasin (HUC4# 17020011)

This subbasin contains five occupied watersheds encompassing approximately 1,328 sq mi (3,440 sq km). Fish distribution and habitat use data from WDFW identify approximately 242 mi (390 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Wenatchee River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the five watersheds reviewed by the Team, habitat areas in four were rated as having high and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Moses Coulee Subbasin (HUC4# 17020012)

This subbasin contains two watersheds, one of which (Rattlesnake Creek) is occupied by the ESU and encompasses approximately 218 sq mi (565 sq km). Fish distribution and habitat use data from WDFW identify approximately 1 mi (1.6 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) did not associate a demographically independent population with this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, grazing, and irrigation impoundments. The Team also concluded that habitat areas in the occupied watershed warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Lower Crab Subbasin (HUC4# 17020015)

This subbasin contains two watersheds, only one of which (Lower Crab Creek) is occupied by the ESU and encompasses approximately 400 sq mi (1,036 sq km). Fish distribution and habitat use data from WDFW identified very little occupied riverine habitat in the subbasin (WDFW, 2003). However, the Team concluded that this was inaccurate and cited distribution information in Quinn (2001) that *O. mykiss* likely spawn further upstream in Crab Creek. The Interior Columbia Basin TRT (2003) did not associate a demographically independent population with this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, fire activity and disturbance, grazing, and irrigation impoundments and withdrawals. The Team also concluded that habitat areas in the Lower Crab Creek watershed warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Upper Columbia/Priest Rapids Subbasin (HUC4# 17020016)

This subbasin contains four watersheds, three of which are occupied by the ESU and encompass approximately 929 sq mi (2,406 sq km). Fish distribution and habitat use data from WDFW identify approximately 113 mi (182 km) of occupied riverine habitat in the subbasin (WDFW, 2003). All four demographically independent populations identified by the Interior Columbia Basin TRT (2003) occupy this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, fire activity and disturbance, forestry, grazing, irrigation impoundments and withdrawals, and roadbuilding. Of the three watersheds reviewed by the Team, all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team also noted that these watersheds also contain a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define the Columbia River corridor as that segment from the confluence of the Yakima and Columbia rivers downstream to the Pacific Ocean. This confluence is located in the Columbia River/Zintel Canyon watershed which was the furthest downstream watershed with spawning or tributary PCEs identified in the range of this ESU. Fish distribution and habitat use data from WDFW identify approximately 330 mi (531 km) of occupied riverine and estuarine habitat in this corridor (WDFW, 2003). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.,* 2002).

Management activities that may affect the PCEs in this corridor include channel modifications, dams, irrigation impoundments and withdrawals, roadbuilding, river/estuary traffic, urbanization, and wetland loss and removal.

Snake River Basin O. mykiss ESU

The Snake River Basin *O. mykiss* ESU includes all naturally spawned populations of anadromous *O. mykiss* in streams in the Snake River Basin of southeast Washington, northeast Oregon, and Idaho (62 FR 43937; August 18, 1997). We have proposed that resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations also be included in the Snake River Basin *O. mykiss* ESU. The ESU membership of native resident populations above recent (usually man-made) impassable barriers, but below natural barriers, has not been resolved. These resident populations are provisionally not considered to be part of the Snake River Basin *O. mykiss* ESU until such time that significant scientific information becomes available affording a case-by-case evaluation of their ESU relationships. Recent genetic data suggest that native resident *O. mykiss* above Dworshak Dam on the North Fork Clearwater River are part of this ESU. We have proposed that native resident *O. mykiss* populations above Dworshak Dam on the North Fork Clearwater River be considered part of the Snake River Basin *O. mykiss* ESU. Hatchery rainbow trout that have been introduced to the Clearwater River and other areas within the ESU are not considered part of the ESU. We have proposed that six artificial propagation programs be considered part of the ESU (69 FR 33101; June 14, 2004): the Tucannon River, Dworshak NFH, Lolo Creek, North Fork Clearwater, East Fork Salmon River, and the Little Sheep Creek/Imnaha River Hatchery *O. mykiss* hatchery programs.

The Interior Columbia Basin TRT (ICBTRT, 2003) has identified 6 ''major groupings'' of populations in the Snake River Basin *O. mykiss* ESU. The groupings are based on similarities in genetic distances, distances between spawning aggregates, life history, and habitat or environmental considerations. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such regions in an ESU (Ruckelshaus *et al.,* 2002; McElhany *et al.,* 2003; McClure, 2004 [pers comm.]).

The Snake River *O. mykiss* ESU is distributed throughout the Snake River drainage system, including tributaries in southeast Washington, eastern Oregon and north/central Idaho. Snake River *O. mykiss* migrate a substantial distance from the ocean (up to 930 mi (1,497 km)) and use high elevation tributaries (typically 3,300–6,600 ft; 1,005.8–2,011.7 m) above sea level) for spawning and juvenile rearing. Snake River *O. mykiss* occupy habitat that is considerably warmer and drier (on an annual basis) than other *O. mykiss* ESUs.

Snake River Basin *O. mykiss* are generally classified as summer run, based on their adult run timing patterns. Summer *O. mykiss* enter the Columbia River from late June to October. After holding over the winter, summer *O. mykiss* spawn during the following spring (March to May). Managers classify up-river summer *O. mykiss* runs into two groups based primarily on ocean age and adult size upon return to the Columbia River. Those classified as A-run *O. mykiss* are predominately age-1 ocean fish, while B-run *O. mykiss* are larger, predominately age-2 ocean fish.

With one exception (the Tucannon River production area), the tributary habitat used by Snake River *O. mykiss* ESU is above Lower Granite Dam. Major groupings of populations and/or subpopulations can be found in: (1) the Lower Snake River tributaries; (2) the Imnaha River drainage; (3) the Grande Ronde River system; (4) the Hells Canyon tributaries; (5) the Clearwater River drainages; and (6) the Salmon River drainages. Resident *O. mykiss* are believed to be present in many of the drainages used by Snake River basin *O. mykiss.* Very little is known about interactions between co-occurring resident and anadromous forms within this ESU (NMFS, 2003).

The Snake River Basin Team's assessment for this ESU addressed habitat areas within 271 occupied watersheds in 25 associated subbasins (identified below as ''units'' with unique HUC4 numbers) as well as the lower Snake/Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats in the context of each of the six major groupings identified by the TRT for this ESU. The Team evaluated the conservation value of habitat areas, on the basis of the physical and biological habitat requirements of Snake River Basin *O. mykiss,* consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Hells Canyon Subbasin (HUC4# 17060101)

This subbasin contains three watersheds occupied by this ESU and encompasses approximately 541 sq mi (1,401 sq km). Fish distribution and habitat use data from ODFW, U.S. Forest Service (USFS), Bureau of Land Management (BLM), and Idaho Department of Fish and Game (IDFG) identify approximately 152 mi (245 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) determined that although the streams in this subbasin are geographically separated from other major spawning areas, none of these tributaries appears to be large enough to support an independent population. However, the Team determined that maintaining this area may be important for ESU viability or other conservation goals. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including grazing and dams. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team also noted that the northern end of the subbasin provides rearing and migration habitat for the Imnaha River population. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Imnaha River Subbasin (HUC4# 17060102)

This subbasin contains five watersheds occupied by this ESU and encompasses approximately 851 sq mi (2,204 sq km). Fish distribution and habitat use data from ODFW identify approximately 357 mi (575 km) of occupied riverine habitat in the watersheds (ODFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Imnaha River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, roads, and urbanization. Of the five watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that

may be essential for the conservation of the ESU.

Unit 3. Lower Snake/Asotin Subbasin (HUC4# 17060103)

This subbasin contains three watersheds occupied by this ESU and encompasses approximately 704 sq mi (1,823 sq km). Fish distribution and habitat use data from ODFW, WDFW, USFS, BLM, and IDFG identify approximately 196 mi (315 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified three demographically independent populations (Asotin Creek, Lower Grande Ronde, and Little Salmon and Lower Salmon tributaries) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, grazing, irrigation impoundments and withdrawals, urbanization, and exotic/invasive species introductions. Of the three watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Upper Grande Ronde River Subbasin (HUC4# 17060104)

This subbasin contains eleven watersheds occupied by this ESU and encompasses approximately 1,637 sq mi (4,240 sq km). Fish distribution and habitat use data from ODFW identify approximately 789 mi (1,270 km) of occupied riverine habitat in the watersheds (ODFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Upper Grande Ronde River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the 11 watersheds reviewed by the Team, habitat areas in 9 were rated as having high and those in 2 were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the watersheds with habitat areas having medium overall ratings contain a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Wallowa River Subbasin (HUC4# 17060105)

This subbasin contains six watersheds occupied by this ESU and encompasses approximately 954 sq mi (2,471 sq km). Fish distribution and habitat use data from ODFW identify approximately 265 mi (427 km) of occupied riverine habitat in the watersheds (ODFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Wallowa River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in five were rated as having high, and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team noted that the Middle Wallowa River watershed contains a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Lower Grande Ronde Subbasin (HUC4# 17060106)

This subbasin contains seven watersheds occupied by this ESU and encompasses approximately 1,518 sq mi (3,932 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 576 mi (927 km) of occupied riverine habitat in the watersheds (ODFW, 2003; WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Lower Grande Ronde River and Joseph Creek) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, grazing, irrigation impoundments and withdrawals, road building/maintenance, river traffic, and exotic/invasive species introductions. The Team also concluded that all of the habitat areas in these seven watersheds warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Lower Snake/Tucannon Subbasin (HUC4# 17060107)

This subbasin contains eight watersheds occupied by this ESU and encompasses approximately 1,458 sq mi (3,777 sq km). Fish distribution and habitat use data from WDFW identify approximately 325 mi (523 km) of occupied riverine habitat in the watersheds (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Asotin Creek and Tucannon River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, hydroelectric dams, forestry, grazing, irrigation impoundments and withdrawals, road building/maintenance, recreational facilities and activities, river traffic, and exotic/invasive species introductions. Of the eight watersheds reviewed by the Team, habitat areas in two were rated as having high, those in two were rated as having medium, and those in four were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that one of the watersheds with habitat areas having a medium overall rating (Snake River/Penawawa Creek) and one with low overall ratings (Snake River/Steptoe Canyon) contain a high value rearing and migration corridor connecting high value upstream habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Palouse River Subbasin (HUC4# 17060108)

This subbasin contains one watershed that is occupied by this ESU. The occupied watershed encompasses approximately 199 sq mi (515 sq km). Fish distribution and habitat use data from WDFW identify approximately 8 mi (13 km) of occupied riverine habitat in the watersheds (WDFW, 2003). The Interior Columbia Basin TRT (2003) did not identify a demographically independent population occupying this subbasin. However, the Team determined that this area may provide

spawning habitats during years of high abundance or favorable habitat conditions. Additionally, the Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture and hydroelectric dams. The Team also concluded that habitat areas in the Lower Palouse River watershed warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Upper Salmon Subbasin (HUC4# 17060201)

This subbasin contains 27 watersheds occupied by this ESU and encompasses approximately 2,119 sq mi (5,488 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 551 mi (887 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Upper Mainstem Salmon River and East Fork Salmon River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the 27 watersheds reviewed by the Team, habitat areas in 20 were rated as having high, those in six were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that three of the watersheds with habitat areas having medium overall ratings (Salmon River/Kinnikinic Creek, Salmon River/Slate Creek, Yankee Fork/Jordan Creek) contain a migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Pahsimeroi Subbasin (HUC4# 17060202)

This subbasin contains seven watersheds, three of which are currently occupied by this ESU. The occupied watersheds encompass approximately 376 sq mi (974 sq km) ; other historically occupied areas in this subbasin are now blocked by irrigation impoundments and low stream flows due to irrigation withdrawals. Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 51 mi (82 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). In addition, the Team identified 83 mi (134 km) of unoccupied riverine habitat that may be essential for conservation of the ESU (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Pahsimeroi River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, grazing, irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. Of the three occupied watersheds reviewed by the Team, habitat areas in one were rated as having high and those in two were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also believed that historically occupied areas within three watersheds (Big Creek, Pahsimeroi River/Goldberg Creek, Upper Pahsimeroi River) may be essential for the conservation of the ESU. We seek comment on whether these areas should be proposed as critical habitat.

Unit 11. Middle Salmon-Panther Subbasin (HUC4# 17060203)

This subbasin contains 23 watersheds occupied by this ESU and encompasses approximately 1,821 sq mi (4,716 sq km) and 1,987 mi (3,198 km) of streams. Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 340 mi (547 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified four demographically independent populations (Lemhi River, North Fork Salmon River, Pahsimeroi River, Panther Creek) within this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, forestry, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the 23 watersheds reviewed by the Team, habitat areas in 16 were rated as having high, those in 6 were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that two of the watersheds with habitat areas having medium overall ratings (Panther Creek/Trail Creek and Salmon River/Williams Creek) contain a migration corridor connecting high value habitat areas upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 12. Lemhi Subbasin (HUC4# 17060204)

This subbasin contains 14 watersheds, 10 of which are currently occupied by this ESU. The occupied watersheds in this subbasin encompass approximately 862 sq mi (2,233 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 112 mi (180 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). In addition to the occupied riverine habitat, the Team determined that there are 191 mi (307 km) of unoccupied riverine habitat that may be essential for conservation of the ESU (NMFS, 2004a). These segments of unoccupied riverine habitat are found within both occupied and unoccupied watersheds. The Interior Columbia Basin TRT (2003) identified one demographically independent population (Lemhi River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications/diking, grazing, irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. Of the 10 watersheds reviewed by the Team, habitat areas in 9 watersheds were rated as having high and those in 1 watershed were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also believed that historically occupied areas within four watersheds (Big Timber Creek, Eighteen Mile Creek, Hawley Creek, Texas Creek) may be essential for the conservation of the ESU. We seek comment on whether these areas should be proposed as critical habitat.

Unit 13. Upper Middle Fork Salmon Subbasin (HUC4# 17060205)

This subbasin contains 13 watersheds occupied by this ESU and encompasses approximately 1,506 sq mi (3,901 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 572 mi (921 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified

two demographically independent populations (Upper Middle Fork Salmon River and Lower Middle Fork Salmon River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. The Team rated all of the habitat areas in these watersheds as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 14. Lower Middle Fork Salmon Subbasin (HUC4# 17060206)

This subbasin contains 17 watersheds occupied by this ESU and encompasses approximately 1,373 sq mi (3,556 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 340 mi (547 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Lower Middle Fork Salmon River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, recreational facilities and activities, and road building/maintenance. The Team rated all of the habitat areas in these watersheds as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 15. Middle Salmon-Chamberlain Subbasin (HUC4# 17060207)

This subbasin contains 19 watersheds occupied by this ESU and encompasses approximately 1,715 sq mi (4,442 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 402 mi (647 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Chamberlain Creek and Panther Creek) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. Of the 19 watersheds reviewed by the Team, habitat areas in 14 were rated as having high, those in 3 were rated as having medium, and those in 2 were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also noted that the watersheds with habitat areas having medium overall ratings contain a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 16. South Fork Salmon Subbasin (HUC4# 17060208)

This subbasin contains 15 watersheds occupied by this ESU and encompasses approximately 1,313 sq mi (3,401 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 410 mi (660 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (South Fork Salmon River and Secesh River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. The Team rated all of the habitat areas in these 15 watersheds as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 17. Lower Salmon Subbasin (HUC4# 17060209)

This subbasin contains 17 watersheds occupied by this ESU and encompasses approximately 1,179 sq mi (3,054 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 317 mi (510 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Chamberlain Creek and Little Salmon and Lower Salmon tributaries) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, mineral mining, road building/maintenance, and urbanization. Of the 17 watersheds reviewed by the Team, habitat areas in 12 were rated as having high, and those in 5 as having medium conservation value to the ESU (NMFS, 2004a). The Team noted that two of the watersheds with habitat areas having medium overall ratings (Salmon River/Hammer Creek and Salmon River/Van Creek) contain a migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 18. Little Salmon Subbasin (HUC4# 17060210)

This subbasin contains seven watersheds, five of which are occupied by this ESU. The occupied watersheds encompass approximately 406 sq mi (1,052 sq km). Fish distribution and habitat use data from BLM, IDFG, and USFS identify approximately 101 mi (163 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Little Salmon and Lower Salmon tributaries) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, forestry, fire activity and disturbance, grazing, road building/maintenance, and urbanization. Of the five watersheds reviewed by the Team, habitat areas in two were rated as having high and those in three were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team noted that one of the watersheds (Lower Little Salmon River) with habitat areas having medium overall value contains a high value rearing and migration corridor connecting high value habitat areas upstream with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 19. Upper Selway Subbasin (HUC4# 17060301)

This subbasin contains nine watersheds occupied by this ESU and

encompasses approximately 983 sq mi (2,546 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 314 mi (505 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Selway River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including fire activity and disturbance. All of the habitat areas in the watersheds reviewed by the Team were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 20. Lower Selway Subbasin (HUC4# 17060302)

This subbasin contains 14 watersheds, 13 of which are occupied by this ESU. The occupied watersheds encompass approximately 1,005 sq mi (2,603 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 242 mi (390 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Selway River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, fire activity and disturbance, grazing, and road building/maintenance. All of the habitat areas in watersheds reviewed by the Team were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 21. Lochsa Subbasin (HUC4# 17060303)

This subbasin contains 14 watersheds occupied by this ESU and encompasses approximately 1,178 sq mi (3,051 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 277 mi (446 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Lochsa River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including forestry, fire activity and disturbance, and road building and maintenance. All of the habitat areas in watersheds reviewed by the Team were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 22. Middle Fork Clearwater Subbasin (HUC4# 17060304)

This subbasin contains two watersheds occupied by this ESU and encompasses approximately 217 sq mi (562 sq km). Fish distribution and habitat use data from BLM, IDFG and USFS identify approximately 80 mi (129 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Lower Clearwater River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, road building/maintenance, and urbanization. The Team rated habitat areas in both of the watersheds within this subbasin as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 23. South Fork Clearwater Subbasin (HUC4# 17060305)

This subbasin contains 13 watersheds occupied by this ESU and encompasses approximately 1,176 sq mi (3,046 sq km). Fish distribution and habitat use data from BLM, IDFG and USFS identify approximately 406 mi (653 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (South Fork Clearwater River and Lower Clearwater River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, mineral mining, road building/maintenance, and urbanization. Of the 13 watersheds reviewed by the Team, habitat areas in 8 watersheds were rated as having high, those in 3 were rated as having medium, and those in 2 were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that two of the watersheds with habitat areas having medium value and one of the watersheds with habitat areas having low value contain a high value rearing and migration corridor connecting high value upstream habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 24. Clearwater Subbasin (HUC4# 17060306)

This subbasin contains 31 watersheds, 26 of which are occupied by this ESU. The occupied watersheds encompass approximately 2,046 sq mi (5,299 sq km). Fish distribution and habitat use data from BLM, IDFG and USFS identify approximately 425 mi (684 km) of occupied riverine habitat in the watersheds (NMFS, 2004a). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Lolo Creek and Lower Clearwater) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, forestry, fire activity and disturbance, grazing, mineral mining, road building/maintenance, and urbanization. Of the 26 watersheds reviewed by the Team, habitat areas in 14 watersheds were rated as having high, those in 9 were rated as having medium, and those in 3 were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that five of the watersheds with habitat areas having medium value and two watersheds with habitat areas having low value contain a high value rearing and migration corridor connecting high value upstream habitat areas with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 25. Lower North Fork Clearwater Subbasin (HUC4# 17060308)

This subbasin contains 12 watersheds, one of which is occupied by the anadromous life history type of this ESU. The occupied watershed encompasses approximately 81 sq mi (210 sq km). Fish distribution and habitat use data from IDFG and USFS identify approximately 2 mi (3.2 km) of occupied riverine habitat in the lowermost watershed of the subbasin (NMFS, 2004a). The fish in the occupied habitat are part of the Lower Clearwater

River population (ICBTRT, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, forestry, fire activity and disturbance, and road building and maintenance. The Team rated the habitat areas in the Lower North Fork Clearwater River watershed as having a low conservation value for the ESU. In addition, the Team also considered whether historically occupied areas of this subbasin (and the upstream subbasin—Upper North Fork Clearwater) above Dworshak Dam are essential for ESU conservation. Although many areas are now inundated, the Team concluded that most of the blocked watersheds are still in good condition. The Team also noted that the Interior Columbia Basin TRT identified these areas as part of a historically independent population and underscored that the resident *O. mykiss* above Dworshak Dam are genetically unique relative to other *O. mykiss* in the Clearwater Basin. A recently completed status review update of this ESU (NMFS, 2003) noted that ''recent genetic data suggest that native resident *O. mykiss* above Dworshak Dam on the North Fork Clearwater should be considered part of this ESU, but hatchery rainbow trout that have been introduced to that and other areas would not.'' Given these considerations, the Team concluded that these blocked watersheds may be essential for ESU conservation, but it was uncertain which specific areas within them may warrant consideration as critical habitat. We seek comment on whether these areas should be proposed as critical habitat.

Unit 26. Lower Snake/Columbia River corridor

Unit 26 consists of the migration corridor that begins in Southeast Washington immediately downstream of the confluence of the Snake River with the Palouse River. The corridor includes approximately 378 mi (608 km) of the Lower Snake and Columbia rivers. Watersheds downstream of the Palouse River are outside of the spawning range of this ESU and likely used in a limited way as juvenile rearing habitat for this ESU. After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Snake/Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects every watershed and population in this ESU with the ocean and by rearing/migrating juveniles and migrating adults. The Columbia River estuary also contains PCEs and is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriot *et al.,* 2002).

Middle Columbia River O. mykiss ESU

The Middle Columbia River *O. mykiss* ESU includes all naturally spawned populations of anadromous *O. mykiss* in streams from above the Wind River, Washington, and the Hood River, Oregon (exclusive), upstream to, and including, the Yakima River, Washington, excluding *O. mykiss* from the Snake River basin (64 FR 14517; March 25, 1999). We have proposed that resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations also be included in the Middle Columbia River *O. mykiss* ESU (69 FR 33101; June 14, 2004). The ESU membership of native resident populations above recent (usually man-made) impassable barriers, but below natural barriers, has not been resolved. These resident populations are provisionally not considered to be part of the Middle Columbia River *O. mykiss* ESU until such time that significant scientific information becomes available affording a case-by-case evaluation of their ESU relationships. We have proposed that seven artificial propagation programs be considered part of the ESU (69 FR 33101; June 14, 2004): the Touchet River Endemic, Yakima River Kelt Reconditioning Program (in Satus Creek, Toppenish Creek, Naches River, and Upper Yakima River), Umatilla River, and the Deschutes River *O. mykiss* hatchery programs.

The Interior Columbia Basin TRT (ICBTRT, 2003) has identified 16 extant demographically independent populations: the Fifteenmile Creek, Deschutes River—westside, Deschutes River—eastside, John Day River lower mainstem tributaries, South Fork John Day River, John Day River upper mainstem, Middle Fork John Day River, North Fork John Day River, Umatilla River, Walla Walla River, Touchet River, Rock Creek, Klickitat River, Toppenish and Satus Creeks, Naches River, and Yakima River upper mainstem populations. The historical White Salmon River population was extirpated with the construction of Condit Dam. The TRT arranged these populations into four major groups in this recovery planning area: (1) Cascades Eastern Slope Tributaries, (2) John Day River, (3) Umatilla and Walla Walla Rivers, and (4) Yakima River. A fifth unaffiliated group consists of at least the Rock Creek drainage (Washington) to the mid-Columbia River. These groupings are based on the proximity of major drainages, distances between spawning aggregations, topography, and genetic and ecological characteristics. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of population groupings (also called ''strata'') in an ESU (Ruckelshaus *et al.,* 2002; McElhany *et al.,* 2003).

Unlike Pacific salmon, *O. mykiss* are capable of spawning more than once before death. However, it is rare for *O. mykiss* to spawn more than twice before dying, and most that do so are females. *O. mykiss* can be divided into two basic run types based on their level of sexual maturity at the time they enter fresh water and the duration of the spawning migration. The stream-maturing type, or summer *O. mykiss*, enters fresh water in a sexually immature condition and requires several months in fresh water to mature and spawn. The ocean-maturing type, or winter *O. mykiss*, enters fresh water with well-developed gonads and spawns relatively shortly after river entry. Anadromous fish in the Middle Columbia River *O. mykiss* ESU are predominantly summer-run fish, but winter-run fish are found in the Klickitat River in Washington, and Fifteenmile Creek in Oregon.

Both types of *O. mykiss* spawn in cool, clear streams with suitable gravel size, depth, and current velocity. They sometimes also use smaller streams for spawning. Summer-run fish enter fresh water between May and October. During summer and fall before spawning, they hold in cool, deep pools. They migrate inland toward spawning areas, overwinter in the larger rivers, resume migration to natal streams in early spring, and then spawn. Winter-run fish enter fresh water between November and April in the Pacific Northwest, migrate to spawning areas, and then spawn in late winter or spring. Depending on water temperature, *O. mykiss* eggs may incubate for 1.5 to 4 months before hatching. Summer rearing takes place primarily in the faster parts of pools, although young-of-the-year are abundant in glides and riffles. Winter rearing occurs more uniformly at lower densities across a wide range of fast and slow habitat types. Some older juveniles move downstream to rear in larger tributaries and mainstem rivers. Productive *O. mykiss* habitat is characterized by complexity, primarily in the form of large and small wood.

Most anadromous *O. mykiss* in this ESU smolt at 2 years and spend 1 to 2 years in salt water before re-entering fresh water, where they may remain for up to a year before spawning. Age-2-ocean fish dominate the summer run in the Klickitat River, whereas most other rivers with summer-run fish produce about equal numbers of both age-1- and 2-ocean fish. Juvenile life-history stages (*i.e.,* eggs, alevins, fry, and parr) inhabit freshwater/riverine areas throughout the range of the ESU. Parr usually undergo a smolt transformation as 2-year-olds, at which time they migrate to the ocean. Subadults and adults forage in coastal and offshore waters of the North Pacific Ocean before returning to spawn in their natal streams. An inland form of resident *O. mykiss* (redband trout) co-occurs with the anadromous form in this ESU, and juvenile life stages of the two forms can be very difficult to differentiate. In addition, hatchery *O. mykiss* are also distributed throughout the range of this ESU (except for the John Day subbasin).

The Middle and Upper Columbia River Team's assessment of this ESU addressed habitat areas within 111 occupied watersheds in 15 associated subbasins (identified below as ''units'' with unique HUC4 numbers) as well as the Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats in the context of each of the five major groupings identified by the TRT for this ESU. The Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Middle Columbia River *O. mykiss,* consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Upper Yakima (HUC4# 17030001)

The subbasin contains four occupied watersheds encompassing approximately 2,139 sq mi (5,540 sq km). Fish distribution and habitat use data from WDFW identify approximately 284 mi (457 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Upper Yakima River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the four watersheds reviewed by the Team, habitat areas in three were rated as having high conservation value and those in one were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team noted that the Umtanum/Wenas watershed contains a high value migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team also concluded that several historically occupied areas in this subbasin may be essential for ESU conservation, including upper reaches in Wilson and Naneum creeks (Middle Upper Yakima River watershed) and areas upstream of Cle Elum, Kacheelus, and Kachess dams (Upper Yakima River watershed). These dams block substantial amounts of historical habitat and the Team noted that areas above them were historically important nursery/rearing areas for this ESU and that habitat conditions are still in generally good condition. The Team determined that access to these areas would likely promote the conservation of the ESU. We seek comment on whether these areas should be proposed as critical habitat.

Unit 2. Naches (HUC4# 17030002)

The subbasin contains three occupied watersheds encompassing approximately 1,105 sq mi (2,862 sq km). Fish distribution and habitat use data from the WDFW identify approximately 230 mi (370 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Naches River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, and road building/maintenance. Habitat areas in all of the watersheds reviewed by the Team were rated as having a high conservation value to the ESU (NMFS, 2004a). The Team also concluded that two historically occupied areas in this subbasin may be essential for ESU conservation, including reaches blocked by Bumping Lake Dam in the Little Naches River watershed and reaches above Tieton Dam in the Naches/Tieton River watershed. The Team noted that areas above both dams were historically important nursery/rearing areas for this ESU and that habitat conditions are in generally good condition. The Team determined that access to these areas would likely promote the conservation of the ESU. We seek comment on whether these areas should be proposed as critical habitat.

Unit 3. Lower Yakima (HUC4# 17030003)

The subbasin contains seven occupied watersheds encompassing approximately 2,903 sq mi (7,519 sq km). Fish distribution and habitat use data from WDFW identify approximately 574 mi (924 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Naches River and Satus and Toppenish Creeks) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, road building/maintenance, and urbanization. Of the seven watersheds reviewed by the Team, habitat areas in four were rated as having high and those in three were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also concluded that the watersheds with habitat areas having a medium overall rating contain a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Middle Columbia/Lake Wallula (HUC4# 17070101)

The subbasin contains 14 watersheds, 10 of which are occupied by the ESU; 5 of these consist solely of a Columbia River rearing/migration corridor. Occupied watersheds encompass approximately 2,089 sq mi (5,410 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 155 mi (249 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b; WDFW, 2003). Seven of the 16 demographically independent *O. mykiss* populations in this ESU identified by the Interior

Columbia Basin TRT (2003) occupy Columbia River reaches within this subbasin. However, only one of these (Rock Creek, an unaffiliated independent population) is known to spawn here. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, forestry, fire activity and disturbance, grazing, road building/maintenance, and urbanization. Of the 10 watersheds reviewed by the Team, habitat areas in 7 were rated as having high and those in 3 were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Walla Walla (HUC4# 17070102)

The subbasin contains 11 watersheds, 9 of which are occupied by the ESU. Occupied watersheds encompass approximately 1,525 sq mi (3,950 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 531 mi (855 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b; WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Walla Walla River and Touchet River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, hydroelectric dams, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, road building/maintenance, and urbanization. Of the nine watersheds reviewed by the Team, habitat areas in five were rated as having high, those in three as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also concluded that while the tributary habitat areas in some of the watersheds were of medium conservation value to the ESU (NMFS, 2004a), the watersheds still contain a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Umatilla (HUC4# 17070103)

The subbasin contains 13 watersheds, 10 of which are occupied by the ESU. Occupied watersheds encompass approximately 1,828 sq mi (4,734 sq km). Fish distribution and habitat use data from ODFW identify approximately 419 mi (674 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Umatilla River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, road building/maintenance, and urbanization. Of the 10 watersheds reviewed by the Team, habitat areas in 6 were rated as having high, those in 1 as having medium, and those in 3 were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also concluded that while the tributary habitat areas in one of the watersheds was of medium conservation value to the ESU (NMFS, 2004a), the watershed still contains a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Middle Columbia/Hood (HUC4# 17070105)

This subbasin contains 13 watersheds, 8 of which are occupied by this ESU. Occupied watersheds encompass approximately 1,461 sq mi (3,784 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 272 mi (438 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b; WDFW, 2003). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Klickitat River and Fifteenmile Creek) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, hydroelectric dams, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, road building/maintenance, river traffic, and urbanization. Of the eight watersheds reviewed by the Team, habitat areas in three were rated as having high, those in four as medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also concluded that while the tributary habitat areas in two watersheds were of low and medium conservation value to the ESU (NMFS, 2004a), these watersheds still contain a high value Columbia River rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Klickitat (HUC4# 17070106)

This subbasin contains four occupied watersheds encompassing approximately 1,351 sq mi (3,499 sq km). Fish distribution and habitat use data from WDFW identify approximately 216 mi (348 km) of occupied riverine habitat in the subbasin (WDFW, 2003). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Klickitat River) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, and road building/maintenance. The Team concluded that habitat areas in all of the watersheds in this subbasin are of high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Upper John Day (HUC4# 17070201)

This subbasin contains 15 watersheds, 14 of which are occupied by this ESU. Occupied watersheds encompass approximately 1,991 sq mi (5,157 sq km). Fish distribution and habitat use data from ODFW identify approximately 799 mi (1,286 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified three demographically independent populations (South Fork John Day, Lower Mainstem John Day, Upper Mainstem John Day) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management

activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, road building/maintenance and urbanization. Of the 13 watersheds reviewed by the Team, habitat areas in 12 watersheds were rated as having high and those in 1 were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the Fields Creek watershed contains a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. North Fork John Day (HUC4# 17070202)

This subbasin contains 10 occupied watersheds encompassing approximately 1,849 sq mi (4,789 sq km). Fish distribution and habitat use data from ODFW identify approximately 931 mi (1,498 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (North Fork John Day and Middle Fork John Day) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, mineral mining, and road building/maintenance. Of the 10 watersheds reviewed by the Team, habitat areas in 9 were rated as having high and those in 1 were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that the Lower North Fork John Day River watershed contains a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 11. Middle Fork John Day (HUC4# 17070203)

This subbasin contains five occupied watersheds encompassing approximately 792 sq mi (2,051 sq km). Fish distribution and habitat use data from ODFW identify approximately 387 mi (623 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Middle Fork John Day) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, mineral mining, and road building/maintenance. Of the five watersheds reviewed by the Team, habitat areas in four were rated as having high and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also noted that the Lower Middle Fork John Day River watershed contains a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 12. Lower John Day (HUC4# 17070204)

This subbasin contains 14 occupied watersheds encompassing approximately 3,155 sq mi (8,171 sq km). Fish distribution and habitat use data from ODFW identify approximately 829 mi (1,334 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Lower Mainstem John Day) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, and road building/maintenance. Of the 14 watersheds reviewed by the Team, habitat areas in 7 were rated as having high, those in 4 were rated as having medium, and those in 3 were rated as having low conservation value to the ESU (NMFS, 2004a). The Team also noted that the three low value watersheds contain a high value rearing and migration corridor connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 13. Lower Deschutes (HUC4# 17070306)

This subbasin contains 12 watersheds, 9 of which are occupied by this ESU. Occupied watersheds encompass approximately 1,891 sq mi (4,898 sq km). Fish distribution and habitat use data from ODFW identify approximately 357 mi (575 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified two demographically independent populations (Deschutes River Westside Tributaries and Deschutes River Eastside Tributaries) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, hydroelectric dams, forestry, fire activity and disturbance, grazing, mineral mining, road building/maintenance, and urbanization. Of the nine watersheds reviewed by the Team, habitat areas in eight were rated as having high and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 14. Trout (HUC4# 17070307)

This subbasin contains five watersheds, four of which are occupied by this ESU. Occupied watersheds encompass approximately 554 sq mi (1,435 sq km). Fish distribution and habitat use data from ODFW identify approximately 116 mi (187 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). The Interior Columbia Basin TRT (2003) identified one demographically independent population (Deschutes River Eastside Tributaries) occupying this subbasin. The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications/diking, forestry, fire activity and disturbance, grazing, irrigation impoundments and withdrawals, and road building/maintenance. Of the four watersheds reviewed by the Team, habitat areas in two were rated as having high, those in one were rated as having medium and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas

in this subbasin that may be essential for the conservation of the ESU.

Unit 15. Upper Columbia/Priest Rapids (HUC4# 17020016)

This subbasin contains four watersheds, only one of which (Columbia River/Zintel Canyon) is occupied by the ESU. The occupied watershed encompasses approximately 211 sq mi (546 sq km). Fish distribution and habitat use data from WDFW identify approximately 13 mi (21 km) of occupied riverine habitat in the subbasin consisting of the Columbia River downstream of its confluence with the Yakima River (WDFW, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, hydroelectric dams, fire activity and disturbance, road building/maintenance, and urbanization. The Team also concluded that habitat areas in the Columbia River/Zintel Canyon watershed warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 16. Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define the Columbia River corridor as that segment from the confluence of the Wind and Columbia Rivers downstream to the Pacific Ocean. This confluence is located at the downstream boundary of the Middle Columbia/Grays Creek watershed, which was the furthest downstream watershed with spawning or tributary PCEs identified in the range of this ESU. Fish distribution and habitat use data from ODFW and WDFW identify approximately 151 mi (243 km) of occupied riverine and estuarine habitat in this corridor (ODFW, 2003a,b; WDFW, 2003). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects habitat areas in every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.,* 2002). Management activities that may affect the PCEs in this corridor include channel modifications, dams, irrigation impoundments and withdrawals, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Lower Columbia River O. mykiss ESU

The Lower Columbia River anadromous *O. mykiss* ESU includes all naturally spawned populations of anadromous *O. mykiss* in streams and tributaries to the Columbia River between the Cowlitz and Wind Rivers, Washington (inclusive), and the Willamette and Hood Rivers, Oregon (inclusive). Excluded are *O. mykiss* in the upper Willamette River Basin above Willamette Falls and *O. mykiss* from the Little and Big White Salmon Rivers in Washington (62 FR 43937; August 18, 1997). We have proposed that resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations be included in the Lower Columbia River *O. mykiss* ESU (69 FR 33101; June 14, 2004). The ESU membership of native resident populations above recent (usually man-made) impassable barriers, but below natural barriers, has not been resolved. These resident populations are provisionally not considered to be part of the Lower Columbia River *O. mykiss* ESU until such time that significant scientific information becomes available affording a case-by-case evaluation of their ESU relationships. We have proposed that 10 artificial propagation programs be considered part of the ESU: the Cowlitz Trout Hatchery (in the Cispus, Upper Cowlitz, Lower Cowlitz, and Tilton Rivers), Kalama River Wild (winter- and summer-run), Clackamas Hatchery, Sandy Hatchery, and Hood River (winter- and summer-run) *O. mykiss* hatchery programs (69 FR 33101; June 14, 2004).

The Willamette-Lower Columbia River TRT has identified 23 historical demographically independent populations of Lower Columbia River *O. mykiss*: 18 Western Cascade Range tributaries populations (the Cispus River winter-run, Tilton River winter-run, Upper Cowlitz River winter-run, Lower Cowlitz River winter-run, North Fork Toutle River winter-run, South Fork Toutle River winter-run, Coweeman River winter-run, Kalama River winter-run, Kalama River summer-run, North Fork Lewis River winter-run, East Fork Lewis River winter-run, North Fork Lewis River summer-run, East Fork Lewis River summer-run, Clackamas River winter-run, Salmon Creek winter-run, Sandy River winter-run, Washougal River winter-run, Washougal River summer-run populations); and five Columbia River Gorge tributaries populations (the Lower Gorge tributaries winter-run, Upper Gorge tributaries winter-run, Wind River summer-run, Hood River winter-run, and Hood River summer-run populations) (Myers *et al.,* 2003). The TRT has arranged these populations into ''strata'' based on major life history characteristics (*e.g.,* species run types) and ecological zones (McElhany *et al.,* 2002). The Lower Columbia River *O. mykiss* ESU inhabits two ecological zones (Cascade and Columbia Gorge) and contains two life-history types (summer- and winter-run fish), resulting in a total of four strata for this ESU: Cascade summer- and winter-run populations, and Columbia Gorge summer- and winter-run populations (McElhany *et al.,* 2002). Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata in the ESU (Ruckelshaus *et al.,* 2002; McElhany *et al.,* 2003).

In the Lower Columbia River Basin, migrating adult *O. mykiss* can occur in the Columbia River year-round, but peaks in migratory activity and differences in reproductive ecotype lend themselves to classifying anadromous *O. mykiss* into two races: summer-run and winter-run fish. Summer-run fish return to fresh water from May to October, and enter the Columbia in a sexually immature condition, requiring several months in fresh water to reach sexual maturity and spawn. Winter-run fish enter fresh water from November to April, and return as sexually mature individuals that spawn shortly thereafter.

Some rivers have both summer and winter runs, while others have only one race. Where both runs occur in the same stream, summer-run fish tend to spawn higher in the watershed than do winter forms, perhaps suggesting that summer-run fish tend to exist where winter runs do not fully utilize available habitat. In rivers where both winter and summer forms occur, they are often separated by a seasonal hydrologic barrier, such as a waterfall. Coastal streams are predominantly winter-run fish, whereas interior subbasins are dominated by summer-run fish. Historically, winter-run fish may have been excluded from interior Columbia River subbasins by Celilo Falls.

O. mykiss spawn in clear, cool, well-oxygenated streams with suitable gravel and water velocity. Adult fish waiting to spawn or in the process of spawning are

vulnerable to disturbance and predation in areas without suitable cover. Cover types include overhanging vegetation, undercut banks, submerged vegetation, submerged objects such as logs and rocks, deep water, and turbulence. Spawning occurs earlier in areas of lower elevation and where water temperature is warmer than in areas of higher elevation and cooler water temperature. Spawning occurs from January through May, and precise spawn timing is related to stream temperature. Adult *O. mykiss,* unlike salmon, do not necessarily die after spawning but return to the ocean. However, repeat spawning is not common among anadromous *O. mykiss* migrating several hundred miles or more upstream from the ocean.

O. mykiss eggs hatch in 35 to 50 days depending on water temperature. Following hatching, alevins remain in the gravel 2 to 3 weeks until the yolk-sac is absorbed. Anadromous *O. mykiss* are spring spawners, so they spawn at a time when temperatures are typically cold, but increasing. Their spawning time must optimize avoidance of competing risks from gravel-bed scour during high flow and increasing water temperatures that can become lethal to eggs as the warm season arrives. Fry emergence is principally determined by the time of egg deposition and the water temperature during the incubation period. In the lower Columbia, emergence timing differs slightly between anadromous *O. mykiss* races and among subbasins. The different emergence times between races may be a function of spawning location within the watershed (and hence water temperature) or a result of genetic differentiation between the races. Generally, emergence occurs from March into July, with peak emergence time generally in April and May. Following emergence, fry usually move into shallow and slow-moving margins of the stream. Fry tend to occupy shallow riffle habitats, and as they grow, they inhabit areas with deeper water, a wider range of velocities, and larger substrate.

Anadromous *O. mykiss* exhibit a great deal of variability in smolt age and ocean age. The dominant age class of outmigrating smolts in the lower Columbia River is age 2. In the lower Columbia River, smolt outmigration generally occurs from March to June, with peak migration usually in April or May.

The Lower Columbia River Team's assessment for this ESU addressed habitat areas within 41 occupied watersheds in 9 associated subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the lower Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the four life-history type and ecological strata identified by the Willamette/Lower Columbia TRT. The Lower Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Lower Columbia River Chinook salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Middle Columbia/Hood Subbasin (HUC4# 17070105)

This subbasin contains 13 watersheds, 6 of which are occupied by this ESU and encompass approximately 842 sq mi (2,181 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 299 mi (481 km) of occupied riverine habitat in the watersheds, including a 23-mi (37-km) segment of the Columbia River (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Columbia Gorge) containing two summer-run (Wind River and Hood River) and three winter-run (Upper Gorge Tributaries, Lower Gorge Tributaries, and Hood River) historical demographically independent populations in this subbasin. The Wind River summer-run and Hood River winter-run populations have been classified by the TRT as ''core'' populations (*i.e.,* historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.,* 2003). Also, the TRT classified the Hood River winter-run fish as a genetic legacy population, *i.e.,* one of ''the most intact representatives of the genetic character of the ESU'' (McElhany *et al.,* 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in four were rated as having high, those in one were rated as having medium, and those in one were rated as having low conservation value to the ESU (NMFS, 2004a). The Team noted that two watersheds (Middle Columbia/Eagle Creek and Middle Columbia/Grays Creek) contain a high value rearing and migration corridor in the Columbia River connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. Lower Columbia/Sandy Subbasin (HUC4# 17080001)

This subbasin contains nine occupied watersheds encompassing approximately 1,076 sq mi (2,787 sq km). Fish distribution and habitat use data from ODFW and WDFW identify approximately 513 mi (826 km) of occupied riverine habitat in the watersheds, including a 26-mi (42-km) segment of the Columbia River (ODFW, 2003a,b; WDFW, 2003). Myers *et al.* (2003) identified two ecological zones (Cascade and Columbia Gorge) containing one summer-run (Washougal River) and four winter-run (Lower Gorge Tributaries, Washougal River, Salmon Creek, and Sandy River) historical demographically independent populations in this subbasin. The Washougal River summer-run and Sandy River winter-run fish have been classified by the TRT as ''core'' populations (*i.e.,* historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.,* 2003). Also, the TRT classified the Washougal River summer-run fish as a genetic legacy population (*i.e.,* one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.,* 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications, dams, forestry, roadbuilding, and urbanization. Of the nine watersheds reviewed by the Team, habitat areas in four were rated as having high and those in five were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that one watershed (Columbia Gorge Tributaries) contains a high value rearing and migration corridor in the Columbia River connecting high value habitat areas in upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. Lewis Subbasin (HUC4# 17080002)

This subbasin contains six watersheds, two of which are currently occupied by this ESU and the remaining four now blocked by Merwin Dam and others upstream. Occupied watersheds encompass approximately 456 sq mi

(1,181 sq km). Fish distribution and habitat use data from the WDFW identify approximately 250 mi (402 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing two summer-run (North Fork Lewis River and East Fork Lewis River) and two winter-run (North Fork Lewis River and East Fork Lewis River) historical demographically independent populations in this subbasin. The TRT has classified the North Fork Lewis River winter-run fish as a ''core'' population (historically abundant and ''may offer the most likely path to recovery'') and the East Fork Lewis River summer-run population as a genetic legacy population (one of ''the most intact representatives of the genetic character of the ESU'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. The Team rated habitat areas in both occupied watersheds as having high conservation value to the ESU (NMFS, 2004a). The Team also considered whether inaccessible reaches above Merwin, Yale and Swift dams may be essential to the conservation of this ESU. The Team believed that these unoccupied areas may be important because they once supported a TRT core population, and they contain non-inundated habitats that are likely in good condition relative to other more urbanized watersheds in the Cascade region (Lower Columbia Fish Recovery Board, 2003; McElhany *et al.*, 2003). The Team also noted that the TRT concluded that ''given the limited amount of spawning habitat currently accessible it is unlikely that an independent self-sustaining [summer-run] population could exist'' (Myers *et al.*, 2003). On the other hand, the Team noted that there is currently a substantial amount of habitat still accessible throughout the range of this ESU. Therefore, the Team concluded that the ESU would likely benefit if the extant populations had access to spawning/rearing habitat upstream. We seek comment on whether these areas should be proposed as critical habitat.

Unit 4. Lower Columbia/Clatskanie Subbasin (HUC4# 17080003)

This subbasin contains a single occupied watershed (Kalama River) encompassing approximately 237 sq mi (614 sq km). Fish distribution and habitat use data from WDFW identify approximately 133 mi (214 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Myers *et al.* (2003) identified one ecological zone (Cascade) containing two historical demographically independent populations in this subbasin: Kalama River summer- and winter-run fish. The Kalama River summer-run population has been classified by the TRT as a ''core'' population (i.e., historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including channel modifications, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in the Kalama River watershed warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Upper Cowlitz Subbasin (HUC4# 17080004)

This subbasin contains five occupied watersheds encompassing approximately 1,026 sq mi (2,657 sq km). Fish distribution and habitat use data from WDFW identify approximately 170 mi (274 km) of occupied riverine habitat in the watersheds (WDFW, 2003). All of this habitat is located upstream of impassable dams (Mayfield and Mossyrock) and only accessible to anadromous fish via trap and haul operations. Myers *et al.* (2003) identified one ecological zone (Cascade) containing two winter-run historical demographically independent populations in this subbasin (Upper Cowlitz River and Cispus River). Both populations have been classified by the TRT as ''core'' populations (i.e., historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.*, 2003). In addition, the TRT classified the Upper Cowlitz River winter-run population as a genetic legacy population (i.e., one of ''the most intact representatives of the genetic character of the ESU.'') The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in all five occupied watersheds warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Lower Cowlitz Subbasin (HUC4# 17080005)

This subbasin contains eight occupied watersheds encompassing approximately 1,465 sq mi (3,794 sq km). Fish distribution and habitat use data from WDFW identify approximately 785 mi (1,263 km) of occupied riverine habitat in the watersheds (WDFW, 2003). Habitat in two watersheds—Tilton River and Riffe Reservoir—is located upstream of impassable dams (Mayfield and Mossyrock) and only accessible to anadromous fish via trap and haul operations. Data from WDFW identified very little anadromous *O. mykiss* distribution in the Riffe Reservoir watershed (and did not identify the Riffe and Mayfield lakes as occupied habitat). However, the Team determined that these lakes are occupied and contain PCEs for rearing/migrating juveniles based on information regarding migrants described in Wade (2000) as well as their own knowledge of trap and haul operations in this subbasin. Myers *et al.* (2003) identified one ecological zone (Cascade) containing seven historical demographically independent populations of winter-run fish in this subbasin: Cispus River, Upper Cowlitz River, Lower Cowlitz River, Tilton River, North Fork Toutle River, South Fork Toutle River, and Coweeman River. Three populations (Cispus River, Upper Cowlitz River, and North Fork Toutle River) have been classified by the TRT as ''core'' populations, i.e., historically abundant and ''may offer the most likely path to recovery'' (McElhany *et al.*, 2003). In addition, the TRT classified the Upper Cowlitz River winter-run fish as a genetic legacy population, i.e., some of ''the most intact representatives of the genetic character of the ESU.'' The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, dams, forestry, and roadbuilding. Of the eight watersheds reviewed by the Team, habitat areas in three were rated as having high and those in five were rated as having medium conservation value to the ESU (NMFS, 2004a). The Team also noted that four watersheds (Riffe Reservoir, Jackson Prairie, East Willapa, and Coweeman River) contained high value rearing and migration corridors connecting high value habitat areas in

upstream watersheds with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Middle Willamette Subbasin (HUC4# 17090007)

The occupied portion of this subbasin is downstream of Willamette Falls and includes a single watershed (Abernethy Creek) encompassing approximately 136 sq mi (352 sq km) as well as a short segment (approximately 1 mi (1.6 km)) of the Willamette River downstream of Willamette Falls. Fish distribution and habitat use data from ODFW identify approximately 26 mi (42 km) of occupied riverine habitat in the subbasin (ODFW, 2003a,b). Myers *et al.* (2003) identified one ecological zone (Cascade) containing a single historical demographically independent population in this subbasin: Clackamas River winter-run fish. This population has been classified by the TRT as a ''core'' population (i.e., historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, dams, roadbuilding, and urbanization. The Team also concluded that the habitat areas in the Abernethy Creek watershed are of low conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Clackamas Subbasin (HUC4# 17090011)

This subbasin contains six occupied watersheds encompassing approximately 942 sq mi (2,440 km). Fish distribution and habitat use data from ODFW identify approximately 274 mi (441 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing a single historical demographically independent population in this subbasin: Clackamas River winter-run fish. This population has been classified by the TRT as a ''core'' population (i.e., historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.*, 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the six watersheds reviewed by the Team, habitat areas in all were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 9. Lower Willamette Subbasin (HUC4# 17090012)

This subbasin contains three occupied watersheds encompassing approximately 408 sq mi (1,057 sq km). Two of the watersheds (Columbia Slough/Willamette River and Scappoose Creek) do not contain spawning PCEs for this ESU but instead are used solely for rearing and migration. Fish distribution and habitat use data from ODFW identify approximately 88 mi (142 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified a single ecological zone (Cascade) containing one historical demographically independent population of winter-run fish in this subbasin (Clackamas River). This population has been classified by the TRT as a ''core'' population (*i.e.*, historically abundant and ''may offer the most likely path to recovery'') (McElhany *et al.* 2003). The Team concluded that all occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. Of the three watersheds reviewed by the Team, habitat areas in all three were rated as having high conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 10. Lower Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define this corridor as that segment of the Columbia River from the confluences of the Sandy River (Oregon) and Washougal River (Washington) to the Pacific Ocean. Fish distribution and habitat use data from ODFW identify approximately 118 mi (190 km) of occupied riverine and estuarine habitat in this corridor (ODFW, 2003a,b). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Columbia River corridor was of high conservation value to the ESU. Other upstream reaches of the Columbia River corridor (within Units 1 and 2 above) are also high value for rearing/migration. The Team noted that this corridor connects habitat areas in every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Upper Willamette River O. mykiss ESU

The Upper Willamette River *O. mykiss* ESU includes all naturally spawned populations of anadromous *O. mykiss* in the Willamette River, Oregon, and its tributaries upstream from Willamette Falls to the Calapooia River (inclusive) (64 FR 14517; March 25, 1999). We have proposed that resident populations of *O. mykiss* below impassible barriers (natural and manmade) that co-occur with anadromous populations also be included in the Upper Willamette River *O. mykiss* ESU (69 FR 33101; June 14, 2004). Although there are no obvious physical barriers separating populations upstream of the Calapooia from those lower in the basin, resident *O. mykiss* in these upper basins are quite distinctive both phenotypically and genetically and are not considered part of the ESU. The ESU membership of native resident populations above recent (usually man-made) impassable barriers, but below natural barriers, has not been resolved. These resident populations are provisionally not considered to be part of the Upper Willamette River *O. mykiss* ESU, until such time that significant scientific information becomes available affording a case-by-case evaluation of their ESU relationships. This ESU does not include any artificially propagated *O. mykiss* stocks that reside within the historical geographic range of the ESU. Hatchery summer-run fish occur in the Willamette Basin but are an out-of-basin stock that is not included as part of the ESU.

The Willamette-Lower Columbia River TRT has identified four historical demographically independent populations of Upper Willamette River *O. mykiss*: the Mollala River, North Santiam River, South Santiam River, and Calapooia River populations (Myers *et al.*, 2003). The TRT also notes that spawning winter-run fish have been observed in the Westside tributaries to

the Upper Willamette River; however, the Westside tributaries are not considered to have historically constituted a demographically independent population (Myers *et al.*, 2003). The TRT has determined that the Upper Willamette River *O. mykiss* ESU populations comprise a single ''stratum,'' based on major life history characteristics (*e.g.*, species run types) and ecological zones (McElhany *et al.*, 2002). This single stratum consists of the single run-type (winter-run fish) and the single ecological zone (Willamette River) in the ESU. Recovery planning will likely emphasize the need for a geographical distribution of viable populations across the range of such strata/regions in an ESU (Ruckelshaus *et al.*, 2002; McElhany *et al.*, 2003).

Of the three temporal runs of anadromous *O. mykiss* currently found in the Upper Willamette River ESU, only the late-run winter fish are considered to be native. The same flow conditions at Willamette Falls that only provided access for spring-run chinook salmon also provided an isolating mechanism for this unique run time of anadromous *O. mykiss*. The predominant tributaries to the Willamette River that historically supported winter-run fish all drain the Cascade Range. Anadromous *O. mykiss* populations in the upper Willamette River Basin have been strongly influenced by extensive hatchery transfers of fish throughout the ESU, and the introduction of summer-run fish (facilitated by the laddering of Willamette Falls). Summer-run fish are still stocked in the Upper Willamette River, but the stocking of winter-run fish in the Willamette River has been discontinued (although non-native winter-run fish still return).

It is generally agreed that anadromous *O. mykiss* did not historically emigrate farther upstream than the Calapooia River. The TRT reviewed evidence of anadromous *O. mykiss* using westside tributaries to the Willamette River and concluded that ''with the exception of the Tualatin River, there is little evidence to suggest that sustained spawning aggregations of steelhead may have existed historically in the westside tributaries of the Willamette River Basin. Furthermore, it is unlikely that these tributaries, individually or collectively were large enough to constitute a demographically independent population.''

Late-run Upper Willamette River *O. mykiss* are considered an ocean-maturing type, entering fresh water with well-developed gonads and typically spawning shortly thereafter. Maturing fish enter the Willamette River beginning in January and February, but do not ascend to their spawning areas until late March or April. Spawning takes place from April to June, typically peaking in May, and occurs in both mainstem and tributary habitats in the major Cascade drainages identified above. Presently, native anadromous *O. mykiss* are distributed in a few, relatively small, naturally spawning aggregations.

The juvenile life-history characteristics of Upper Willamette River *O. mykiss* are summarized (where known) in ODFW (1990) and Olsen *et al.* (1992). In the subbasins reviewed, egg/alevin incubation and fry emergence occurred from April to August. Juveniles spend 2 winters rearing in freshwater before emigrating to the ocean from March to July. Upper Willamette River winter-run fish typically spawn as 4-year-olds after 2 years in the ocean.

The Upper Willamette River Team's assessment for this ESU addressed habitat areas within 34 occupied watersheds in 7 associated subbasins (identified below as ''units'' with unique HUC4 numbers), as well as the lower Willamette/Columbia River rearing/migration corridor. As part of its assessment, the Team considered the conservation value of each habitat area in the context of the productivity, spatial distribution, and diversity of habitats across the range of the single life-history type and ecological stratum identified by the Willamette/Lower Columbia TRT. The Lower Columbia River Team evaluated the conservation value of habitat areas on the basis of the physical and biological habitat requirements of Lower Columbia River *O. mykiss* salmon, consistent with the PCEs identified for Pacific salmon and *O. mykiss* described above in the Methods and Criteria Used to Identify Proposed Critical Habitat section.

Unit 1. Upper Willamette Subbasin (HUC4# 17090003)

This subbasin contains six watersheds, three of which are occupied by this ESU and encompass approximately 765 sq mi (1,981 km). Fish distribution and habitat use data from the ODFW identify approximately 241 mi (388 km) of occupied riverine habitat in the watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified possibly two demographically independent populations in this subbasin, but only one (Calapooia River) with spawning habitat. Myers *et al.* (2003) also noted that there is considerable debate about the origin of naturally spawning winter-run fish currently found in several westside tributaries. These authors went on to state that (with the exception of the Tualatin River) ''there is little evidence to suggest that sustained spawning aggregations of steelhead may have existed historically in the westside tributaries of the Willamette River Basin. Furthermore, it is unlikely that these tributaries, individually or collectively were large enough to constitute a demographically independent population.'' The Team concluded that all of these occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, forestry, roadbuilding, and urbanization. The Team also concluded that habitat areas in one of the watersheds warrant a high rating, and those in two warrant a medium rating for conservation value to the ESU (NMFS, 2004a). The Team also noted that all reaches of the Willamette River within this subbasin constitute a high value rearing and migration corridor for the Calapooia River population with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 2. North Santiam River Subbasin (HUC4# 17090005)

This subbasin contains six watersheds, three of which are occupied by this ESU and encompass approximately 315 sq mi (816 sq km). Fish distribution and habitat use data from ODFW identify approximately 137 mi (221 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (North Santiam River) in this subbasin. Historically accessible areas in the three uppermost watersheds of this subbasin are now blocked by Big Cliff and Detroit dams but may have been productive anadromous *O. mykiss* habitat (Parkhurst, 1950). The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in all three of the occupied watersheds in this subbasin warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 3. South Santiam River Subbasin (HUC4# 17090006)

This subbasin contains eight watersheds, six of which are occupied by this ESU and encompass approximately 766 sq mi (1,984 sq km). Fish distribution and habitat use data from ODFW identify approximately 230 mi (370 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). Two watersheds in the upper Middle Santiam River (Quartzville Creek and Middle Santiam River) are blocked by Green Peter Dam. Myers *et al.* (2003) identified one demographically independent population (South Santiam River) in this subbasin. The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, dams, forestry, and roadbuilding. The Team also concluded that habitat areas in all six of the occupied watersheds in this subbasin warrant a high rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 4. Middle Willamette River Subbasin (HUC4# 17090007)

This subbasin consists of four occupied watersheds encompassing approximately 712 sq mi (1,844 sq km). Fish distribution and habitat use data from ODFW identify approximately 175 mi (282 km) of occupied riverine habitat (all rearing/migration) in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (North Santiam River) that spawns in this subbasin, although three populations use this subbasin for rearing/migration. The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, roadbuilding, and urbanization. The Team also concluded that all of the tributary habitat areas in the four watersheds warrant a low rating for conservation value to the ESU (NMFS, 2004a). However, that assessment pertained solely to the tributary streams in these watersheds (*e.g.*, Ash, Rickreall, and Harvey creeks), not the mainstem Willamette River nor the Mill Creek reaches connecting to the North Santiam River. The Team concluded that all reaches of the Willamette River within this subbasin constitute a high value rearing and migration corridor. These high value reaches connect all populations and watersheds in this ESU with downstream reaches and the ocean. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 5. Yamhill River Subbasin (HUC4# 17090008)

This subbasin contains seven occupied watersheds encompassing approximately 772 sq mi (1,999 sq km). Fish distribution and habitat use data from ODFW identify approximately 319 mi (513 km) of occupied riverine habitat (all rearing/migration) in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) did not identify a demographically independent population in this subbasin. These authors noted that there is considerable debate about the origin of naturally spawning winter-run fish currently found in several westside tributaries and went on to state that (with the exception of the Tualatin River) ''there is little evidence to suggest that sustained spawning aggregations of steelhead may have existed historically in the westside tributaries of the Willamette River basin. Furthermore, it is unlikely that these tributaries, individually or collectively were large enough to constitute a demographically independent population.'' While there is uncertainty regarding the population status of anadromous *O. mykiss* in westside watersheds, the Team determined that it was likely that PCEs exist in these seven watersheds and identified several management activities that may affect the PCEs, including agriculture, forestry, roadbuilding, and urbanization. The Team noted that, given the limited number of populations in this ESU, habitat in this subbasin may provide some conservation benefits to the ESU (*e.g.*, as a buffer against a catastrophic event affecting Cascade watersheds). In that context, the Team concluded that habitat areas in the Upper South Yamhill River watershed may have the greatest conservation value in this subbasin and therefore assigned them a medium conservation value while habitat areas in the remaining six watersheds warrant a low conservation value to the ESU. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 6. Molalla/Pudding River Subbasin (HUC4# 17090009)

This subbasin contains six occupied watersheds and encompasses approximately 875 sq mi (2,266 sq km). Fish distribution and habitat use data from ODFW identify approximately 284 mi (457 km) of occupied riverine habitat in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) identified one demographically independent population (Molalla River) that spawns in this subbasin. The Team concluded that all of the occupied areas contain spawning, rearing, or migration PCEs for this ESU and identified several management activities that may affect the PCEs, including agriculture, channel modifications, roadbuilding, and urbanization. The Team also concluded that habitat areas in one of the watersheds warrant a high rating, those in three warrant a medium rating, and those in two warrant a low rating for conservation value to the ESU (NMFS, 2004a). The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 7. Tualatin River Subbasin (HUC4# 17090010)

This subbasin contains five occupied watersheds encompassing approximately 709 sq mi (1,836 sq km). Fish distribution and habitat use data from ODFW identify approximately 298 mi (480 km) of occupied riverine habitat (all rearing/migration) in these watersheds (ODFW, 2003a,b). Myers *et al.* (2003) did not identify a demographically independent population in this subbasin. These authors noted that there is considerable debate about the origin of naturally spawning winter-run fish currently found in several westside tributaries and went on to state that (with the exception of the Tualatin River) ''there is little evidence to suggest that sustained spawning aggregations of steelhead may have existed historically in the westside tributaries of the Willamette River basin. Furthermore, it is unlikely that these tributaries, individually or collectively were large enough to constitute a demographically independent population.'' While there is uncertainty regarding the population status of anadromous *O. mykiss* in westside watersheds, the Team determined that it was likely that PCEs exist in these five watersheds and identified several management activities that may affect the PCEs, including agriculture, channel modifications, forestry, roadbuilding, and urbanization. The Team noted that, given the limited number of populations in this ESU, habitat in this subbasin may provide some conservation benefits to the ESU (*e.g.*, as a buffer against a catastrophic event affecting Cascade watersheds). In

that context, the Team concluded that habitat areas in the Gales Creek watershed may have the greatest conservation value in this subbasin and therefore assigned them a medium conservation value while habitat areas in the remaining four watersheds warrant a low conservation value to the ESU. The Team did not identify any unoccupied areas in this subbasin that may be essential for the conservation of the ESU.

Unit 8. Lower Willamette/Columbia River Corridor

For the purposes of describing units of critical habitat designation for this ESU, we define the lower Willamette/Columbia River corridor as that segment from the confluence of the Willamette and Clackamas rivers to the Pacific Ocean. This corridor also includes the Multnomah Channel portion of the Lower Willamette River. Watersheds downstream of the Clackamas River subbasin (Johnson Creek and Columbia Slough/Willamette River watersheds) are outside the spawning range of this ESU and likely used in a limited way as juvenile rearing habitat for this ESU. Fish distribution and habitat use data from ODFW identify approximately 138 mi (223 km) of occupied riverine and estuarine habitat in this corridor (ODFW, 2003a,b). After reviewing the best available scientific data for all of the areas within the freshwater and estuarine range of this ESU, the Team concluded that the lower Willamette/Columbia River corridor was of high conservation value to the ESU. The Team noted that this corridor connects habitat areas in every watershed and population in this ESU with the ocean and is used by rearing/migrating juveniles and migrating adults. The Columbia River estuary is a particularly important area for this ESU as both juveniles and adults make the critical physiological transition between life in freshwater and marine habitats (Marriott *et al.*, 2002). Management activities that may affect the PCEs in this corridor include channel modifications, roadbuilding, river/estuary traffic, roadbuilding, urbanization, and wetland loss and removal.

Application of ESA Section 4(b)(2)

The foregoing discussion describes those areas that are eligible for designation as critical habitat—the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat, minus those lands owned or controlled by the Department of Defense, or designated for its use, that are covered by an INRMP that we have determined in writing provides a benefit to the species. The application of section 4(b)(2) was a major concern of those commenting on the ANPR (68 FR 55926; September 29, 2003). Many commenters requested that we describe the process used—in particular the economic analysis—as part of our proposed rulemaking.

Specific areas eligible for designation are not automatically designated as critical habitat. Section 4(b)(2) of the ESA requires that the Secretary first considers the economic impact, impact on national security, and any other relevant impact. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation), outweigh the benefits of designation. The Secretary may not exclude an area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is discretionary, exclusion is not required for any areas.

In this proposed rule, the Secretary has applied his statutory discretion to exclude areas from critical habitat for several different reasons. To be consistent, we used the fifth field watershed as the unit for exclusion in each case. However, the agency is asking for public comment on whether considering exclusions on a stream-by-stream approach would be more appropriate.

Impacts to Tribes

We believe there is very little benefit to designating critical habitat on Indian lands. Although there is a broad array of activities on Indian lands that may trigger section 7, Indian lands comprise only a minor portion (less than 3 percent) of the total habitat under consideration for these ESUs. Depending upon the ESU, Indian lands account for zero to 13 percent of the total habitat area for these ESUs. (For nine ESUs the Indian lands total less than one percent, with only one ESU greater than five percent. These percentages are likely overestimates as they include all habitat area within reservation boundaries. In many cases, a considerable portion of the land within the reservation boundaries is no longer held in trust for the tribe or in fee status by individual tribal members). Further, in more than 15 letters to NMFS—several in response to the agency's ANPR (68 FR 55926; September 29, 2003)—the tribes have documented how they are already working to address the habitat needs of the species on these lands as well as in the larger ecosystem, and are fully aware of the conservation value of their lands.

There are several benefits to excluding Indian lands. The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

In addition to the distinctive trust relationship, for Pacific salmon in the Northwest, there is a unique partnership between the Federal government and Indian tribes regarding salmon management. Northwest Indian tribes are regarded as ''co-managers'' of the salmon resource, along with Federal and state managers. This co-management relationship evolved as a result of numerous court decisions clarifying the tribes' treaty right to take fish in their usual and accustomed places.

The tribes have stated in letters and meetings that designation of Indian lands as critical habitat will undermine long-term working relationships and reduce the capacity of tribes to participate at current levels in the many and varied forums across four states addressing ecosystem management and conservation of fisheries resources.

The benefits of excluding Indian lands from designation include: (1) The furtherance of established national policies, our Federal trust obligations and our deference to the tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote the conservation of salmonids on an ecosystem-wide basis across four states; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs.

We believe that the current co-manager process addressing activities on an ecosystem-wide basis across three states is currently beneficial for the conservation of the salmonids. Because the co-manager process provides for coordinated ongoing focused action through a variety of forums, we find the benefits of this process to be greater than the benefits of applying ESA section 7 to Federal activities on Indian lands, which comprise less than three percent of the total area under consideration for these ESUs. Additionally, we have determined that the exclusion of tribal lands will not result in the extinction of the species concerned. We also believe that maintenance of our current co-manager relationship consistent with existing policies is an important benefit to continuance of our tribal trust responsibilities and relationship. Based upon our consultation with the Tribes, we believe that designation of Indian lands as critical habitat would adversely impact our working relationship and the benefits resulting from this relationship.

Based upon these considerations, we have determined to exercise agency discretion under ESA section 4(b)(2) and propose to exclude Indian lands from the eligible critical habitat designation for these ESUs of salmonids. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including: (1) Lands held in trust by the United States for the benefit of any Indian tribe; (2) land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians.

Impacts on National Security

As noted previously (see Military Lands section), we evaluated 11 DOD sites with draft or final INRMPs and determined that each INRMP provides a benefit to the listed salmon or *O. mykiss* ESUs under consideration at the site. Therefore, we are proposing that those areas subject to final INRMPs are not eligible for designation pursuant to section 4(a)(3)(B)(I) of the ESA (16 U.S.C. 1533(A)(3)). At the request of the DOD (and in the case that an INRMP might not provide a benefit to the species), we also assessed the impacts on national security that may result from designating these and other DOD sites as critical habitat.

We contacted the DOD by letter and requested information about the impacts to national security that may result from designating critical habitat at the following 24 military sites in Washington: (1) Naval Submarine Base, Bangor; (2) Naval Undersea Warfare Center, Keyport; (3) Naval Ordinance Center, Port Hadlock (Indian Island); (4) Naval Radio Station, Jim Creek; (5) Naval Fuel Depot, Manchester; (6) Naval Air Station, Whidbey Island; (7) Naval Air Station, Everett; (8) Bremerton Naval Hospital; (9) Fort Lewis (Army); (10) Pier 23 (Army); (11) Yakima Training Center (Army); (12) Puget Sound Naval Shipyard; (13) Naval Submarine Base Bangor security zone; (14) Strait of Juan de Fuca naval air-to-surface weapon range, restricted area; (15) Hood Canal and Dabob Bay naval non-explosive torpedo testing area; (16) Strait of Juan de Fuca and Whidbey Island naval restricted areas; (17) Admiralty Inlet naval restricted area; (18) Port Gardner Naval Base restricted area; (19) Hood Canal naval restricted areas; (20) Port Orchard Passage naval restricted area; (21) Sinclair Inlet naval restricted areas; (22) Carr Inlet naval restricted areas; (23) Dabob Bay/Whitney Point naval restricted area; and (24) Port Townsend/Indian Island/Walan Point naval restricted area. All of these sites overlap with habitat areas occupied by one or more of the 13 ESUs and under consideration for critical habitat. A number of other sites (primarily armories and small Army facilities) were also assessed and were determined to be outside the areas under consideration. In response to our letter, both the Army and Navy provided information clarifying site locations and describing the types of military activities that occur at these sites. They also listed the potential changes in these activities and consequent national security impacts that critical habitat designation would cause in these areas. Both military agencies concluded that critical habitat designation at any of these sites would likely impact national security by diminishing military readiness. The possible impacts include: Preventing, restricting, or delaying training or testing exercises or access to such sites; restricting or delaying activities associated with vehicle/vessel/facility maintenance and ordinance loading; delaying response times for ship deployments and overall operations; and creating uncertainties regarding ESA consultation (e.g., reinitiation requirements) or imposing compliance conditions that would divert military resources. Also, both military agencies cited their ongoing and positive consultation history with NMFS and underscored cases where they are implementing best management practices to reduce impacts on listed salmonids.

Most of the affected DOD sites overlap habitat areas in nearshore zones occupied by Puget Sound chinook or Hood Canal summer-run chum salmon. The overlap consists of approximately 109 miles (175 km) of shoreline out of the 2,376 miles (3,824 km) of total occupied shoreline for these two ESUs. Freshwater and estuarine overlap areas include approximately 20 miles (32 km) of stream used by Puget Sound chinook salmon and 10 miles (16 km) used by Upper Columbia River *O. mykiss,* representing less than one percent of the total freshwater and estuarine habitat area for these two ESUs. The Teams assessing conservation values for these overlap areas concluded that all of them were of high conservation value to the respective ESUs. However, the overlap areas are a small percentage of the total area for the affected ESUs. Designating these DOD sites will likely reduce the readiness capability of the Army and Navy, both of which are actively engaged in training, maintaining, and deploying forces in the current war on terrorism. Therefore we conclude that the benefits of exclusion outweigh the benefits of designation and are not proposing to designate these DOD sites as critical habitats.

Other Potential Exclusions

As discussed above, in 2001, the Tenth Circuit issued a ruling in *NMCA,* which criticized the historic approach that FWS and NMFS had taken towards the economic analysis required in the critical habitat designation process. As a result of this ruling, both agencies engaged in a long-term process of reevaluating existing critical habitat designations consistent with the Tenth Circuit's ruling. NMFS's critical habitat designations for steelhead and salmon ESUs and FWS's designations for bull trout are the first to fully evaluate the economic impacts of the designations for aquatic species on a broad landscape scale. As a result, many of the critical issues faced by the two agencies are issues of first impression.

On October 6, 2004, the FWS issued a final rule designating critical habitat for the bull trout, a species in many respects coextensive with listed salmon and steelhead ESUs. Necessarily, the FWS had to make determinations on many of these novel issues. The Secretary of the Interior found that a number of conservation measures designed to protect salmon and steelhead on federal, state, tribal and private lands would also have significant beneficial impacts to

bulltrout. Therefore, the Secretary of the Interior determined that the benefits of excluding those areas exceeded the benefits of including those areas as critical habitat.

The Secretary of Commerce has reviewed the bull trout rule and has recognized the merits of the approach taken by the Secretary of the Interior to these emerging issues. As a result, the Secretary of Commerce is considering the following exclusions because the benefits of exclusion may outweigh the benefits of inclusion and expects the final rule will include some or all of these exclusions. However, given the time constraints associated with this rulemaking and the broader geographic range of the potential salmon and steelhead designations, the Secretary of Commerce has not had an opportunity to fully evaluate all of the potential exclusions, the geographical extent of such exclusions, or compare the benefits of these exclusions to the benefits of inclusion. As a result, the proposed designations included in this rule generally represent an upper bound to the area that the Secretary is considering designating as critical habitat and do not include the following additional exclusions that the Secretary is considering:

A set of exclusions based on existing land management plans adopted and currently implemented by Federal agencies within the relevant geographic area: These plans are the Northwest Forest Plan, PACFISH and INFISH, which are implemented by the USDA Forest Service and the BLM in parts of Washington, Oregon and Idaho. The Secretary is considering excluding from critical habitat all federal lands subject to these plans. We may make these exclusions on a fifth field watershed basis or a stream-by-stream basis and we invite comment on the appropriate method. Each of these plans is designed to provide very substantial conservation benefits to salmonid species including the listed species, while permitting provision of other multiple uses on those federal lands to the extent compatible with the provisions of the plan. Imposing an overlay of critical habitat in these areas could threaten the provision of the other multiple uses contemplated by these plans and potentially impede vital land restoration activities, while potentially offering a negligible conservation benefit in light of the other existing conservation measures provided by the plans. The threat to forest restoration activities (forest thinning and brush clearing to reduce catastrophic fire risks), economic activities (e.g. grazing and timber production) and recreational uses on public lands may outweigh the benefit of a critical habitat designation in these areas.

An exclusion of areas in the mainstem Columbia River that contain or are directly affected by the operation of the federal dams on the river, including reservoir pools above dams, tail race areas below dams, and the navigation locks: The intent of this potential exclusion is that the operation of the Federal Columbia River Power System (FCRPS) would have no effect on designated critical habitat. The FCRPS is already managed through an unprecedented cooperative effort among three Federal action agencies (Bonneville Power Administration, Corps, Bureau of Reclamation (BOR)), three Federal land management agencies (Forest Service, BLM, Natural Resource Conservation Service (NRCS)) and three Federal regulatory agencies (NMFS, FWS and Environmental Protection Agency (EPA)). These agencies, operating through a Federal Caucus, closely and effectively coordinate their activities to minimize any adverse effects of operating the hydroelectric dams on the Columbia and Snake Rivers. There may be no benefit to placing a critical habitat designation as an additional layer of Federal regulation over and above the existing cooperative efforts. Conversely, if a critical habitat designation reduces hydro electric power generation from the dams, there may be great economic harm to the three-state region.

An exclusion of areas covered by conservation commitments by state and private landowners: Another set of exclusions is based on conservation commitments by state and private landowners reflected in habitat conservation plans and cooperative agreements approved by NMFS. These commitments are: (1) Land subject to Washington state forest practice rules referred to as the Forests and Fish Agreement; (2) lands covered by a Habitat Conservation Plan (HCP) approved under section 10 of the ESA (NMFS, 2004f); and (3) non-Federal timber lands covered by the Term Sheet in the Snake River Basin Adjudication (SRBA).

An exclusion for intermingled lands: If a large part of a watershed is determined to warrant exclusion for any of the reasons stated below, the Secretary is considering excluding the entire watershed. For example, if a large proportion of a watershed consists of Federal land to be excluded based on an existing management plan, the entire watershed could be excluded. There may be little policy justification for designating non-Federal lands as critical habitat in a watershed dominated by excluded Federal lands.

Snake River O. Mykiss ESU: The Secretary is considering excluding all eligible habitat in this ESU from the critical habitat designation. More than 225 of the HUC5 watersheds contain 40 percent or more Federal land subject to protection under the PACFISH management standards; almost 200 of these watersheds are 80 percent or more of such Federal land. Another seven HUC5 watersheds are more than 98 percent tribal lands. Some of the eligible habitat is found within the mainstem of the Columbia River, which is already subject to the most comprehensive Federal salmonid management strategy of any area of salmonid habitat, with participation by at least eight Federal agencies. Most of the geographic area of the ESU lies in Idaho, where the State of Idaho has reached agreement in principle with the Federal government as part of a tribal water rights adjudication for the Snake River Basin to adopt new land management standards for state lands and for private landowners who choose to enroll in the program, potentially offering a higher level of conservation efforts on these lands in the future than may have been provided in the past. Many residents of the affected area are voluntarily undertaking other substantial actions to help improve and increase available habitat for this species. The economy in the affected region of all three states is primarily rural in nature, and is especially sensitive to additional land management burdens. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

Upper Columbia River spring-run ESU: The Secretary is considering an exclusion of all eligible habitat within the range of this ESU from the critical habitat designation. Seventeen of the 30 HUC5 watersheds contain 48 percent or more Federal land subject to protection under the PACFISH management standards. Much of the eligible habitat is found within the mainstem of the Columbia River which is already subject to the most comprehensive Federal salmonid management strategy of any area of salmonid habitat, with participation by at least eight Federal agencies. The affected economy is primarily rural in nature, and is especially sensitive to additional land management burdens. At the same time, many residents of the affected area are voluntarily undertaking substantial actions to help improve and increase available salmon habitat. For these reasons, the benefits of excluding the

eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

Middle Columbia River O. mykiss ESU: The Secretary is considering an exclusion of all eligible habitat within the range of this ESU from the critical habitat designation. Twenty-seven of the HUC5 watersheds contain 48 percent or more Federal land subject to protection under the PACFISH management standards; another 16 of these watersheds are 25 to 48 percent of such Federal land. Another 10 HUC5 watersheds are 70 to 100 percent tribal lands. Some of the eligible habitat is found within the mainstem of the Columbia River, which is already subject to the most comprehensive federal salmonid management strategy of any area of salmonid habitat, with participation by at least eight Federal agencies.

In both Washington and Oregon, there are many voluntary conservation activities underway by Federal agencies (BOR in particular), state agencies and private citizens throughout the range of the ESU. We have noted recently that the ESU may be close to meeting recovery standards, and NOAA's scientists have consistently rated the degree of risk for this ESU the lowest among the listed salmonid species. The economy in the affected region of both states is primarily rural in nature and is especially sensitive to additional land management burdens. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

Oregon Coast coho ESU: The Secretary is considering an exclusion of all eligible habitat within the range of this ESU from the critical habitat designation. One primary reason for this exclusion may lie in the voluntary conservation efforts undertaken by the State of Oregon and its citizens in this area since 1996, collectively referred to as the Oregon Plan for Salmon and Watersheds. Under the Oregon Plan, very substantial improvements have occurred, and are expected to continue to occur, to improve and increase habitat, to reduce harvest and to reform hatchery practices to aid in the conservation of this species. These efforts by the State and its citizens are a national model for cooperative conservation. Designating critical habitat in this ESU could discourage and even undercut these voluntary conservation efforts, possibly resulting in a decrease rather than an increase in conservation of the species.

In addition, 36 of the 80 watersheds contain 40 percent or more Federal land managed under the protective provisions of the Northwest Forest Plan's Aquatic Conservation Strategy, and an additional 16 watersheds contain 25 to 40 percent of such Federal land. With these protective measures in place on Federal land to complement the non-Federal conservation efforts embodied in the Oregon Plan, there may be little biological justification to designate critical habitat within the range of this ESU. Further, the coastal economy is and has been weak for some time, with the manufacturing sector declining and tourism emerging slowly as the leading industry, and additional economic burdens may not be justified in light of the potentially limited conservation benefit of a critical habitat designation. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

Accordingly, NMFS specifically asks for public comment on the other potential exclusions discussed above. Specifically, NMFS requests comment on the benefits of excluding and including: (1) Other Federal lands subject to protective management provisions for salmonids (e.g., the Aquatic Conservation Strategy of the Northwest Forest Plan, PACFISH, or INFISH); (2) other state, tribal, or private lands subject to (or planned to receive) other forms of protective management for salmonids (e.g., private land HCPs, State of Washington Forests Practices Act lands, Idaho SRBA lands, State of California Forest Practices Act lands); and (3) other state, tribal, or private lands within watersheds containing a large proportion of Federal, state, tribal or private lands already subject to protective management measures.

Exclusions Primarily Based on Economic Impacts

In this exercise of discretion, the first issue we must address is the scope of impacts relevant to the 4(b)(2) evaluation. As discussed in the Previous Federal Action and Related Litigation section, we are re-designating critical habitat for these 13 ESUs because the previous designations were vacated. (*National Association of Homebuilders* v. *Evans,* 2002 WL 1205743 No. 00–CV–2799 (D.D.C.) (*NAHB*)). The *NAHB* Court had agreed with the reasoning of the Court of Appeals for the Tenth Circuit in *New Mexico Cattle Growers Association* v. *U.S. Fish and Wildlife Service,* 248 F.3d 1277 (10th Cir. 2001). In that decision, the Tenth Circuit stated ''[t]he statutory language is plain in requiring some kind of consideration of economic impact in the critical habitat designation phase.'' The Tenth Circuit concluded that, given the FWS' failure to distinguish between ''adverse modification'' and ''jeopardy'' in its 4(b)(2) analysis, the FWS must analyze the full impacts of critical habitat designation, regardless of whether those impacts are co-extensive with other impacts (such as the impact of the jeopardy requirement).

In re-designating critical habitat for these salmon ESUs, we have followed the Tenth Circuit Court's directive regarding the statutory requirement to consider the economic impact of designation. Areas designated as critical habitat are subject to ESA section 7 requirements, which provide that Federal agencies ensure that their actions are not likely to destroy or adversely modify critical habitat. To evaluate the economic impact of critical habitat we first examined our voluminous section 7 consultation record for these as well as other ESUs of salmon. (For thoroughness, we examined the consultation record for other ESUs to see if it shed light on the issues.) That record includes consultations on habitat-modifying Federal actions both where critical habitat has been designated and where it has not. We could not discern a distinction between the impacts of applying the jeopardy provision versus the adverse modification provision in occupied critical habitat. Given our inability to detect a measurable difference between the impacts of applying these two provisions, the only reasonable alternative seemed to be to follow the recommendation of the Tenth Circuit, approved by the *NAHB* court—to measure the co-extensive impacts; that is, measure the entire impact of applying the adverse modification provision of section 7, regardless of whether the jeopardy provision alone would result in the identical impact.

The Tenth Circuit's opinion only addressed ESA section 4(b)(2)'s requirement that economic impacts be considered. The Court did not address how ''other relevant impacts'' were to be considered, nor did it address the benefits of designation. Because section 4(b)(2) requires a consideration of other relevant impacts of designation, and the benefits of designation, and because our record did not support a distinction between impacts resulting from application of the adverse modification provision versus the jeopardy provision, we are uniformly considering coextensive impacts and coextensive benefits, without attempting to distinguish the benefit of a critical habitat consultation from the benefit that would otherwise result from a jeopardy consultation that would occur

even if critical habitat were not designated. To do otherwise would distort the balancing test contemplated by section 4(b)(2).

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the ESA. Such consultation requires every Federal agency to ensure that any action it authorizes, funds or carries out is not likely to result in the destruction or adverse modification of critical habitat. This complements the section 7 provision that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species. Another benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area and thereby focus and contribute to conservation efforts by clearly delineating areas of high conservation value for certain species. It is unknown to what extent this process actually occurs, and what the actual benefit is, as there are also concerns, noted above, that a critical habitat designation may discourage such conservation efforts.

The balancing test in section 4(b)(2) contemplates weighing benefits that are not directly comparable—the benefit to species conservation balanced against the economic benefit, benefit to national security, or other relevant benefit that results if an area is excluded from designation. Section 4(b)(2) does not specify a method for the weighing process. Agencies are frequently required to balance benefits of regulations against impacts; Executive Order 12866 established this requirement for Federal agency regulation. Ideally such a balancing would involve first translating the benefits and impacts into a common metric. Executive branch guidance from the Office of Management and Budget (OMB) suggests that benefits should first be monetized (*i.e.*, converted into dollars). Benefits that cannot be monetized should be quantified (for example, numbers of fish saved). Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB, Circular A–4, September 17, 2003 (OMB, 2003)).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (U.S. Office of Management and Budget, 2003). However, we are not aware of any available data that would support such an analysis for salmon. The short statutory time-frames, geographic scale of the designations under consideration, and the statute's requirement to use best ''available'' information suggests such a costly and time-consuming approach is not currently available. In addition, ESA section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as benefits to national security of excluding areas from critical habitat. In the case of salmon designations, impacts to Northwest tribes are an ''other relevant impact'' that also may be difficult to monetize.

An alternative approach, approved by OMB, is to conduct a cost-effectiveness analysis. A cost-effectiveness analysis ideally first involves quantifying benefits, for example, percent reduction in extinction risk, percent increase in productivity, or increase in numbers of fish. Given the state of the science, it would be difficult to quantify reliably the benefits of including particular areas in the critical habitat designation. Although it is difficult to monetize or quantify benefits of critical habitat designation, it is possible to differentiate among habitat areas based on their relative contribution to conservation. For example, habitat areas can be rated as having a high, medium or low conservation value. The qualitative ordinal evaluations can then be combined with estimates of the economic costs of critical habitat designation in a framework that essentially adopts that of cost-effectiveness. Individual habitat areas can then be assessed using both their biological evaluation and economic cost, so that areas with high conservation value and lower economic cost might be considered to have a higher priority for designation, while areas with a low conservation value and higher economic cost might have a higher priority for exclusion. While this approach can provide useful information to the decision-maker, there is no rigid formula through which this information translates into exclusion decisions. Every geographical area containing habitat eligible for designation is different, with a unique set of ''relevant impacts'' that may be considered in the exclusion process. Regardless of the analytical approach, section 4(b)(2) makes clear that what weight the agency gives various impacts and benefits, and whether the agency excludes areas from the designation, is discretionary.

Assessment of Economic Impacts

Assessment of economic impact generated considerable interest from commenters on the ANPR (68 FR 55926; September 29, 2003). A number of commenters requested that we make the economic analysis available as part of the proposed rulemaking, and some identified key considerations (*e.g.*, sector-specific impacts, direct and indirect costs, ecological services/benefits) that they believed must be taken into account. In a draft 2004 report, we have documented our conclusions regarding the economic impacts of designating each of the particular areas found to meet the definition of critical habitat (NMFS, 2004c). This report is available from NMFS (*see* **ADDRESSES**).

The first step was to identify existing legal and regulatory constraints on economic activity that are independent of critical habitat designation, such as Clean Water Act (CWA) requirements. Coextensive impacts of the ESA section 7 requirement to avoid jeopardy were not considered part of the baseline. Also, we have stated our intention to revisit the existing critical habitat designations for Snake River chinook and sockeye salmon ESUs (58 FR 68543; December 28, 1993), if appropriate, following completion of related rulemaking (67 FR 6215; February 11, 2002). Given the uncertainty that these designations will remain in place in their current configuration, we decided not to consider them.

Next, from the consultation record, we identified Federal activities that might affect habitat and that might result in a section 7 consultation. (We did not consider federal actions, such as the approval of a fishery, that might affect the species directly but not affect its habitat.) We identified nine types of activities including: hydropower dams; non-hydropower dams and other water supply structures; federal lands management, including grazing (considered separately); transportation projects; utility line projects; instream activities, including dredging (considered separately); activities permitted under EPA's National Pollution Discharge Elimination System; sand & gravel mining; and residential and commercial development. Based on our consultation record and other available information, we determined the modifications each type of activity was likely to undergo as a result of section 7 consultation (regardless of whether the modification might be required by the jeopardy or the adverse modification provision).

We developed an expected direct cost for each type of action and projected the likely occurrence of each type of project in each watershed, using existing spatial databases (*e.g.*, the Corps 404(d) permit database). Finally, we aggregated the costs from the various types of actions and estimated an annual impact, taking into account the probability of

consultation occurring and the likely rate of occurrence of that project type.

This analysis allowed us to estimate the coextensive economic impact of designating each ''particular area'' (that is, each habitat area, or aggregated occupied stream reaches in a watershed). Expected economic impacts ranged from zero to $15 million per habitat area. Where a watershed included both tributaries and a migration corridor that served other watersheds, we estimated the separate impacts of designating the tributaries and the migration corridor. We did this by identifying those categories of activities most likely to affect tributaries and those most likely to affect larger migration corridors.

Because of the methods we selected and the data limitations, portions of our analysis both under- and over-estimate the co-extensive economic impact of section 7 requirements. For example, we lacked data on the likely impact on flows at non-Federal hydropower projects, which would increase economic impacts. We also did not have information currently available allowing us to estimate the likely economic impact of a judicially-imposed ban on pesticide use near salmon-bearing streams. The EPA was recently enjoined from authorizing the application of a set of pesticides within a certain distance of ''salmon supporting waters.'' We have completed a preliminary analysis of these impacts at the ESU level (NMFS, 2004c). Because of the existing data limitations and the preliminary nature of the analysis, we determined not to use these estimates in the proposed designations. However, we believe the information presented in this preliminary consideration will aid pubic comment and assist in the development of a more complete examination of these impacts for the final rule. In addition, operation and maintenance of the FCRPS has changed in response to section 7 requirements. Federal agencies estimate direct costs of the FCRPS fish and wildlife program to be approximately $283 million annually, while the power costs in 2003 were estimated to be approximately $250 million. Many of these costs would occur without the requirements of section 7, but there is currently no estimate available of what portion of these costs are attributable to section 7. Finally, we did not have information about potential changes in irrigation flows associated with section 7 consultation. These impacts would increase the estimate of co-extensive costs. On the other hand, we estimated an impact on all activities occurring within the geographic boundaries of a watershed, even though in some cases activities would be far removed from occupied stream reaches and so might not require modification (or even consultation). We intend to pursue information prior to issuing a final rule that will allow us to refine our estimates of economic impacts and better inform our analysis under section 4(b)(2) (NMFS, 2004d).

In addition, we had no information on the costs of critical habitat designation that occur outside the section 7 consultation process, including costs resulting from state or local regulatory burdens imposed on developers and landowners as a result of a Federal critical habitat designation. We solicit information on these subjects during the public comment period.

Exclusion Process

In determining whether the economic benefit of excluding a habitat area might outweigh the benefit of designation to the species, we took into consideration a cost-effectiveness approach giving priority to excluding habitat areas with a relatively lower benefit of designation and a relatively higher economic impact. We believe it is reasonable at this stage of the analysis to assume that all areas containing physical or biological features essential to the conservation of the species are essential to the conservation of the species.

The circumstances of most of the listed ESUs can make a cost-effectiveness approach useful. Pacific salmon are wide-ranging species and occupy numerous habitat areas with thousands of stream miles. Not all occupied areas, however, are of equal importance to conserving an ESU. Within the currently occupied range there are areas that support highly productive populations, areas that support less productive populations, and areas that support production in only some years. Some populations within an ESU may be more important to long-term conservation of the ESU than other populations. Therefore, in many cases it may be possible to construct different scenarios for achieving conservation. Scenarios might have more or less certainty of achieving conservation, and more or less economic impact. Future applications of this methodology will strive to better distinguish the relative conservation value of areas eligible for designation, which should improve the utility of this approach.

We attempted to consider the effect of excluding areas, either alone or in combination with other areas, on the opportunities for conservation of the ESU. We preferred exclusions in areas with a lower conservation value to those with a high conservation value. We also recognize that in practice a large proportion of all watersheds received a ''high'' conservation rating, making it difficult to establish priorities within that subgroup. In the second step of the process, we asked the biological teams whether excluding any of the habitat areas identified in the first step would significantly impede conservation, recognizing that the breadth of available conservation measures makes such judgments necessarily subjective. The teams considered this question in the context of all of the areas eligible for exclusion as well as the information they had developed in providing the initial conservation ratings. The following section describes the results of applying this process to each ESU. The results are discussed in greater detail in a separate report that is available for public review and comment (NMFS, 2004d). While the possible effect on conservation was useful information, it was not determinative in deciding whether to propose the exclusion of an area. The only determinative limitation is the statutory bar on excluding any area that ''will result in the extinction of the species concerned.''

Critical Habitat Designation

Not including any of the eight other potential exclusions identified under Other Potential Exclusions, we are proposing to designate approximately 27,553 mi (44,342 km) of lake, riverine, and estuarine habitat in Washington, Oregon, and Idaho, and 2,121 mi (3,413 km) of nearshore marine habitat in Puget Sound within the geographical areas presently occupied by the 13 ESUs. Some of these proposed areas overlap with two or more ESUs (Table 2), and approximately 1,327 mi (2,136 km) overlap with Indian reservations (a portion of which are Indian lands not proposed for designation). Some of these areas also overlap with military lands (described in the *Military Lands* section), which are not proposed for designation either because they are subject to INRMPs that benefit listed species (NMFS, 2004b) or were determined to have national security impacts that outweigh the benefit of designation. The net economic impacts (coextensive with ESA section 7) associated with the areas proposed for designation for all ESUs are estimated to be approximately $223,950,127. This estimate does not account for reductions that occur as a result of excluding Indian lands or military lands. Moreover, as discussed previously, we are soliciting comment on additional

exclusions which, if adopted, would further reduce the estimate of coextensive costs.

These proposed designated habitat areas, summarized below by ESU, contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection. Some of the areas proposed for designation are likely to be excluded in the final rule after consideration of the additional eight potential exclusions identified above.

TABLE 2.—APPROXIMATE QUANTITY OF PROPOSED CRITICAL HABITAT* AND OWNERSHIP WITHIN WATERSHEDS CONTAINING HABITAT AREAS PROPOSED FOR DESIGNATION

ESU	Streams (mi) (km)	Lakes (sq mi) (sq km)	Near-shore Marine (mi) (km)	Ownership (percent)			
				Federal	Tribal	State	Private
Puget Sound Chinook Salmon	1,694	41	2,185	46.4	1.0	10.0	42.6
	2,726	106	3,516	.....	.....	.....	.....
Lower Columbia River Chinook Salmon	1,250	33	.....	37.0	0.0	7.6	55.4
	2,012	85.5	.....	.....	.....	.....	.....
Upper Willamette River Chinook Salmon	1,571	18	.....	39.9	0.4	0.7	59.0
	2,528	46.6	.....	.....	.....	.....	.....
Upper Columbia River Spring-run Chinook Salmon	926	4	.....	71.4	0.0	4.6	23.9
	1,490	10.4	.....	.....	.....	.....	.....
Oregon Coast Coho Salmon	6,527	15	.....	31.3	0.2	9.4	59.2
	10,504	38.8	.....	.....	.....	.....	.....
Hood Canal Summer-run Chum Salmon	75	.....	377	45.8	0.4	13.9	39.9
	121	.....	607	.....	.....	.....	.....
Columbia River Chum Salmon	656	.....	.....	16.6	0.0	13.6	69.8
	1,056	.....	.....	.....	.....	.....	
Ozette Lake Sockeye Salmon	40	12	.....	19.3	1.2	7.1	72.4
	64	31	.....	.....	.....	.....	.....
Upper Columbia River *O. mykiss*	1,247	7	.....	53.7	5.5	9.1	31.7
	2,007	18.1	.....	.....	.....	.....	.....
Snake River Basin *O. mykiss*	7,622	4	.....	70.0	3.8	2.1	24.1
	12,266	10	.....	.....	.....	.....	.....
Middle Columbia River *O. mykiss*	5,376	.....	.....	25.5	13.2	3.5	57.8
	8,652	.....	.....	.....	.....	.....	.....
Lower Columbia River *O. mykiss*	2,428	27	.....	43.9	0.4	5.9	49.7
	3,908	70	.....	.....	.....	.....	.....
Upper Willamette River *O. mykiss*	1,312	2	.....	11.4	0.4	1.4	86.9
	2,108	5.2	.....	.....	.....	.....	.....

* These estimates are the total amount proposed for each ESU. They do not account for overlapping areas (*e.g.*, the Columbia River corridor) proposed for multiple ESUs.

Puget Sound Chinook Salmon ESU

There are 61 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 18 units based on their associated subbasin). Twelve watersheds received a low rating, 9 received a medium rating, and 40 received a high rating of conservation value to the ESU (NMFS, 2004a). Nineteen nearshore marine areas also received a rating of high conservation value.

Habitat areas for this ESU include 2,148 mi (3,457 km) of stream and 2,376 mi (3,824 km) of nearshore marine areas. Of these, 12 stream miles (19 km) and 109 nearshore miles (175 km) are not proposed for designation because they are within lands controlled by the military that contain qualifying INRMPs or they would result in national security impacts that outweigh the benefits of designation. Fifty-three miles (85 km) of stream and 147 mi (237 km) of nearshore marine areas are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (see *Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, the Secretary is currently proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 3. Of the areas eligible for designation, no fewer than 389 stream miles (624 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact, with no exclusions, would be $95,374,362. The exclusions set forth in Table 3 would reduce the total estimated economic impact is $77,355,898. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Puget Sound chinook, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $4,200,000.

TABLE 3.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE PUGET SOUND CHINOOK SALMON ESU AND PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Strait of Georgia subbasin	1711000201	Bellingham Bay	Entire watershed
	1711000202	Samish River	Entire watershed
	1711000204	Birch Bay	Entire watershed
Unit 3. Upper Skagit River subbasin	1711000508	Baker River	Entire watershed
Unit 10. Lake Washington subbasin	1711001202	Lake Sammamish	Entire watershed
	1711001204	Sammamish River	Entire watershed
Unit 14. Deschutes River subbasin	1711001601	Prairie	Entire watershed
	1711001602	Prairie	Entire watershed
Unit 16. Hood Canal subbasin	1711001802	Lower West Hood Canal Frontal	Entire watershed
	1711001806	Big Quilcene River	Entire watershed
	1711001808	West Kitsap	Entire watershed
Unit 17. Kitsap subbasin	1711001900	Kennedy/Goldsborough	Entire watershed
	1711001901	Puget	Entire watershed
	1711001902	Prairie	Entire watershed
	1711001904	Puget Sound/East Passage	Entire watershed
Unit 18. Dungeness/Elwha Rivers subbasin	1711002004	Port Angeles Harbor	Entire watershed

Lower Columbia River Chinook Salmon ESU

There are 47 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 10 units based on their associated subbasin). Four watersheds received a low rating, 13 received a medium rating, and 30 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

As a result of the balancing process for economic impacts described above, the Secretary is currently proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 4. Of the 1,440 miles (2,317 km) eligible for designation, no fewer than 190 mi (306 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $35,077,449. After exclusions the total estimated economic impact is $26,114,165. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Lower Columbia River chinook, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $6,300,000.

TABLE 4.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE LOWER COLUMBIA RIVER CHINOOK SALMON ESU AND PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Middle Columbia/Hood subbasin	1707010510	Little White Salmon River	Entire watershed
Unit 2. Lower Columbia/Sandy Rivers subbasin	1708000106	Washougal River	Entire watershed
Unit 4. Lower Columbia/Clatskanie Rivers subbasin	1708000302	Beaver Creek/Columbia River	Entire watershed
	1708000304	Germany/Abernathy	Entire watershed
Unit 6. Lower Cowlitz subbasin	1708000504	North Fork Toutle River	Entire watershed
Unit 7. Lower Columbia River subbasin	1708000601	Youngs River	Entire watershed
Unit 8. Middle Willamette River subbasin	1709000704	Abernethy Creek	Entire watershed
Unit 9. Clackamas River subbasin	1709001105	Eagle Creek	Entire watershed

Upper Willamette River Chinook Salmon ESU

There are 56 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 10 units based on their associated subbasin). Twenty watersheds received a low rating, 17 received a medium rating, and 19 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Willamette/Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

As a result of the balancing process for economic impacts described above, the Secretary is proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 5. Of the 1,788 mi (2,878 km) eligible for designation, no fewer than 217 mi (349 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $29,798,559. After exclusions the total estimated economic impact is $24,627,805. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Upper Willamette River chinook, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $4,900,000.

TABLE 5. FIFTH-FIELD WATERSHEDS OCCUPIED BY THE UPPER WILLAMETTE RIVER CHINOOK SALMON ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION.

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Middle Fork Willamette River subbasin	1709000104	Salmon Creek	Entire watershed
Unit 2. Coast Fork Willamette River subbasin	1709000201	Row River	Entire watershed
	1709000202	Mosby Creek	Entire watershed
	1709000203	Upper Coast Fork Willamette River	Entire watershed
	1709000205	Lower Coast Fork Willamette River	Entire watershed
Unit 3. Upper Willamette River subbasin	1709000301	Long Tom River	Entire watershed
	1709000302	Muddy Creek	Tributaries only
Unit 4. Mckenzie River subbasin	1709000404	Blue River	Entire watershed
Unit 7. Middle Willamette River subbasin	1709000702	Rickreall Creek	Tributaries only
	1709000703	Willamette River/Chehalem Creek	Tributaries only
	1709000704	Abernethy Creek	Tributaries only
Unit 8. Yamhill River subbasin	1709000804	Lower South Yamhill River	Entire watershed
	1709000805	Salt Creek/South Yamhill River	Entire watershed
	1709000806	North Yamhill River	Entire watershed
	1709000807	Yamhill River	Entire watershed
Unit 9. Molalla/Pudding Rivers subbasin	1709000901	Abiqua Creek/Pudding River	Entire watershed
Unit 10. Clackamas River subbasin	1709001105	Eagle Creek	Entire watershed

Upper Columbia River Spring-run Chinook Salmon ESU

There are 15 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into four units based on their associated subbasin). Six watersheds received a medium rating and nine received a high rating of conservation value to the ESU (NMFS, 2004a). The Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 6. Of the 976 mi (1,571 km) eligible for designation, no fewer than 50 mi (80.5 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $16,499,567. After exclusions the total estimated economic impact is $13,511,034. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Upper Columbia River spring-run chinook, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to $0. Seventeen of the 30 HUC5 watersheds contain a substantial amount of Federal land subject to protection under the PACFISH management standards. Much of the eligible habitat is found within the mainstem of the Columbia River, which is already subject to a comprehensive Federal salmonid management strategy, with participation by at least eight Federal agencies. The affected economy is primarily rural in nature, and is especially sensitive to additional land management burdens. At the same time, many residents of the affected area are voluntarily undertaking substantial actions to help improve and increase available salmon habitat. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

TABLE 6.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE UPPER COLUMBIA RIVER SPRING-RUN CHINOOK SALMON ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 2. Methow River subbasin	1702000807	Lower Methow River	Tributaries only
Unit 3. Upper Columbia/Entiat Rivers subbasin	1702001002	Lake Entiat	Tributaries only
Unit 4. Wenatchee River subbasin	1702001104	Icicle/Chumstick	Tributaries only
	1702001105	Lower Wenatchee River	Tributaries only

Oregon Coast Coho Salmon ESU

There are 80 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 13 units based on their associated subbasin). Ten watersheds received a low rating, 28 received a medium rating, and 42 received a high rating of conservation value to the ESU (NMFS, 2004a).

There are 6,665 mi (10,726 km) of stream in the 80 habitat areas for Oregon Coast coho. Three miles (4.8 km) of stream are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude, at a minimum, from the designation the habitat areas shown in Table 7. Of the

6,665 mi (10,726 km) eligible for designation, no fewer than 135 mi (217 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $18,446,139. After exclusions the total estimated economic impact is $15,696,696. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. The Secretary could exclude all eligible habitat in this ESU from the critical habitat designation. One primary reason for such an exclusion lies in the voluntary conservation efforts undertaken by the State of Oregon and its citizens in this area since 1996, collectively referred to as the Oregon Plan for Salmon and Watersheds. Under the Oregon Plan, substantial improvements have occurred, and are expected to continue to occur, to improve and increase habitat, to reduce harvest and to reform hatchery practices to aid in the conservation of this species. These efforts by the State and its citizens are a national model for cooperative conservation. Designating critical habitat in this ESU could discourage and even undercut these voluntary conservation efforts, possibly resulting in a decrease rather than an increase in conservation of the species.

In addition, 36 of the 80 watersheds contain a substantial amount of Federal land managed under the protective provisions of the Northwest Forest Plan's Aquatic Conservation Strategy, and an additional 16 watersheds contain moderate amounts of such Federal land. With these protective measures in place on Federal land to complement the non-Federal conservation efforts embodied in the Oregon Plan, there is little biological justification to designate critical habitat in this ESU. Further, the coastal economy is and has been weak for some time, with the manufacturing sector declining and tourism emerging slowly as the leading industry. Any additional economic burdens are difficult to justify in light of the limited conservation value of a critical habitat designation. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

TABLE 7. FIFTH-FIELD WATERSHEDS OCCUPIED BY THE OREGON COAST COHO SALMON ESU AND PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 8. North Fork Umpqua River subbasin	1710030106	Boulder Creek	Entire watershed
	1710030108	Steamboat Creek	Entire watershed
	1710030109	Canton Creek	Entire watershed
Unit 9. South Fork Umpqua River subbasin	1710030201	Upper South Umpqua River	Entire watershed
	1710030202	Jackson Creek	Entire watershed
	1710030204	Elk Creek/South Umpqua	Entire watershed
Unit 10. Umpqua River subbasin	1710030305	Lake Creek	Entire watershed
Unit 12. Coquille River subbasin	1710030501	Coquille S Fk, Lwr	Entire watershed

Hood Canal Summer-run Chum Salmon ESU

There are 12 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into four units based on their associated subbasin). Three watersheds received a medium rating, and nine received a high rating of conservation value to the ESU (NMFS, 2004a). Five nearshore marine areas also received a rating of high conservation value.

Habitat areas for this ESU include 88 mi (142 km) of stream and 402 mi (647 km) of nearshore marine areas. Of these, 41 nearshore miles (66 km) are not proposed for designation because they are within lands controlled by the military that contain qualifying INRMPs or they would result in national security impacts that outweigh the benefits of designation. Six miles (10 km) of stream and 9 mi (15 km) of nearshore marine areas are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 8. Of the areas eligible for designation 13 stream miles (20.9 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $7,624,320. After exclusions the total estimated economic impact is $6,630,479. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Hood Canal summer-run chum, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $1,800,000.

TABLE 8. FIFTH-FIELD WATERSHEDS OCCUPIED BY THE HOOD CANAL SUMMER-RUN CHUM SALMON ESU AND PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Skokomish River subbasin	1711001701	Skokomish River	Entire watershed

Columbia River Chum Salmon ESU

There are 19 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into six units based on their associated subbasin). Three watersheds received a medium rating, and 16 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 9. Of the 657 mi (1,057 km) eligible for designation approximately 1 mi (1.6 km) is proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $14,413,049. After exclusions the total estimated economic impact is $14,048,419. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Columbia River chum salmon, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $4,000,000.

TABLE 9. FIFTH-FIELD WATERSHEDS OCCUPIED BY THE COLUMBIA RIVER CHUM SALMON ESU AND PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 5. Lower Cowlitz River subbasin	1708000504	North Fork Toutle River	Entire watershed

Ozette Lake Sockeye Salmon ESU

There is one subbasin within the Ozette Lake sockeye ESU, composed of a single watershed. This watershed was rated as having a high conservation value to the ESU (NMFS, 2004a). There are 40 mi (64 km) of stream in the one habitat area for Ozette Lake sockeye and 0.5 mi (0.8 km) of stream within the boundaries of Indian reservations. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, no habitat is being proposed for exclusion. Total potential estimated economic impact is $2,720.

Upper Columbia River O. mykiss ESU

There are 31 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 10 units based on their associated subbasin). Three watersheds received a low rating, 8 received a medium rating, and 20 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

There are 1,319 mi (2,123 km) of stream in the habitat areas for this ESU. Of these, 7 mi (11 km) are not proposed for designation because they are within lands controlled by the military that contain qualifying INRMPs. Fifty-nine mi (95 km) of stream are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation the habitat areas shown in Table 10. Of the 1,319 mi (2,123 km) eligible for designation 16 mi (26 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $24,558,737. After exclusions the total estimated economic impact is $18,843,714. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Upper Columbia River *O. mykiss*, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $3,000,000.

TABLE 10.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE UPPER COLUMBIA RIVER *O. mykiss* ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Chief Joseph subbasin	1702000503	Foster Creek	Entire watershed.
	1702000504	Jordan/Tumwater	Entire watershed.
Unit 5. Lake Chelan subbasin	1702000903	Lower Chelan	Entire watershed.
Unit 6. Upper Columbia/Entiat Rivers subbasin	1702001002	Lake Entiat	Tributaries only.
Unit 8. Moses Coulee subbasin	1702001204	Rattlesnake Creek	Entire watershed.

Snake River Basin O. mykiss ESU

There are 271 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 25 units based on their associated subbasin). Sixteen watersheds received a low rating, 42 received a medium rating, and 213 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Snake/Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

There are 7,989 mi (12,857 km) of stream in the habitat areas (including the lower Snake/Columbia River rearing/migration corridor) of this ESU and 261 mi (420 km) of stream within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 11. Of the 7,989 mi (12,857 km) eligible for designation, no fewer than 110 mi (177 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $35,746,361. After exclusions the total estimated economic impact is $34,867,772. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact to $0. More than 225 of the HUC5 watersheds contain a substantial amount of Federal land subject to protection under the PACFISH management standards. Some of the eligible habitat is found within the mainstem of the Columbia River which is already subject to a comprehensive Federal salmonid management strategy, with participation by at least eight Federal agencies. Most of the geographic area of the ESU lies in Idaho, where the State of Idaho has reached agreement in principle with the Federal government as part of a tribal water rights adjudication for the Snake River Basin to adopt new land management standards for state lands and for private landowners who choose to enroll in the program, offering a higher level of conservation efforts on these lands in the future than may have been provided in the past. Many residents of the affected area are voluntarily undertaking other substantial actions to help improve and increase available habitat for this species. The economy in the affected region of all three states is primarily rural in nature, and is especially sensitive to additional land management burdens. For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

TABLE 11.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE SNAKE RIVER BASIN *O. mykiss* ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 7. Lower Snake/Tucannon Rivers subbasin	1706010705	Pataha Creek	Entire watershed.
Unit 9. Upper Salmon River subbasin	1706020107	Road Creek	Entire watershed.
Unit 10. Pahsimeroi River subbasin	1706020202	Pahsimeroi River/Falls Creek	Entire watershed.
Unit 11. Middle Salmon River-Panther Creek subbasin.	1706020319	Napias Creek	Entire watershed.
	1706020321	Big Deer Creek	Entire watershed.
Unit 15. Middle Salmon River-Chamberlain Creek subbasin.	1706020702	Wind River	Entire watershed.
	1706020707	Big Mallard Creek	Entire watershed.
Unit 17. Lower Salmon River subbasin	1706020917	Rice Creek	Entire watershed.
Unit 23. South Fork Clearwater River subbasin	1706030503	South Fork Clearwater River/Peasley Creek	Tributaries only.
	1706030512	Three Mile Creek	Entire watershed.
Unit 24. Clearwater River subbasin	1706030601	Lower Clearwater River	Tributaries only.

Middle Columbia River O. mykiss ESU

There are 111 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into 15 units based on their associated subbasin). Eleven watersheds received a low rating, 22 received a medium rating, and 78 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

There are 6,264 mi (10,081 km) of stream in the habitat areas of this ESU. Of these, 796 mi (1,281 km) of stream are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation the habitat areas shown in Table 12. Of the 6,264 mi (10,081 km) eligible for designation, 93 mi (150 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $37,510,095. After exclusions the total estimated economic impact is $34,556,978.

However, as indicated above, the Secretary is considering a number of additional exclusions which could reduce this economic impact to $0. Twenty-seven of the HUC5 watersheds have a substantial amount of Federal land subject to protection under the PACFISH management standards; another 16 of these watersheds have a moderate amount of such Federal land. Some of the eligible habitat is found within the mainstem of the Columbia River which is already subject to a comprehensive Federal salmonid management strategy, with participation by at least eight Federal agencies.

In both Washington and Oregon, there are many voluntary conservation activities underway throughout the ESU by Federal agencies (BOR in particular), state agencies and private citizens. We have noted recently that the ESU may be close to meeting recovery standards, and NOAA's scientists have consistently rated the degree of risk for this ESU the lowest among the listed salmonid species. The economy in the affected region of both states is primarily rural in nature, and is especially sensitive to additional land management burdens.

For these reasons, the benefits of excluding the eligible habitat in this ESU may outweigh the benefits of designation as critical habitat.

TABLE 12.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE MIDDLE COLUMBIA RIVER *O. mykiss* ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 5. Walla Walla River subbasin	1707010209	Pine Creek	Entire watershed.
Unit 6. Umatilla River subbasin	1707010304	Wildhorse Creek	Entire watershed.
Unit 7. Middle Columbia/Hood Rivers subbasin	1707010510	Little White Salmon River	Entire watershed.
Unit 12. Lower John Day River subbasin	1707020405	Lower John Day River/Clarno	Tributaries only.
	1707020409	Lower John Day River/Ferry Canyon	Tributaries only.
	1707020410	Lower John Day River/Scott Canyon	Tributaries only.
Unit 13. Lower Deschutes River subbasin	1707030610	White River	Entire watershed.

Lower Columbia River O. mykiss ESU

There are 41 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into nine units based on their associated subbasin). Two watersheds received a low rating, 11 received a medium rating, and 28 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 13. Of the 2,656 mi (4,274 km) eligible for designation, no fewer than 229 mi (369 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $33,906,543. After exclusions the total estimated economic impact is $26,618,626. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Lower Columbia River *O. mykiss*, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $3,600,000.

TABLE 13.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE LOWER COLUMBIA RIVER *O. mykiss* ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 1. Middle Columbia/Hood Rivers subbasin	1707010512	Middle Columbia/Grays Creek	Tributaries only.
Unit 2. Lower Columbia/Sandy Rivers subbasin	1708000105	Bull Run River	Entire watershed.
	1708000107	Columbia Gorge Tributaries	Tributaries only.
	1708000109	Salmon Creek	Entire watershed.
Unit 7. Middle Willamette River subbasin	1709000704	Abernethy Creek	Entire watershed.

Upper Willamette River O. Mykiss ESU

There are 34 watersheds within the spawning range of this ESU (for ease of reference these watersheds have been organized into seven units based on their associated subbasin). Sixteen watersheds received a low rating, 7 received a medium rating, and 11 received a high rating of conservation value to the ESU (NMFS, 2004a). The lower Willamette/Columbia River corridor downstream of the spawning range was also considered to have a high conservation value.

There are 1,822 mi (2,932 km) of stream in the 34 habitat areas for Upper Willamette River *O. mykiss.* Of these, 9 mi (15 km) of stream are within the boundaries of Indian reservations, but only those reaches defined as Indian lands (*see Government-to-Government Relationship With Tribes*) are proposed for exclusion. We have not calculated the potential reduction in estimated economic impact as a result of these Indian land exclusions, but expect it would be small given the small percentage of stream miles these exclusions represent.

As a result of the balancing process for economic impacts described above, we are proposing to exclude from the designation, at a minimum, the habitat areas shown in Table 14. Of the 1,822 mi (2,932 km) eligible for designation, no fewer than 503 mi (810 km) are proposed for exclusion because the economic benefits of exclusion outweigh the benefits of designation. Total potential estimated economic impact is $11,159,514. After exclusions the total estimated economic impact is $7,647,553. However, as indicated above, the Secretary is considering a number of additional exclusions which may further reduce this economic impact by a substantial amount. For Upper Willamette River *O. mykiss*, a preliminary analysis of the economic impact of designating critical habitat after considering some of these additional exclusions indicates that it could be reduced to about $3,000,000.

TABLE 14.—FIFTH-FIELD WATERSHEDS OCCUPIED BY THE UPPER WILLAMETTE RIVER *O. mykiss* ESU AND PROPOSED FOR FULL OR PARTIAL EXCLUSION FROM CRITICAL HABITAT. WATERSHEDS FOR WHICH TRIBUTARIES ONLY ARE EXCLUDED CONTAIN REARING/MIGRATION CORRIDORS NECESSARY FOR CONSERVATION

Subbasin/Unit	Watershed code	Watershed name	Area proposed for exclusion
Unit 4. Middle Willamette River subbasin	1709000702	Rickreall Creek	Tributaries only.
	1709000703	Willamette River/Chehalem Creek	Tributaries only.
	1709000704	Abernethy Creek	Tributaries only.
Unit 5. Yamhill River subbasin	1709000802	Willamina Creek	Entire watershed.
	1709000805	Salt Creek/South Yamhill River	Entire watershed.
	1709000806	North Yamhill River	Entire watershed.
	1709000807	Yamhill River	Tributaries only.
Unit 6. Molalla/Pudding River subbasin	1709000901	Abiqua Creek/Pudding River	Entire watershed.
Unit 7. Tualatin River subbasin	1709001001	Dairy Creek	Entire watershed.
	1709001003	Scoggins Creek	Entire watershed.
	1709001004	Rock Creek/Tualatin River	Entire watershed.
	1709001005	Lower Tualatin River	Entire watershed.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7 of the ESA requires Federal agencies, including NMFS, to ensure that actions they fund, authorize, permit, or carry out do not destroy or adversely modify critical habitat. In agency regulations at 50 CFR 402.02, we define destruction or adverse modification as ''a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to: Alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' However, in a March 15, 2001, decision of the United States Court of Appeals for the Fifth Circuit (*Sierra Club* v. *U.S. Fish and Wildlife Service,* 243 F.3d 434 (5th Cir. 2001), and an August 9, 2004 decision of the United States Court of Appeals for the Ninth Circuit (*Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife,* No. 03–35279, the courts have found the agencies' definition of destruction or adverse modification to be invalid. In response to this decision, we are reviewing this regulatory definition.

Section 7(a) of the ESA requires Federal agencies, including NMFS, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this provision of the ESA are codified at 50 CFR part 402. Section 7(a)(4) of the ESA requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports include an opinion that is prepared according to 50 CFR 402.14, as if the species were listed or critical habitat designated. We may adopt the formal conference report as the biological opinion when the species is listed or critical habitat designated, if no substantial new information or changes in the action alter the content of the opinion (*see* 50 CFR 402.10(d)).

If a species is listed or critical habitat is designated, ESA section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, we would review actions to determine if they would destroy or adversely modify critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we will also provide reasonable and prudent alternatives to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that we believe would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities on Federal lands that may affect these ESUs or their critical habitat will require ESA section 7 consultation. Activities on private or state lands requiring a permit from a Federal agency, such as a permit from the Corps under section 404 of the CWA, a section 10(a)(1)(B) permit from NMFS, or some other Federal action, including funding (*e.g.*, Federal Highway Administration (FHA) or Federal Emergency Management Agency (FEMA) funding), will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not Federally funded, authorized, or permitted do not require section 7 consultation.

Activities Affected by Critical Habitat Designation

Section 4(b)(8) of the ESA requires that we evaluate briefly and describe, in

any proposed or final regulation that designates critical habitat, those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. As noted in the *Special Management Considerations or Protection* section above, we received several comments on the ANPR (68 FR 55926; September 29, 2003) regarding activities potentially affected by a critical habitat designation.

A wide variety of activities may affect critical habitat and, when carried out, funded, or authorized by a Federal agency, require that an ESA section 7 consultation be conducted. Such activities include, but are not limited to, those described in the Species Descriptions and Area Assessments section. Generally these include water and land management actions of Federal agencies (*e.g.*, USFS, BLM, Corps, BOR), the FHA, NRCS, National Park Service (NPS), Bureau of Indian Affairs (BIA), and the Federal Energy Regulatory Commission (FERC)) and related or similar actions of other Federally regulated projects and lands, including livestock grazing allotments by the USFS and BLM; hydropower sites licensed by the FERC; dams built or operated by the Corps or BOR; timber sales and other vegetation management activities conducted by the USFS, BLM, and BIA; irrigation diversions authorized by the USFS and BLM; road building and maintenance activities authorized by the FHA, USFS, BLM, NPS, and BIA; and mining and road building/maintenance activities authorized by the states of Washington, Oregon, and Idaho. Other actions of concern include dredge and fill, mining, diking, and bank stabilization activities authorized or conducted by the Corps, habitat modifications authorized by the FEMA, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

The Federal agencies that will most likely be affected by this critical habitat designation include the USFS, BLM, BOR, Corps, FHA, NRCS, NPS, BIA, FEMA, EPA, and the FERC. This designation will provide these agencies, private entities, and the public with clear notification of critical habitat designated for listed salmonids and the boundaries of the habitat. This designation will also assist these agencies and others in evaluating the potential effects of their activities on listed salmon and their critical habitat and in determining if section 7 consultation with NMFS is needed.

As noted above, numerous private entities also may be affected by this critical habitat designation because of the direct and indirect linkages to an array of Federal actions, including Federal projects, permits, and funding. For example, private entities may harvest timber or graze livestock on Federal land or have special use permits to convey water or build access roads across Federal land; they may require Federal permits to armor stream banks, construct irrigation withdrawal facilities, or build or repair docks; they may obtain water from Federally funded and operated irrigation projects; or they may apply pesticides that are only available with Federal agency approval. These activities will need to be analyzed with respect to their potential to destroy or adversely modify critical habitat. In some cases, proposed activities may require modifications that may result in decreases in activities such as timber harvest and livestock and crop production. The transportation and utilities sectors may need to modify the placement of culverts, bridges and utility conveyances (*e.g.*, water, sewer and power lines) to avoid barriers to fish migration. Developments occurring in or near salmon streams (*e.g.*, marinas, residential, or industrial facilities) that require Federal authorization or funding may need to be altered or built in a manner that ensures that critical habitat is not destroyed or adversely modified as a result of the construction, or subsequent operation, of the facility. These are just a few examples of potential impacts, but it is clear that the effects will encompass numerous sectors of private and public activities. If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat, contact NMFS (*see* **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

Public Comments Solicited

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governments and agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Maps and specific information describing the amount, distribution, and use type (*e.g.*, spawning, rearing, or migration) of salmon habitat in each ESU; as well as any additional information on occupied and unoccupied habitat areas.

(2) The reasons why any habitat should or should not be determined to be critical habitat as provided by sections 3(5)(A) and 4(b)(2) of the ESA;

(3) Information regarding the benefits of excluding lands covered by Habitat Conservation Plans (ESA section 10(a)(1)(B) permits), including the regulatory burden designation may impose on landowners and the likelihood that exclusion of areas covered by existing plans will serve as an incentive for other landowners to develop plans covering their lands;

(4) Information regarding the benefits of excluding Federal and other lands covered by habitat conservation strategies and plans (*e.g.* Northwest Forest Plan, Washington's Forest and Fish Plan, and the Oregon Plan), including the regulatory burden designation may impose on land managers and the likelihood that exclusion of areas covered by existing plans will serve as an incentive for land users to implement the conservation measures covering the lands subject to these plans;

(5) Information regarding the benefits of designating particular areas as critical habitat;

(6) Current or planned activities in the areas proposed for designation and their possible impacts on proposed critical habitat;

(7) Any foreseeable economic or other potential impacts resulting from the proposed designations, in particular, any impacts on small entities;

(8) Whether our approach to critical habitat designation could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concern and comments; and

(9) Whether specific unoccupied areas (*e.g.*, dewatered stream reaches, areas behind dikes or dams) not presently proposed for designation may be essential to provide additional spawning and rearing areas for an ESU. In particular we are seeking information regarding potential habitat areas in the Lemhi River and Pahsimeroi River subbasins in Idaho. Dam-related areas identified by the Teams as possibly being essential for conservation and for which we are seeking information include:

Lower Columbia River Chinook Salmon ESU: areas upstream of Bull Run, Condit, Merwin, Swift, and Yale dams;

Upper Willamette River Spring-run Chinook Salmon ESU: areas upstream of Big Cliff and Detroit dams;

Upper Columbia River O. mykiss ESU: areas upstream of Enloe Dam;

Snake River O. mykiss ESU: areas upstream of Dworshak Dam;

Middle Columbia River O. mykiss ESU: upper reaches of Wilson and Naneum creeks and areas upstream of Bumping, Cle Elum, Kacheelus, Kachess, and Tieton dams;

Lower Columbia River O. mykiss ESU: areas upstream of Bull Run, Condit, Merwin, Swift, and Yale dams.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (*see* **ADDRESSES** section). The proposed rule, maps, fact sheets, and other materials relating to this proposal can be found on our Web site at *http://www.nwr.noaa.gov/1salmon/salmesa/crithab/CHsite.htm*. We will consider all comments and information received during the comment period on this proposed rule as we prepare our final rulemaking. Accordingly, the final decision may differ from this proposal.

Public Hearings

Joint Commerce-Interior ESA implementing regulations state that the Secretary shall promptly hold at least one public hearing if any person requests one within 45 days of publication of a proposed regulation to list a species or to designate critical habitat (*see* 50 CFR 424.16©(3)). Requests for public hearing must be made in writing (*see* **ADDRESSES**) by January 28, 2005. Due to the high likelihood of such requests we have already scheduled four public hearings on this proposed rule (*see* **DATES**). Details regarding the specific hearing locations, formats, and times will be posted by December 24, 2004, on our Web site at *http://www.nwr.noaa.gov/1salmon/salmesa/crithab/CHsite.htm*. These hearings will provide the opportunity for interested individuals and parties to give comments, exchange information and opinions, and engage in a constructive dialogue concerning this proposed rule. We encourage the public's involvement in such ESA matters.

Peer Review

In accordance with an ESA policy published on July 1, 1994 (59 FR 34270), we will solicit the expert opinions of at least three appropriate independent specialists regarding this proposed rule. Given the varied considerations involved in making the proposed designations, we intend to solicit reviews from specialist(s) with biological expertise as well as specialist(s) with economic expertise in the geographic range of these ESUs. The purpose of such review is to ensure that the critical habitat designation is based on scientifically sound data, assumptions, and analyses. We will send these reviewers copies of this proposed rule immediately following publication in the **Federal Register**. We will invite them to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

In response to the ANPR (68 FR 55926; September 29, 2003) we received the names of two potential independent reviewers and will identify other candidates prior to or soon after publishing this proposed rule. We will announce the availability of comments received from these reviewers and the public and make them available via the internet as soon as practicable during or after the comment period but in advance of a final rule.

Required Determinations

Clarity of the Rule

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical jargon that interferes with its clarity? (3) Does the format of the proposed rule (grouping and order of the sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the notice in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make this proposed rule easier to understand? You may send comments on how we could make this proposed rule easier to understand to one of the addresses identified in the **ADDRESSES** section or via e-mail to: *critical.habitat.nwr@noaa.gov*.

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule and has been reviewed by the Office of Management and Budget (OMB). As noted above, we have prepared several reports to support the exclusion process under section 4(b)(2) of the ESA. The economic costs of the proposed critical habitat designations are described in our draft economic report (NMFS, 2004c). The benefits of the proposed designations are described in the Critical Habitat Analytical Review Team report (NMFS, 2004a). This document uses a biologically-based ranking system for gauging the benefits of applying section 7 of the ESA to particular watersheds. Because data are not available to express these benefits in monetary terms, we have adopted a cost-effectiveness framework, as outlined in a draft 4(b)(2) report (NMFS, 2004d). This approach is in accord with OMB's guidance on regulatory analysis (U.S. Office of Management and Budget. Circular A–4, Regulatory Analysis, September 17, 2003). By taking this approach, we seek to designate sufficient critical habitat to meet the biological goal of the ESA while imposing the least burden on society, as called for by E.O. 12866.

In assessing the overall cost of critical habitat designation for the 13 Pacific salmon and *O. mykiss* ESUs, the annual total impact figures given in the draft economic analysis (NMFS, 2004c) cannot be added together to obtain an aggregate annual impact. Because some watersheds are included in more than one ESU, a simple summation would entail duplication, resulting in an overestimate. Accounting for this duplication, the aggregate annual economic impact of the 13 proposed critical habitat designations is $223,950,126 (in contrast to a $264,727,857 aggregate annual economic impact from designating *all* areas considered in the 4(b)(2) process for these ESUs). These amounts include impacts that are co-extensive with the implementation of the jeopardy standard of section 7 (NMFS, 2004c).

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.,* as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.,* small businesses, small organizations, and small government jurisdictions). We have prepared a draft regulatory flexibility analysis and this document is available upon request (*see* **ADDRESSES**). This analysis estimates that the number of regulated small entities potentially affected by this proposed rulemaking ranges from zero to 2,720 depending on the ESU. If these areas are designated critical habitat, the estimated co-extensive costs of section 7 consultation incurred by small entities is estimated to range from $2.3 thousand to $60.4 million depending on the ESU. As described in the analysis, we considered various alternatives for designating critical habitat for these 13

ESUs. We considered and rejected the alternative of not designating critical habitat for any of the ESUs because such an approach did not meet the legal requirements of the ESA. We also examined and rejected an alternative in which all the potential critical habitat of the 13 Pacific salmon and steelhead ESUs is proposed for designation (*i.e.*, no areas are excluded) because many of the areas considered to have a low conservation value also had relatively high economic impacts that might be mitigated by excluding those areas from designation. A third alternative we examined and rejected would exclude all habitat areas with a low or medium conservation value. While this alternative furthers the goal of reducing economic impacts, it is not sensitive to the fact that for most ESUs, eliminating all habitat areas with low and medium conservation value is likely to significantly impede conservation. Moreover, for some habitat areas the incremental economic benefit from excluding that area is relatively small. Therefore, after considering these alternatives in the context of the section 4(b)(2) process of weighing benefits of exclusion against benefits of designation, we determined that the current proposal for designating critical habitat (*i.e.*, designating some but not all areas with low or medium conservation value) provides an appropriate balance of conservation and economic mitigation and that excluding the areas identified in this proposed rulemaking would not result in extinction of the ESUs. It is estimated that small entities could save from zero to $20.2 million in compliance costs, depending on the ESU, if the areas proposed for exclusion in this proposed rule are excluded from designation.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This proposed rule may be a significant regulatory action under Executive Order 12866. At this time, however, we are unable to determine both the scope and the nature of the energy effects.

Nine of the ESUs under consideration for critical habitat designation occupy the Columbia River and most of these migrate through one or more of the hydropower dams comprising the FCRPS. In *National Wildlife Federation et al.* v. *National Marine Fisheries Service et al.,* the court remanded the 2000 Biological Opinion on the operation of the FCRPS for salmon. This Biological Opinion establishes Reasonable and Prudent Alternatives for the operation of the FCRPS, many of which are likely to have significant energy effects. The court has established a November 30, 2004, deadline for the revised Biological Opinion. Until that time, we do not have sufficient information or certainty to estimate the energy effects of critical habitat designation for the 13 Pacific salmon ESUs. When such information is available and greater certainty exists about the effects of the revised 2000 Biological Opinion, we will assess the significance of the energy effects of this regulatory action and publish a notice of availability of this assessment (and request for comment) prior to a final rule.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(a) This proposed rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.) ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.'' The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the ESA, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to State governments.

(b) Due to current public knowledge of salmon protection and the prohibition against take of these species both within and outside of the designated areas, we do not anticipate that this proposed rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

Takings

In accordance with Executive Order 12630, the proposed rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. The proposed rule will not increase or decrease the current restrictions on private property concerning take of salmon. As noted above, due to widespread public knowledge of salmon protection and the prohibition against take of the species both within and outside of the designated areas, we do not anticipate that property values will be affected by the proposed critical habitat designations. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term (NMFS, 2004c). Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits.

Owners of areas that are included in the designated critical habitat will continue to have the opportunity to use their property in ways consistent with the survival of listed salmon.

Federalism

In accordance with Executive Order 13132, this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of Commerce policies, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate state resource agencies in Washington, Oregon, and Idaho. The proposed designation may have some benefit to the states and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what Federally sponsored activities may occur, it may assist local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Commerce has determined that this proposed rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are proposing to designate critical habitat in accordance with the provisions of the ESA. This proposed rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the 13 salmon ESUs.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This proposed rule does not contain new or revised information collection for which OMB approval is required under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

We have determined that we need not prepare environmental analyses as provided for under the National Environmental Policy Act of 1969 for critical habitat designations made pursuant to the ESA. See *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

Government-to-Government Relationship With Tribes

The longstanding and distinctive relationship between the Federal and tribal Governments is defined by treaties, statutes, executive orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the Federal Government. This relationship has given rise to a special Federal trust responsibility involving the legal responsibilities and obligations of the United States toward Indian Tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities lands have been retained by Indian Tribes or have been set aside for tribal use. These lands are managed by Indian Tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Administration policy contained in the Secretarial Order: ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997) (''Secretarial Order''); the President's Memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (50 FR 2291); Executive Order 13175; and Department of Commerc–-American Indian and Alaska Native Policy (March 30, 1995) reflects and defines this unique relationship.

These policies also recognize the unique status of Indian lands. The Presidential Memorandum of April 29, 1994, provides that, to the maximum extent possible, tribes should be the governmental entities to manage their lands and tribal trust resources. The Secretarial Order provides that, ''Indian lands are not Federal public lands or part of the public domain, and are not subject to Federal public lands laws.''

In implementing these policies the Secretarial Order specifically seeks to harmonize this unique working relationship with the Federal Government's duties pursuant to the ESA. The order clarifies our responsibilities when carrying out authorities under the ESA and requires that we consult with and seek participation of, the affected Indian Tribes to the maximum extent practicable in the designation of critical habitat. Accordingly, we recognize that we must carry out our responsibilities under the ESA in a manner that harmonizes these duties with the Federal trust responsibility to the tribes and tribal sovereignty while striving to ensure that Indian Tribes do not bear a disproportionate burden for the conservation of species. Any decision to designate Indian land as critical habitat must be informed by the Federal laws and policies establishing our responsibility concerning Indian lands, treaties and trust resources, and by Department of Commerce policy establishing our responsibility for dealing with tribes when we implement the ESA.

For Pacific salmon in the Northwest, our approach is also guided by the unique partnership between the Federal Government and Indian tribes regarding salmon management. Northwest Indian tribes are regarded as ''co-managers'' of the salmon resource, along with Federal and state managers. This co-management relationship evolved as a result of numerous court decisions establishing the tribes' treaty right to take fish in their usual and accustomed places.

The co-manager relationship is embodied in a number of long-term ongoing management processes; examples include (but are not limited to): Joint Resource Management Plans such as Salmon Fisheries and Steelhead Net Fisheries Affecting Puget Sound Chinook Salmon in 2003–2004 and Puget Sound Comprehensive Chinook Management Plan: Harvest Management Component; Tribal Resource Management Plans such as Tribal Chinook Research in Puget Sound, Washington, Tribal Resource Management Plan for Threatened Snake River Spring/Summer Chinook on the Imnaha River Subbasin in 2002–2003, and Tribal Resource Management Plan for Snake River Spring/Summer Chinook in the Grand Ronde River in Northeast Oregon; Pacific Management Council and Pacific Salmon Commission; *United States* v. *Oregon* and *United States* v. *Washington* court-supervised processes; and in-season management of Columbia River and Puget Sound/Washington Coast fisheries. Similarly there are partnership examples in the artificial propagation, habitat, hydropower, and recovery planning areas of salmonid conservation and protection efforts (NMFS, 2004e).

Pursuant to the Secretarial Order we consulted with the affected Indian Tribes when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands or the exercise

of tribal rights. Additionally many tribes provided written comments that are a part of the administrative record for this proposed rulemaking.

We understand from the tribes that there is general agreement that Indian lands should not be designated critical habitat. The Secretarial Order defines Indian lands as ''any lands title to which is either: (1) held in trust by the United States for the benefit of any Indian tribe or (2) held by an Indian Tribe or individual subject to restrictions by the United States against alienation.'' In clarifying this definition with the tribes, we agree that (1) fee lands within the reservation boundaries and owned by the Tribe or individual Indian, and (2) fee lands outside the reservation boundaries and owned by the Tribe would be considered Indian lands for the purposes of this proposed rule. (Fee lands outside the reservation owned by individual Indians are not included within the definition of Indian lands for the purposes of this rule.)

Several tribes provided documentation that there are no fish bearing waters on their tribal lands and as such contend that these lands do not constitute critical habitat. Having reviewed this documentation we agree and do not include these lands in the critical habitat designation (*see* Application of ESA section 4(b)(2)).

In evaluating the remaining Indian lands for designation as critical habitat we look to section 4(b)(2) of the ESA. Section 4(b)(2) requires us to base critical habitat designations on the best scientific and commercial data available, after taking into consideration the economic impact, the impact on national security and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude areas from a critical habitat designation when the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We find that a relevant impact for consideration is the degree to which the Federal designation of Indian lands would impact the longstanding unique relationship between the tribes and the Federal Government and the corresponding effect on Pacific salmon protection and management (See Other Relevant Impacts and Critical Habitat Designation sections). This is consistent with recent case law addressing the designation of critical habitat on tribal lands. ''It is certainly reasonable to consider a positive working relationship relevant, particularly when the relationship results in the implementation of beneficial natural resource programs, including species preservation.'' *Center for Biological Diversity et. al.* v. *Norton,* 240 F. Supp. 2d 1090, 1105); *Douglas County* v. *Babbitt,* 48 F3d 1495, 1507 (1995) (defining ''relevant'' as impacts consistent with the purposes of the ESA).

As noted above, the northwest Federal and tribal governments currently have cooperative working relationships that have enabled us to implement natural resource programs of mutual interest for the benefit of threatened and endangered salmonids. The tribes have existing natural resource programs that assist us on a regular basis in providing information relevant to salmonid protection throughout the region. Our consultation with the tribes and a series of letters and analyses they have provided indicates that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving threatened and endangered salmonids. Further, the tribes indicate that their participation in existing co-manager processes will be compromised by the designation of their lands as they have limited staff and resources.

At this time, for the general reasons described above, we anticipate that the ESA 4(b)(2) analysis will lead us to exclude all Indian lands in our final designation for these 13 ESUs of salmon and *O. mykiss*. Consistent with other proposed exclusions, any exclusion in the final rule will be made only after consideration of all comments received.

References Cited

A complete list of all references cited in this rulemaking can be found on our Web site at *http://www.nwr.noaa.gov/1salmon/salmesa/crithab/CHsite.htm* and is available upon request from the NMFS office in Portland, Oregon (*see* **ADDRESSES** section).

List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: November 29, 2004.

William T. Hogarth,

Assistant Administrator for Fisheries, National Marine Fisheries Service.

For the reasons set out in the preamble, we propose to amend part 226, title 50 of the Code of Federal Regulations as set forth below:

PART 226—[AMENDED]

1. The authority citation of part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

2. Add § 226.212 to read as follows:

§ 226.212 Critical habitat for 13 Evolutionarily Significant Units (ESUs) of salmon (Oncorhynchus spp.) in Washington, Oregon and Idaho.

Critical habitat is designated in the following states and counties for the following ESUs as described in paragraph (a) of this section, and as further described in paragraphs (b) through (e) of this section. The textual descriptions of critical habitat for each ESU are included in paragraphs (f) through (r) of this section, and these descriptions are the definitive source for determining the critical habitat boundaries. General location maps are provided at the end of each ESU description (paragraphs (f) through (r) of this section) and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

(a) Critical habitat is designated for the following ESUs in the following states and counties:

ESU	State—Counties
(1) Puget Sound chinook salmon	*WA*—Chelan, Clallam, Grays Harbor, Island, Jefferson, King, Kittitas, Mason, Pierce, Skagit, Snohomish, Thurston, Whatcom, and Yakima.
(2) Lower Columbia River chinook salmon	(i) *OR*—Clackamas, Clatsop, Columbia, Hood River, Multnomah, Wasco, and Washington. (ii) *WA*—Clark, Cowlitz, Klickitat, Lewis, Pacific, Pierce, Skamania, Wahkiakum, and Yakima.
(3) Upper Willamette River chinook salmon	(i) *OR*—Benton, Clackamas, Clatsop, Columbia, Deschutes, Douglas, Jefferson, Klamath, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Wasco, Washington, and Yamhill. (ii) *WA*—Clark, Cowlitz, Pacific, and Wahkiakum.
(4) Upper Columbia River spring-run chinook salmon.	(i) *OR*—Clatsop, Columbia, Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, and Wasco.

ESU	State—Counties
	(ii) *WA*—Adams, Benton, Chelan, Clark, Cowlitz, Douglas, Franklin, Grant, King, Kittitas, Klickitat, Okanogan, Pacific, Skagit, Skamania, Snohomish, Wahkiakum, Walla Walla, Whatcom, and Yakima.
(5) Oregon Coast coho salmon	*OR*—Benton, Clatsop, Columbia, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Polk, Tillamook, Washington, and Yamhill.
(6) Hood Canal summer-run chum salmon	*WA*—Clallam, Jefferson, Kitsap, and Mason.
(7) Columbia River chum salmon	(i) *OR*—Clatsop, Columbia, Hood River, Multnomah, and Wasco.
	(ii) *WA*—Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, Wahkiakum, and Yakima.
(8) Ozette Lake sockeye salmon	WA—Clallam.
(9) Upper Columbia River *O. mykiss*	(i) *OR*—Clatsop, Columbia, Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, and Wasco.
	(ii) *WA*—Adams, Benton, Chelan, Clark, Cowlitz, Douglas, Franklin, Grant, King, Kittitas, Klickitat, Okanogan, Pacific, Skagit, Skamania, Snohomish, Wahkiakum, Walla Walla, Whatcom, and Yakima.
(10) Snake River Basin *O. mykiss*	(i) *ID*—Adams, Blaine, Boise, Camas, Clearwater, Custer, Elmore, Idaho, Latah, Lemhi, Lewis, Nez Perce, and Valley.
	(ii) *OR*—Baker, Clatsop, Columbia, Gilliam, Grant, Hood River, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, and Wasco.
	(iii) *WA*—Adams, Asotin, Benton, Clark, Columbia, Cowlitz, Franklin, Garfield, Klickitat, Pacific, Skamania, Walla Walla, Wahkiakum, Whitman, and Yakima.
(11) Middle Columbia River *O. mykiss*	(i) *OR*—Baker, Clackamas, Clatsop, Columbia, Crook, Gilliam, Grant, Hood River, Jefferson, Marion, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler.
	(ii) *WA*—Benton, Chelan, Clark, Cowlitz, Columbia, Franklin, King, Kittitas, Klickitat, Lewis, Pacific, Pierce, Skamania, Wahkiakum, Walla Walla, and Yakima.
(12) Lower Columbia River *O. mykiss*	(i) *OR*—Clackamas, Clatsop, Columbia, Hood River, Jefferson, Marion, Multnomah, Wasco, and Washington.
	(ii) *WA*—Clark, Cowlitz, Klickitat, Lewis, Pacific, Pierce, Skamania, Wahkiakum, and Yakima.
(13) Upper Willamette River *O. mykiss*	(i) *OR*—Benton, Clackamas, Clatsop, Columbia, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Tillamook, Washington, and Yamhill.
	(ii) *WA*—Clark, Cowlitz, Pacific, and Wahkiakum.

(b) *Critical habitat boundaries.* Critical habitat includes the stream channels within the proposed stream reaches, and includes a lateral extent as defined by the ordinary high-water line (33 CFR 319.11). In areas where ordinary high-water line has not been defined, the lateral extent will be defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series. Critical habitat in lake areas is defined by the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of ordinary high water, whichever is greater. In estuarine and nearshore marine areas critical habitat is proposed to include areas contiguous with the shoreline from the line of extreme high water out to a depth no greater than 30 meters relative to mean lower low water.

(c) *Primary constituent elements.* Within these areas, the primary constituent elements essential for the conservation of these ESUs are those sites and habitat components that support one or more life stages, including:

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;

(2) Freshwater rearing sites with:

(i) Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;

(ii) Water quality and forage supporting juvenile development; and

(iii) Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

(3) Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival;

(4) Estuarine areas free of obstruction and excessive predation with:

(i) Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;

(ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels; and

(iii) Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

(5) Nearshore marine areas free of obstruction and excessive predation with:

(i) Water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and

(ii) Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.

(6) Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

(d) *Exclusion of Indian lands.* Critical habitat does not include habitat areas on Indian lands. The Indian lands specifically excluded from critical habitat are those defined in the Secretarial Order, including:

(1) Lands held in trust by the United States for the benefit of any Indian tribe;

(2) Land held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation;

(3) Fee lands, either within or outside the reservation boundaries, owned by the tribal government; and

(4) Fee lands within the reservation boundaries owned by individual Indians.

(e) *Land owned or controlled by the Department of Defense.* Additionally, critical habitat does not include the following areas owned or controlled by

the Department of Defense, or designated for its use, in the State of Washington:

(1) Naval Submarine Base, Bangor;

(2) Naval Undersea Warfare Center, Keyport;

(3) Naval Ordinance Center, Port Hadlock (Indian Island);

(4) Naval Radio Station, Jim Creek;

(5) Naval Fuel Depot, Manchester;

(6) Naval Air Station Whidbey Island;

(7) Naval Air Station, Everett;

(8) Bremerton Naval Hospital;

(9) Fort Lewis (Army);

(10) Pier 23 (Army);

(11) Yakima Training Center (Army);

(12) Puget Sound Naval Shipyard;

(13) Naval Submarine Base Bangor security zone;

(14) Strait of Juan de Fuca naval air-to-surface weapon range, restricted area;

(15) Hood Canal and Dabob Bay naval non-explosive torpedo testing area;

(16) Strait of Juan de Fuca and Whidbey Island naval restricted areas;

(17) Admiralty Inlet naval restricted area;

(18) Port Gardner Naval Base restricted area;

(19) Hood Canal naval restricted areas;

(20) Port Orchard Passage naval restricted area;

(21) Sinclair Inlet naval restricted areas;

(22) Carr Inlet naval restricted areas;

(23) Dabob Bay/Whitney Point naval restricted area; and

(24) Port Townsend/Indian Island/Walan Point naval restricted area.

(f) Puget Sound Chinook Salmon (Oncorhynchus tshawytscha). Critical habitat is proposed to include the areas defined in the following units:

(1) *Unit 2. Nooksack Subbasin 17110004—(i) Upper North Fork Nooksack River Watershed 1711000401.* Outlet(s) = North Fork Nooksack River (Lat 48.9055, Long -121.9886) upstream to endpoint(s) in: Boyd Creek (48.8998,-121.8640); Canyon Creek (48.9366,-121.9451); Cascade Creek (48.8996,-121.8621); Cornell Creek (48.8882,-121.9594); Deadhorse Creek (48.9024,-121.8359); Gallop Creek (48.8849,-121.9447); Glacier Creek (48.8197,-121.8931); Hedrick Creek (48.8953,-121.9705); Thompson Creek (48.8837,-121.9028); Wells Creek (48.8940,-121.7976).

(ii) Middle Fork Nooksack River Watershed 1711000402. Outlet(s) = Middle Fork Nooksack River (Lat 48.8342, Long −122.1540) upstream to endpoint(s) in: Canyon Creek (48.8374, −122.1198); Middle Fork Nooksack River (48.7714, −122.0709); Porter Creek (48.7951, −122.1098); Unnamed (48.7809, −122.1157); Unnamed (48.7860, −122.1214).

(iii) South Fork Nooksack River Watershed 1711000403. Outlet(s) = South Fork Nooksack River (Lat 48.8095, Long −122.2026) upstream to endpoint(s) in: Black Slough (48.7715, −122.1931); Cavanaugh Creek (48.6446, −122.1094); Deer Creek (48.6041, −122.0912); Edfro Creek (48.6607, −122.1206); Fobes Creek (48.6230, −122.1139); Hard Scrabble Falls Creek (48.7601, −122.2273); Howard Creek (48.6118, −121.9639); Hutchinson Creek (48.7056, −122.1663); Jones Creek (48.7186, −122.2130); McCarty Creek (48.7275, −122.2188); Plumbago Creek (48.6088, −122.0949); Pond Creek (48.6958, −122.1651); Skookum Creek (48.6871, −122.1029); South Fork Nooksack River (48.6133, −121.9000); Standard Creek (48.7444, −122.2191); Sygitowicz Creek (48.7722, −122.2269); Unnamed (48.6048, −121.9143); Unnamed (48.6213, −122.1039); Unnamed (48.7174, −122.1815); Unnamed (48.7231, −122.1968); Unnamed (48.7843, −122.2188).

(iv) Lower North Fork Nooksack River Watershed 1711000404. Outlet(s) = Nooksack River (Lat 48.8711, Long −122.3227) upstream to endpoint(s) in: Anderson Creek (48.8088, −122.3410); Boulder Creek (48.9314, −122.0258); Coal Creek (48.8889, −122.1506); Kendall Creek (48.9251, −122.1455); Kenney Creek (48.8510, −122.1368); Macaulay Creek (48.8353, −122.2345); Maple Creek (48.9262, −122.0751); Mitchell Creek (48.8313, −122.2174); North Fork Nooksack River (48.9055, −121.9886); Racehorse Creek (48.8819, −122.1272); Smith Creek (48.8439, −122.2544); Unnamed (48.8103, −122.1855); Unnamed (48.9002, −122.1205); Unnamed (48.9040, −122.0875); Unnamed (48.9131, −122.0127); Unnamed (48.9158, −122.0091); Unnamed (48.9162, −122.0615); Unnamed (48.9200, −122.0463); Wildcat Creek (48.9058, −121.9995); Deer Creek (48.8439, −122.4839).

(v) Nooksack River Watershed 1711000405. Outlet(s) = Lummi River (Lat 48.8010, Long −122.6582); Nooksack River (48.7737, −122.5986); Silver Creek (48.7786, −122.5635); Slater Slough (48.7759, −122.6029); Unnamed (48.7776, −122.5708); Unnamed (48.7786, −122.5677); Unnamed (48.7973, −122.6717); Unnamed (48.8033, −122.6771) upstream to endpoint(s) in: Fishtrap Creek (49.0025, −122.4053); Fourmile Creek (48.8890, −122.4213); Lummi River (48.8198, −122.6049); Nooksack River (48.8711, −122.3227); Pepin Creek (49.0024, −122.4724); Slater Slough (48.7778, −122.6041); Tenmile Creek (48.8457, −122.3661); Unnamed (48.8191, −122.5705); Unnamed (48.8453, −122.6071); Unnamed (48.8548, −122.4749); Unnamed (48.9609, −122.5312); Unnamed (48.9634, −122.3928); Unnamed (49.0024, −122.4730); Unnamed (49.0025, −122.5218).

(2) Unit 3. Upper Skagit Subbasin 17110005—*(i) Skagit River/Gorge Lake Watershed 1711000504.* Outlet(s) = Skagit River (Lat 48.6725, Long −121.2633) upstream to endpoint(s) in: Goodell Creek (48.6890, −121.2718); Skagit River (48.6763, −121.2404).

(ii) Skagit River/Diobsud Creek Watershed 1711000505. Outlet(s) = Skagit River (Lat 48.5218, Long −121.4315) upstream to endpoint(s) in: Bacon Creek (48.6456, −121.4244); Diobsud Creek (48.5761, −121.4309); Falls Creek (48.6334, −121.4258); Skagit River (48.6725, −121.2633).

(iii) Cascade River Watershed 1711000506. Outlet(s) = Cascade River (Lat 48.5218, Long −121.4315) upstream to endpoint(s) in: Found Creek (48.4816, −121.2437); Kindy Creek (48.4613, −121.2094); Marble Creek (48.5398, −121.2612); North Fork Cascade River (48.4660, −121.1641); South Fork Cascade River (48.4592, −121.1494).

(iv) Skagit River/Illabot Creek Watershed 1711000507. Outlet(s) = Skagit River (Lat 48.5333, Long −121.7370) upstream to endpoint(s) in: Illabot Creek (48.4498, −121.4551); Jackman Creek (48.5294, −121.6957); Skagit River (48.5218, −121.4315); Unnamed (48.5013, −121.6598).

(3) Unit 4. Sauk Subbasin 17110006—*(i) Upper Sauk River Watershed 1711000601.* Outlet(s) = Sauk River (Lat 48.1731, Long −121.4714) upstream to endpoint(s) in: Camp Creek (48.1559, −121.2909); North Fork Sauk River (48.0962, −121.3710); Owl Creek (48.1623, −121.2948); South Fork Sauk River (48.0670, −121.4088); Swift Creek (48.1011, −121.3975); Unnamed (48.1653, −121.3288); White Chuck River (48.1528, −121.2645).

(ii) Upper Suiattle River Watershed 1711000602. Outlet(s) = Suiattle River (Lat 48.2586, Long −121.2237) upstream to endpoint(s) in: Downey Creek (48.2828, −121.2083); Milk Creek (48.2207, −121.1634); Suiattle River (48.2211, −121.1609); Sulphur Creek (48.2560, −121.1773); Unnamed (48.2338, −121.1792).

(iii) Lower Suiattle River Watershed 1711000603. Outlet(s) = Suiattle River (Lat 48.3384, Long −121.5482) upstream to endpoint(s) in: Big Creek (48.3435, −121.4416); Buck Creek (48.2753, −121.3268); Circle Creek (48.2555, −121.3395); Lime Creek (48.2445, −121.2933); Straight Creek

(48.2594; −121.4009); Suiattle River (48.2586, −121.2237); Tenas Creek (48.3371, −121.4304).

(iv) Lower Sauk River Watershed 1711000604. Outlet(s) = Sauk River (Lat 48.4821, Long −121.6060) upstream to endpoint(s) in: Dan Creek (48.2702, −121.5473); Sauk River (48.1731, −121.4714); Unnamed (48.2247, −121.5826); Unnamed (48.3187, −121.5480).

(4) Unit 5. Lower Skagit Subbasin 17110007—*(i) Middle Skagit River/ Finney Creek Watershed 1711000701.* Outlet(s) = Skagit River (Lat 48.4891, Long −122.2178) upstream to endpoint(s) in: Alder Creek (48.5280, −121.9498); Day Creek (48.4689, −122.0216); Finney Creek (48.4655, −121.6858); Grandy Creek (48.5510, −121.8621); Hansen Creek (48.5600, −122.2069); Jims Slough (48.5274, −122.0227); Jones Creek (48.5418, −122.0494); Mannser Creek (48.5260, −122.0430); Muddy Creek (48.5278, −122.0007); Pressentin Creek (48.5099, −121.8449); Skagit River (48.5333, −121.7370); Sorenson Creek (48.4875, −122.1029); Unnamed (48.4887, −122.0747); Unnamed (48.5312, −122.0149); Wiseman Creek (48.5160, −122.1286).

(ii) Lower Skagit River/Nookachamps Creek Watershed 1711000702. Outlet(s) = Browns Slough (Lat 48.3305, Long −122.4194); Freshwater Slough (48.3109, −122.3883); Hall Slough (48.3394, −122.4426); Isohis Slough (48.2975, −122.3711); North Fork Skagit River (48.3625, −122.4689); South Fork Skagit River (48.2920, −122.3670); Unnamed (48.3085, −122.3868); Unnamed (48.3831, −122.4842) upstream to endpoint(s) in: Britt Slough (48.3935, −122.3571); Browns Slough (48.3411, −122.4127); East Fork Nookachamps Creek (48.4044, −122.1790); Hall Slough (48.3437, −122.4376); Mundt Creek (48.4249, −122.2007); Skagit River (48.4891, −122.2178); Unnamed (48.3703, −122.3081); Unnamed (48.3827, −122.1893); Unnamed (48.3924, −122.4822); Walker Creek (48.3778, −122.1899).

(5) Unit 6. Stillaguamish Subbasin 17110008—*(i) North Fork Stillaguamish River Watershed 1711000801.* Outlet(s) = North Fork Stillaguamish River (Lat 48.2037, Long −122.1256) upstream to endpoint(s) in: Ashton Creek (48.2545, −121.6708); Boulder River (48.2624, −121.8090); Deer Creek (48.2835, −121.9255); French Creek (48.2534, −121.7856); Furland Creek (48.2624, −121.6749); Grant Creek (48.2873, −122.0118); North Fork Stillaguamish River (48.3041, −121.6360); Rollins Creek (48.2908, −121.8441); Squire Creek (48.2389, −121.6374); Unnamed (48.2393, −121.6285); Unnamed (48.2739, −121.9948).

(ii) South Fork Stillaguamish River Watershed 1711000802. Outlet(s) = South Fork Stillaguamish River (Lat 48.2037, Long −122.1256) upstream to endpoint(s) in: Canyon Creek (48.1107, −121.9677); Jim Creek (48.2230, −121.9483); Siberia Creek (48.1731, −122.0377); South Fork Stillaguamish River (48.1026, −121.9610); Unnamed (48.1463, −122.0162).

(iii) Lower Stillaguamish River Waterhed 1711000803. Outlet(s) = Stillaguamish River (Lat 48.2385, Long −122.3749); Unnamed (48.1983, −122.3579) upstream to endpoint(s) in: Armstrong Creek (48.2189, −122.1347); Pilchuck Creek (48.2983, −122.1672); Stillaguamish River (48.2037, −122.1256).

(6) Unit 7. Skykomish Subbasin 17110009—*(i) Tye and Beckler River Watershed 1711000901.* Outlet(s) = South Fork Skykomish River (Lat 47.7147, Long −121.3393) upstream to endpoint(s) in: East Fork Foss River (47.6522, −121.2792); Rapid River (47.8131, −121.2470) Tye River (47.7172, −121.2254) Unnamed (47.8241, −121.2979); West Fork Foss River (47.6444, −121.2972).

(ii) Skykomish River Forks Watershed 1711000902. Outlet(s) = North Fork Skykomish River (Lat 47.8133, Long −121.5782) upstream to endpoint(s) in: Bridal Veil Creek (47.7987, −121.5597); Lewis Creek (47.8223, −121.5160); Miller River (47.7018, −121.3950); Money Creek (47.7208, −121.4062); North Fork Skykomish River (47.9183, −121.3073); South Fork Skykomish River (47.7147, −121.3393); Unnamed (47.7321, −121.4176); Unnamed (47.8002, −121.5548).

(iii) Skykomish River/Wallace River Watershed 1711000903. Outlet(s) = Skykomish River (Lat 47.8602, Long −121.8190) upstream to endpoint(s) in: Deer Creek (47.8191, −121.5805); Olney Creek (47.8796, −121.7163); Proctor Creek (47.8216, −121.6460); Skykomish River (47.8133, −121.5782); Unnamed (47.8507, −121.8010); Wagleys Creek (47.8674, −121.7972); Wallace River (47.8736, −121.6491).

(iv) Sultan River Watershed 1711000904. Outlet(s) = Sultan River (Lat 47.8602, Long −121.8190) upstream to endpoint(s) in: Sultan River (47.9598, −121.7951).

(v) Skykomish River/Woods Creek Watershed 1711000905. Outlet(s) = Skykomish River (Lat 47.8303, Long −122.0451) upstream to endpoint(s) in: Elwell Creek (47.8038, −121.8524); Skykomish River (47.8602, −121.8190); Unnamed (47.8890, −121.8637); West Fork Woods Creek (47.9627, −121.9707); Woods Creek (47.8953, −121.8742); Youngs Creek (47.8081, −121.8332).

(7) Unit 8. Snoqualmie Subbasin 17110010—*(i) Middle Fork Snoqualmie River Watershed 1711001003.* Outlet(s) = Snoqualmie River (Lat 47.6407, Long −121.9261) upstream to endpoint(s) in: Canyon Creek (47.5837, −121.9623); Deep Creek (47.4764, −121.8905); Griffin Creek (47.6164, −121.9014); Lake Creek (47.5036, −121.9035); Patterson Creek (47.6276, −121.9855); Raging River (47.4795, −121.8691); Snoqualmie River (47.5415, −121.8362); Tokul Creek (47.5563, −121.8285).

(ii) Lower Snoqualmie River Watershed 1711001004. Outlet(s) = Snoqualmie River (Lat 47.8303, Long −122.0451) upstream to endpoint(s) in: Cherry Creek (47.7465, −121.8953); Margaret Creek (47.7547, −121.8933); North Fork Tolt River (47.7060, −121.7957); Snoqualmie River (47.6407, −121.9261); South Fork Tolt River (47.6926, −121.6895); Tuck Creek (47.7442, −122.0032); Unnamed (47.6806, −121.9730); Unnamed (47.6822, −121.9770); Unnamed (47.7420, −122.0084); Unnamed (47.7522, −121.9745); Unnamed (47.7581, −121.9586).

(8) Unit 9. Snohomish Subbasin 17110011—*(i) Pilchuck River Watershed 1711001101.* Outlet(s) = Pilchuck River (Lat 47.9013, Long −122.0917) upstream to endpoint(s) in: Pilchuck River (48.0052, −121.7718).

(ii) Snohomish River Watershed 1711001102. Outlet(s) = Quilceda Creek (Lat 48.0556, Long −122.1908); Skykomish River (48.0173, −122.1877); Steamboat Slough (48.0365, −122.1814); Union Slough (48.0299, −122.1794); Unnamed (48.0412, −122.1723) upstream to endpoint(s) in: Allen Creek (48.0767, −122.1404); Quilceda Creek (48.1124, −122.1540); Skykomish River (47.8303, −122.0451); Unnamed (47.9545, −122.1969); Unnamed (47.9777, −122.1632); Unnamed (48.0019, −122.1283); Unnamed (48.0055, −122.1303); Unnamed (48.1330, −122.1472).

(9) Unit 10. Lake Washington Subbasin 17110012—*(i) Cedar River Watershed 1711001201.* Outlet(s) = Cedar River (Lat 47.5003, Long −122.2146) upstream to endpoint(s) in: Cedar River (47.3761, −121.9603); Rock Creek (47.3673, −122.0132); Unnamed (47.4092, −122.0358); Webster Creek (47.3857, −121.9845).

(ii) Lake Washington Watershed 1711001203. Outlet(s) = Lake Washington (Lat 47.6654, Long −122.3960) upstream to endpoint(s) in:

Cedar River (47.5003, −122.2146); Johns Creek (47.5048, −122.1976); Kennydale Creek (47.5167, −122.2074); May Creek (47.5199, −122.1721); Taylor Creek (47.5124, −122.2457) .

(10) Unit 11. Duwamish Subbasin 17110013—*(i) Upper Green River Watershed 1711001301.* Outlet(s) = Green River (Lat 47.2234, Long −121.6081) upstream to endpoint(s) in: Friday Creek (47.2204, −121.4559); Intake Creek (47.2058, −121.4049); McCain Creek (47.2093, −121.5292); Sawmill Creek (47.2086, −121.4675); Smay Creek (47.2508, −121.5872); Snow Creek (47.2607, −121.4046); Sunday Creek (47.2587, −121.3659); Tacoma Creek (47.1875, −121.3630); Unnamed (47.2129, −121.4579).

(ii) Middle Green River Watershed 1711001302. Outlet(s) = Green River (Lat 47.2911, Long −121.9714) upstream to endpoint(s) in: Bear Creek (47.2774, −121.7990); Cougar Creek (47.2439, −121.6442); Eagle Creek (47.3051, −121.7219); Gale Creek (47.2644, −121.7085); Green River (47.2234, −121.6081); Piling Creek (47.2820, −121.7553); Sylvester Creek (47.2457, −121.6537); Unnamed (47.2360, −121.6333).

(iii) Lower Green River Watershed 1711001303. Outlet(s) = Duwamish River (Lat 47.5113, Long −122.2951) upstream to endpoint(s) in: Big Soos Creek (47.4191, −122.1599); Burns Creek (47.2779, −122.1087); Covington Creek (47.3341, −122.0399); Crisp Creek (47.2897, −122.0590); Green River (47.2911, −121.9714); Jenkins Creek (47.3791, −122.0899); Little Soos Creek (47.4031, −122.1235); Mill Creek (47.3263, −122.2455); Newaukum Creek (47.2303, −121.9518); Unnamed (47.2765, −121.9730); Unnamed (47.2891, −122.1557); Unnamed (47.3007, −122.1774); Unnamed (47.3250, −122.1961); Unnamed (47.3464, −122.2397); Unnamed (47.3751, −122.2648); Unnamed (47.4046, −122.2134); Unnamed (47.4525, −122.2354); Unnamed (47.4618, −122.2315); Unnamed (47.4619, −122.2554); Unnamed (47.4876, −122.2781).

(11) Unit 12. Puyallup Subbasin 17110014—*(i) Upper White River Watershed 1711001401.* Outlet(s) = White River (Lat 47.1588, Long −121.6587) upstream to endpoint(s) in: Greenwater River (47.1204, −121.5055); Huckleberry Creek (47.0612, −121.6033); Pinochle Creek (47.0478, −121.7043); Unnamed (46.9935, −121.5295); West Fork White River (47.0483, −121.6916); Wrong Creek (47.0403, −121.6999).

(ii) Lower White River Watershed 1711001402. Outlet(s) = White River (Lat 47.2001, Long −122.2579) upstream to endpoint(s) in: Boise Creek (47.1958, −121.9467); Camp Creek (47.1430, −121.7012); Clearwater River (47.0852, −121.7823); Unnamed (47.1509, −121.7236); Unnamed (47.2247, −122.1072); Unnamed (47.2307, −122.1079); Unnamed (47.2383, −122.2234); Unnamed (47.2498, −122.2346); White River (47.1588, −121.6587).

(iii) Carbon River Watershed 1711001403. Outlet(s) = Carbon River (Lat 47.1308, Long −122.2315) upstream to endpoint(s) in: Carbon River (46.9965, −121.9198); South Fork South Prairie Creek (47.1203, −121.9963); Voight Creek (47.0751, −122.1285); Wilkeson Creek (47.0972, −122.0245).

(iv) Upper Puyallup River Watershed 1711001404. Outlet(s) = Puyallup River (Lat 47.1308, Long −122.2315) upstream to endpoint(s) in: Deer Creek (46.8547, −121.9680); Kapowsin Creek (46.9854, −122.2008); Kellog Creek (46.9164, −122.0652); Mowich River (46.9209, −121.9739); Rushingwater Creek (46.8971, −121.9439); Unnamed (46.8867, −122.0194); Unnamed (46.8899, −121.9657).

(v) Lower Puyallup River Watershed 1711001405. Outlet(s) = Hylebos Creek (Lat 47.2611, Long −122.3591); Puyallup River (47.2501, −122.4131) upstream to endpoint(s) in: Canyonfalls Creek (47.1421, −122.2186); Clarks Creek (47.1757, −122.3168); Clear Creek (47.2187, −122.3727); Fennel Creek (47.1495, −122.1849); Puyallup River (47.1308, −122.2315); Unnamed (47.1779, −122.1992); Unnamed (47.1799, −122.3066); Unnamed (47.1928, −122.3371); Unnamed (47.2723, −122.3216); West Hylebos Creek (47.2736, −122.3289).

(12) *Unit 13. Nisqually Subbasin 17110015—(i) Mashel/Ohop Watershed 1711001502.* Outlet(s) = Nisqually River (Lat 46.8646, Long −122.4776) upstream to endpoint(s) in: Little Mashel River (46.8504, −122.2724); Lynch Creek (46.8760, −122.2625); Mashel River (46.8431, −122.1205); Nisqually River (46.8303, −122.3225); Ohop Creek (46.9264, −122.2603); Powell Creek (46.8528, −122.4505); Tanwax Creek (46.8630, −122.4549); Twentyfive Mile Creek (46.9274, −122.2558).

(ii) Lowland Watershed 1711001503. Outlet(s) = McAllister Creek (Lat 47.1120, Long −122.7215); Nisqually River (47.1110, −122.7026); Unnamed (47.0071, −122.6556); Yelm Creek (46.9712, −122.6263) upstream to endpoint(s) in: Horn Creek (46.9042, −122.4776); McAllister Creek (47.0299, −122.7236); Nisqually River (46.8646, −122.4776); Unnamed (46.9108, −122.5032); Unnamed (47.0001, −122.6510); Unnamed (47.0055, −122.6520); Yelm Creek (46.9629, −122.6194). Excluded is that segment of the Nisqually River from Lat 47.0703, Long −122.7017, to Lat 46.9668, Long −122.5640.

(13) Unit 15. Skokomish Subbasin 17110017—*Skokomish River Watershed 1711001701.* Outlet(s) = Skokomish River (Lat 47.3543, Long −123.1122); Unnamed (47.3420, −123.1092); Unnamed (47.3471, −123.1275); Unnamed (47.3509, −123.1101) upstream to endpoint(s) in: Brown Creek (47.4238, −123.3052); Fir Creek (47.3363, −123.3016); McTaggert Creek (47.3749, −123.2318); North Fork Skokomish River (47.5197, −123.3329); Purdy Canyon (47.3021, −123.1803); Unnamed (47.3048, −123.1528); Unnamed (47.3077, −123.2012); Unnamed (47.3146, −123.1353); Unnamed (47.3209, −123.2212); Unnamed (47.3222, −123.3060); Unnamed (47.3237, −123.1467); Unnamed (47.3250, −123.1250); Vance Creek (47.3300, −123.3137); Weaver Creek (47.3097, −123.2384).

(14) Unit 16. Hood Canal Subbasin 17110018—(i) *Hamma Hamma River Watershed 1711001803.* Outlet(s) = Hamma Hamma River (Lat 47.5471, Long −123.0440) upstream to endpoint(s) in: Hamma Hamma River (47.5590, −123.0632); North Fork John Creek (47.5442, −123.0696).

(ii) Duckabush River Watershed 1711001804. Outlet(s) = Duckabush River (Lat 47.6502, Long −122.9348) upstream to endpoint(s) in: Duckabush River (47.6825, −123.0675).

(iii) Dosewallips River Watershed 1711001805. Outlet(s) = Dosewallips River (Lat 47.6881, Long −122.8945); Unnamed (47.6857, −122.8967) upstream to endpoint(s) in: Dosewallips River (47.7289, −123.1111); Rocky Brook (47.7212, −122.9405); Unnamed (47.6886, −122.8977).

(15) Unit 18. Dungeness/Elwha 17110020—*(i) Dungeness River Watershed 1711002003.* Outlet(s) = Dungeness River (Lat 48.1506, Long −123.1311); Unnamed (48.1537, −123.1267) upstream to endpoint(s) in: Dungeness River (47.9386, −123.0885); Gray Wolf River (47.9168, −123.2409); Matriotti Creek (48.1368, −123.1428); Unnamed (48.1514, −123.1216).

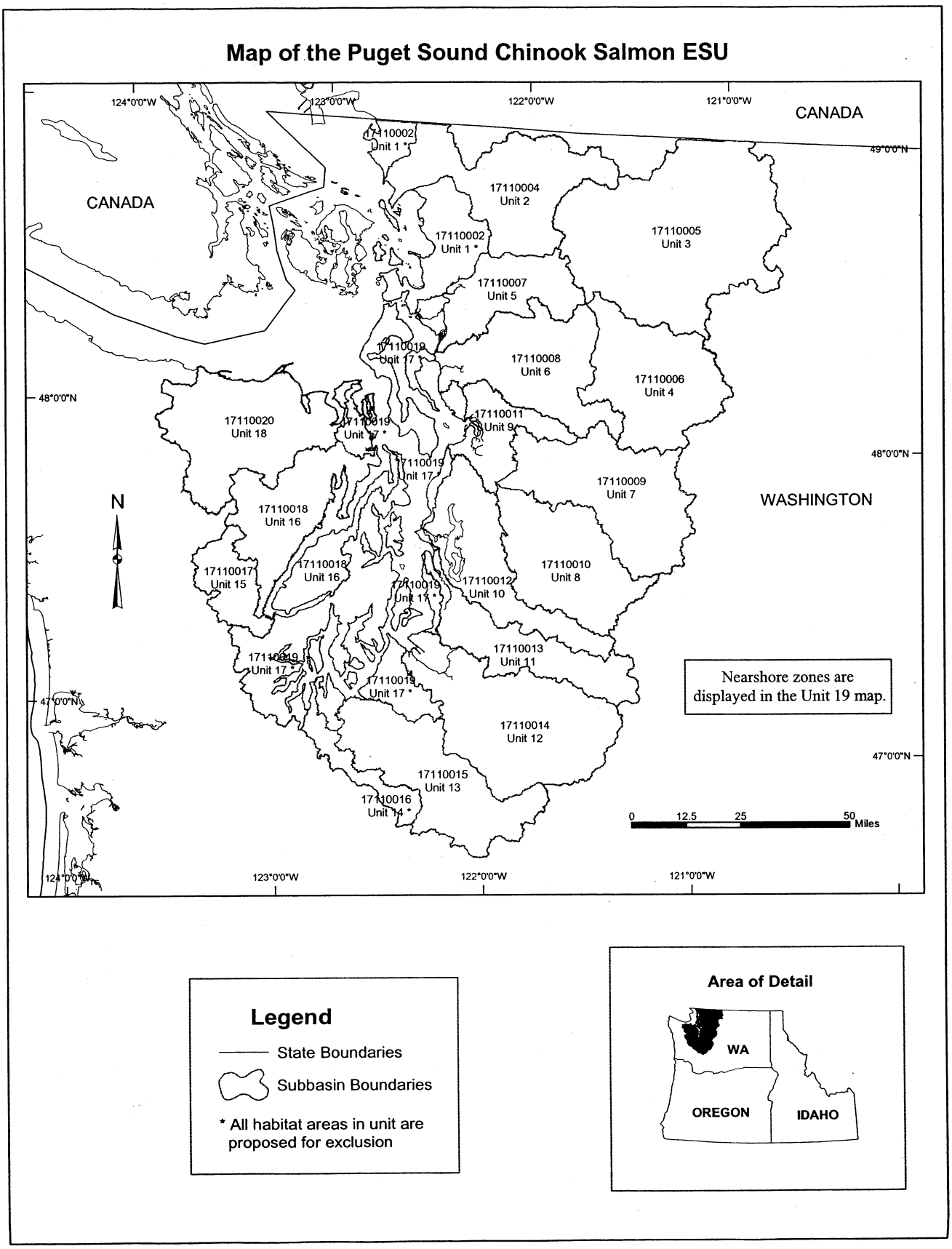
(ii) Elwha River Watershed 1711002007. Outlet(s) = Elwha River (Lat 48.1466, Long −123.5671); Unnamed (48.1483, −123.5599) upstream to endpoint(s) in: Elwha River (48.0927, −123.5614).

(16) Unit 19. Nearshore Marine Areas −This unit includes all nearshore zones

(including areas adjacent to islands) of the Strait of Georgia (south of the international border), Puget Sound, Hood Canal, and the Strait of Juan de Fuca (to the western end of the Elwha River delta) from extreme high water out to a depth of 30 meters, except for the following contiguous nearshore segments associated with Department of Defense lands and restricted marine zones: from Lat 48.3730, Long −122.6641 to Lat 48.3154, Long −122.7063; from Lat 48.2500, Long −122.7571 to Lat 48.2099, Long −122.7424; from Lat 48.1198, Long −122.5987 to Lat 48.1072, Long −122.5977; from Lat 48.2862, Long −122.6311 to Lat 48.2812, Long −122.5546; from Lat 47.9945, Long −122.2228 to Lat 47.9877, Long −122.2169; from Lat 47.1575, Long −122.6149 to Lat 47.1195, Long −122.6629; from Lat 47.2223, Long −122.7074 to Lat 47.2006, Long −122.6419; from Lat 47.2185, Long −122.6035 to Lat 47.2746, Long −122.6566; from Lat 47.2247, Long −122.7191 to Lat 47.2651, Long −122.7353; from Lat 47.2816, Long −122.6929 to Lat 47.2825, Long −122.6522; from Lat 47.5626, Long −122.5374 to Lat 47.5708, Long −122.5504; from Lat 47.5480, Long −122.6162 to Lat 47.5641, Long −122.6224; from Lat 47.5928, Long −122.6848 to Lat 47.5966, Long −122.6899; from Lat 47.6531, Long −122.6138 to Lat 47.7045, Long −122.6222; from Lat 47.6999, Long −122.6263 to Lat 47.6984, Long −122.6270; from Lat 47.7723, Long −122.7035 to Lat 47.7214, Long −122.7454; from Lat 47.7365, Long −122.8542 to Lat 47.7623, Long −122.8517; from Lat 47.7810, Long −122.8517 to Lat 47.8001, Long −122.8182; from Lat 47.8001, Long −122.7873 to Lat 47.6928, Long −122.8309; from Lat 48.0159, Long −122.6971 to Lat 48.0190, Long −122.6980; from Lat 48.1174, Long −122.7508 to Lat 48.1180, Long −122.7498; from Lat 48.1195, Long −122.7501 to Lat 48.1426, Long −122.7545; from Lat 48.1444, Long −122.7547 to Lat 48.1407, Long −122.7945; and waters immediately west of Smith Island and less than 30 m depth within a circular area having a radius of 2.32 km and centered at Lat 48.3169, Long −122.9003.

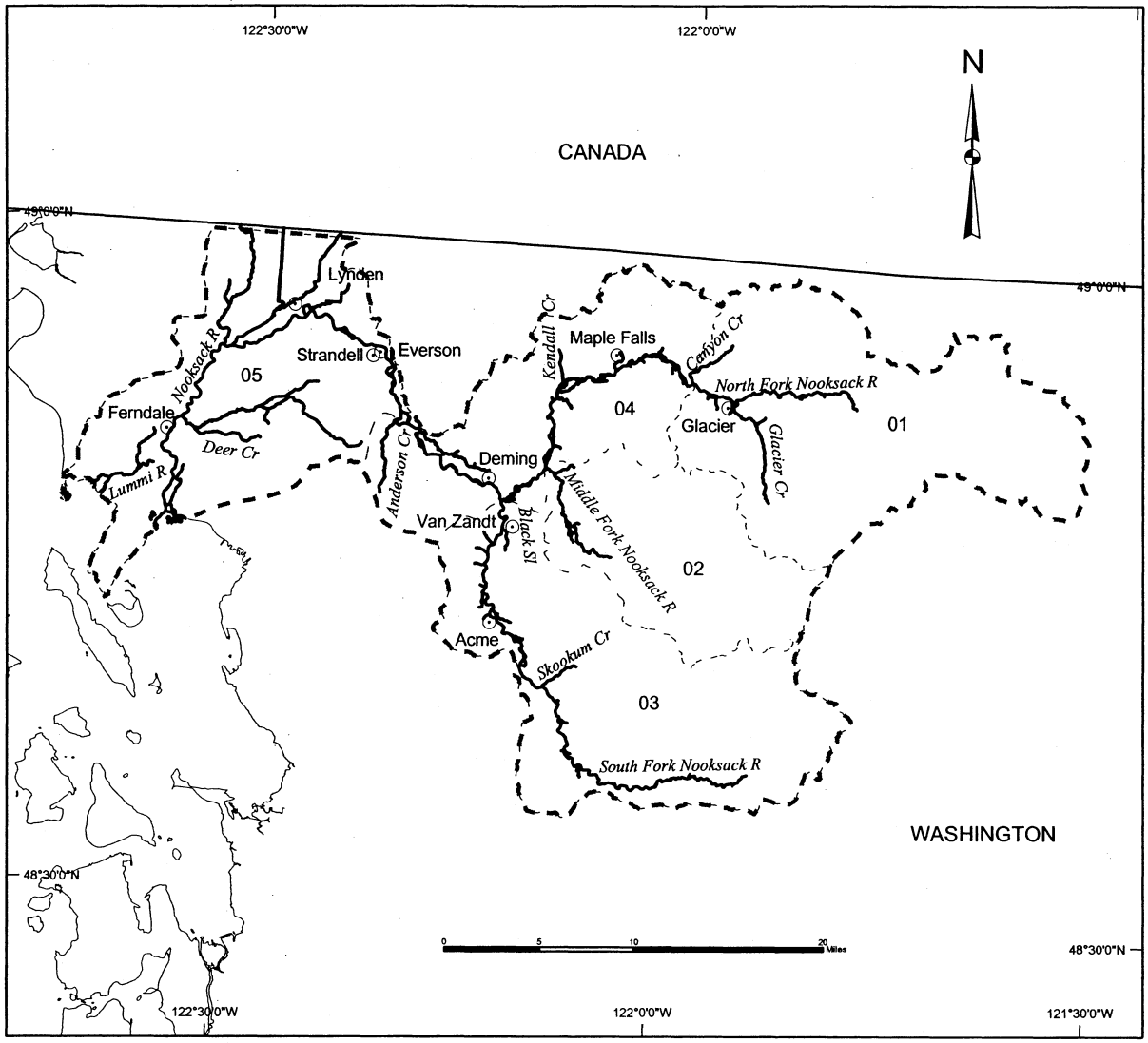
(17) Maps of proposed critical habitat for the Puget Sound chinook salmon ESU follow:

BILLING CODE 3510–22–P


Map of the Puget Sound Chinook Salmon ESU
CANADA
CANADA
WASHINGTON
124°0'0"W
123°0'0"W
122°0'0"W
121°0'0"W
49°0'0"N
48°0'0"N
47°0'0"N
N
17110002 Unit 1 *
17110004 Unit 2
17110005 Unit 3
17110007 Unit 5
17110008 Unit 6
17110006 Unit 4
17110020 Unit 18
17110011 Unit 9
17110009 Unit 7
17110018 Unit 16
17110017 Unit 15
17110010 Unit 8
17110012 Unit 10
17110013 Unit 11
17110014 Unit 12
17110015 Unit 13
17110016 Unit 14 *
Nearshore zones are displayed in the Unit 19 map.
0 12.5 25 50 Miles
Legend
State Boundaries
Subbasin Boundaries
* All habitat areas in unit are proposed for exclusion
Area of Detail
WA
OREGON
IDAHO

Proposed Critical Habitat for the Puget Sound Chinook ESU

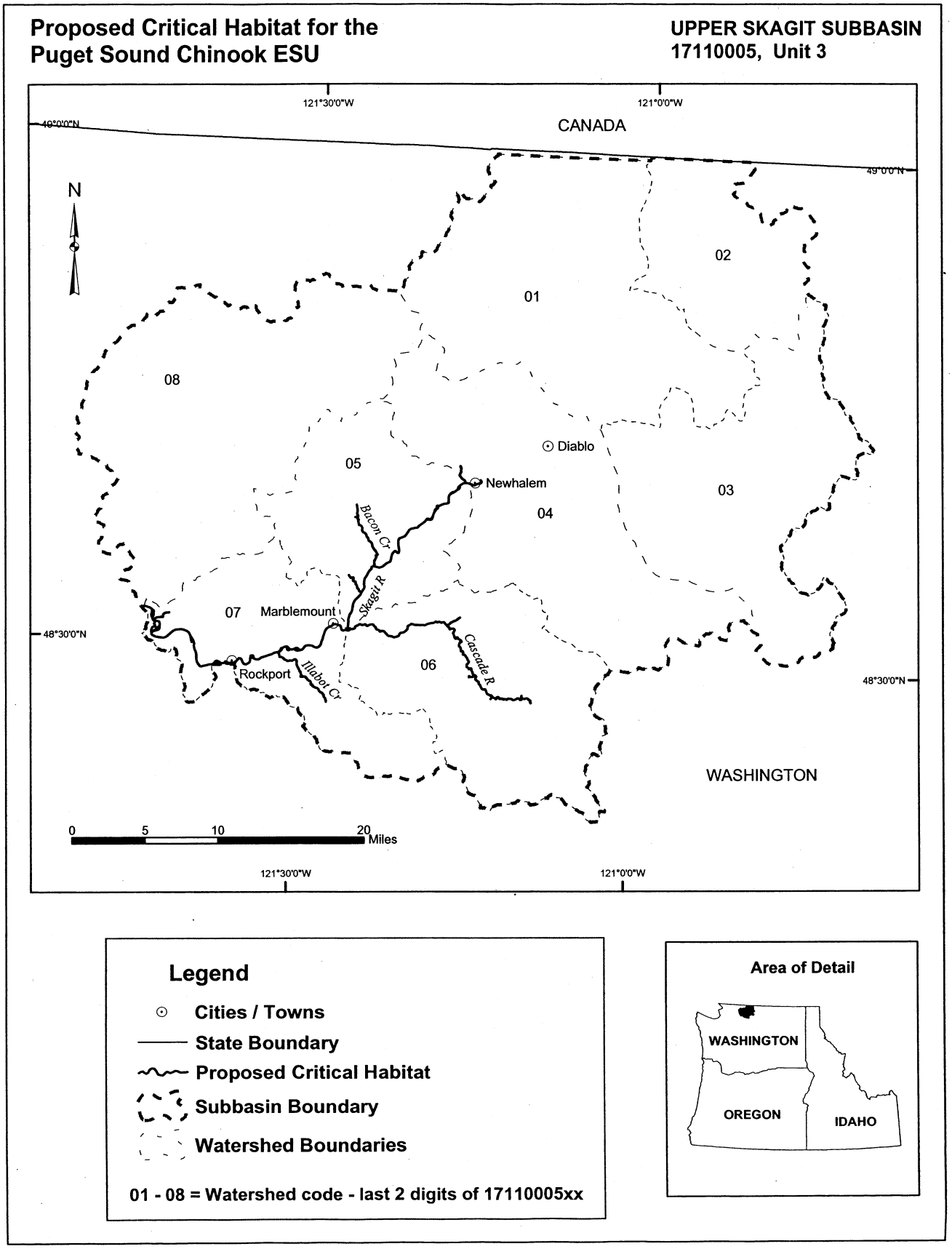
NOOKSACK SUBBASIN 17110004, Unit 2

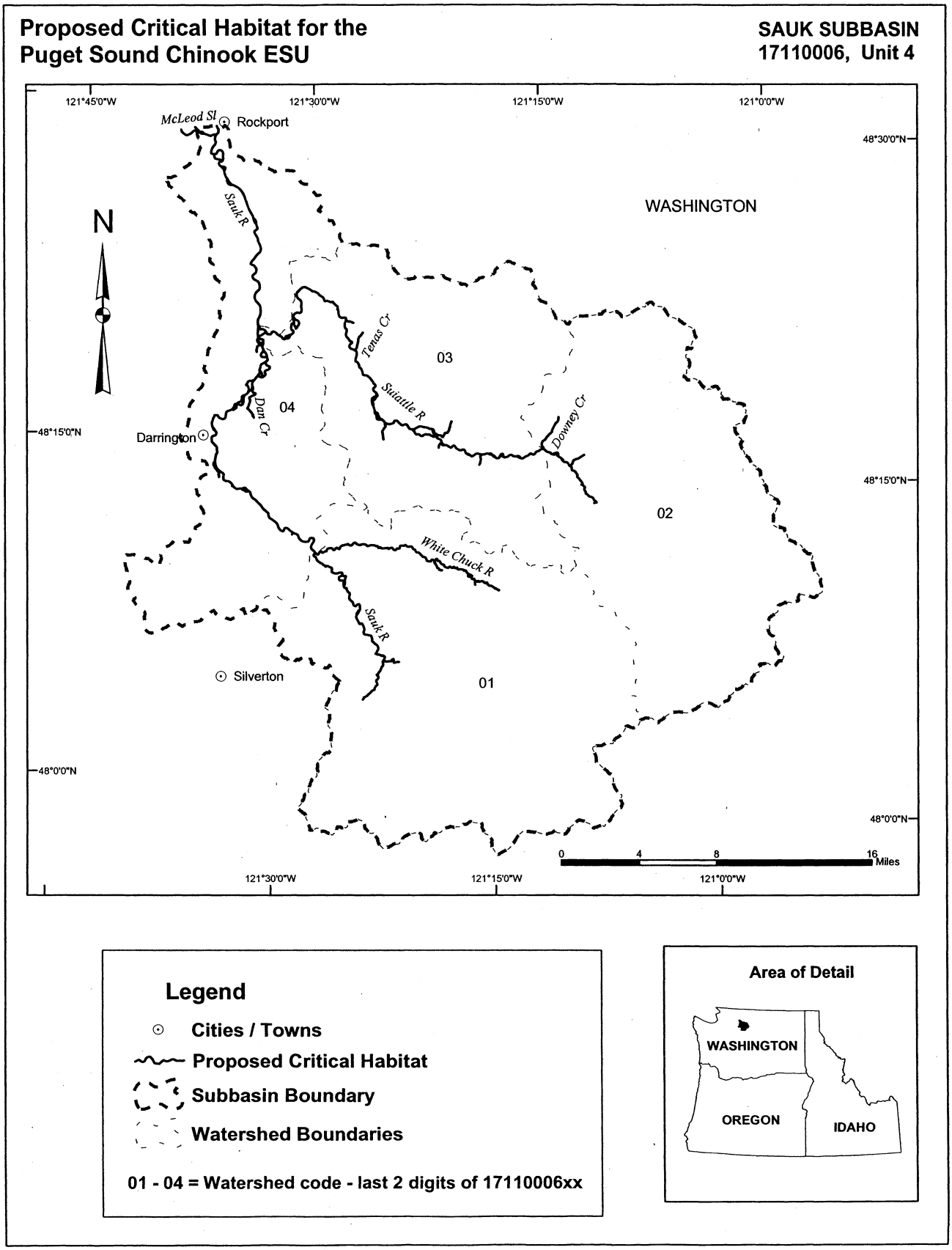


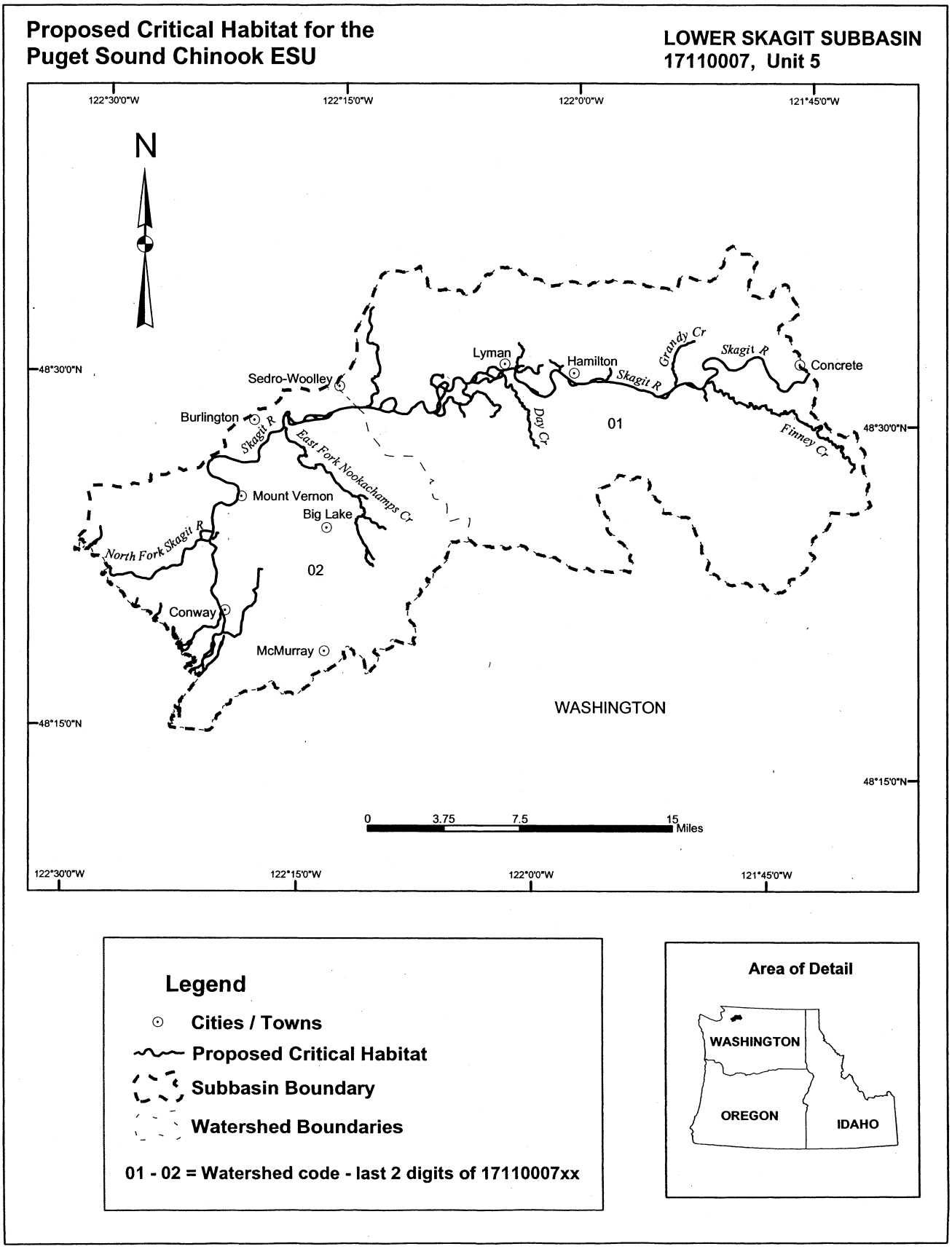
Legend

- Cities / Towns
- State Boundary
- Shoreline
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 05 = Watershed code - last 2 digits of 17110004xx

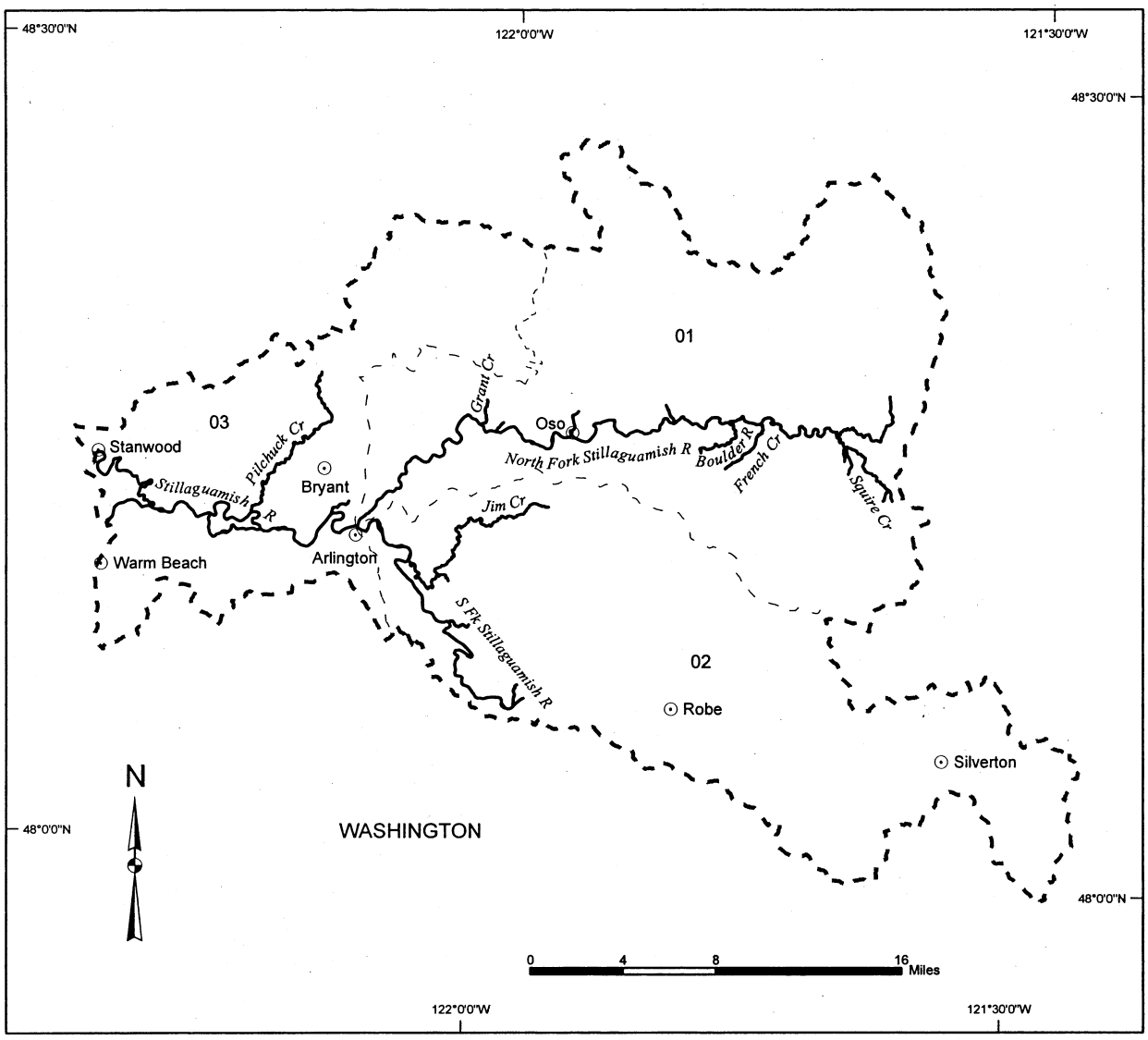

Proposed Critical Habitat for the
Puget Sound Chinook ESU
UPPER SKAGIT SUBBASIN
17110005, Unit 3
121°30'0"W
121°0'0"W
49°0'0"N
CANADA
N
01
02
03
04
05
06
07
08
Diablo
Newhalem
Marblemount
Rockport
Bacon Cr
Skagit R
Cascade R
Illabot Cr
48°30'0"N
WASHINGTON
0
5
10
20
Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17110005xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Puget Sound Chinook ESU
SAUK SUBBASIN
17110006, Unit 4
121°45'0"W
121°30'0"W
121°15'0"W
121°0'0"W
48°30'0"N
48°15'0"N
48°0'0"N
McLeod Sl
Rockport
Sauk R
N
WASHINGTON
Tenas Cr
03
Suiattle R
Dan Cr
04
Downey Cr
Darrington
02
White Chuck R
Sauk R
Silverton
01
0 4 8 16 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 04 = Watershed code - last 2 digits of 17110006xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Puget Sound Chinook ESU
LOWER SKAGIT SUBBASIN
17110007, Unit 5
122°30'0"W
122°15'0"W
122°0'0"W
121°45'0"W
N
48°30'0"N
48°15'0"N
Sedro-Woolley
Burlington
Skagit R
East Fork Nookachamps Cr
Mount Vernon
Big Lake
North Fork Skagit R
Conway
McMurray
Lyman
Hamilton
Day Cr
Grandy Cr
Skagit R
Concrete
Finney Cr
01
02
WASHINGTON
0
3.75
7.5
15
Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 02 = Watershed code - last 2 digits of 17110007xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Puget Sound Chinook ESU

STILLAGUAMISH SUBBASIN 17110008, Unit 6

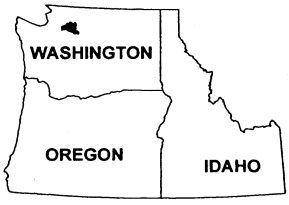


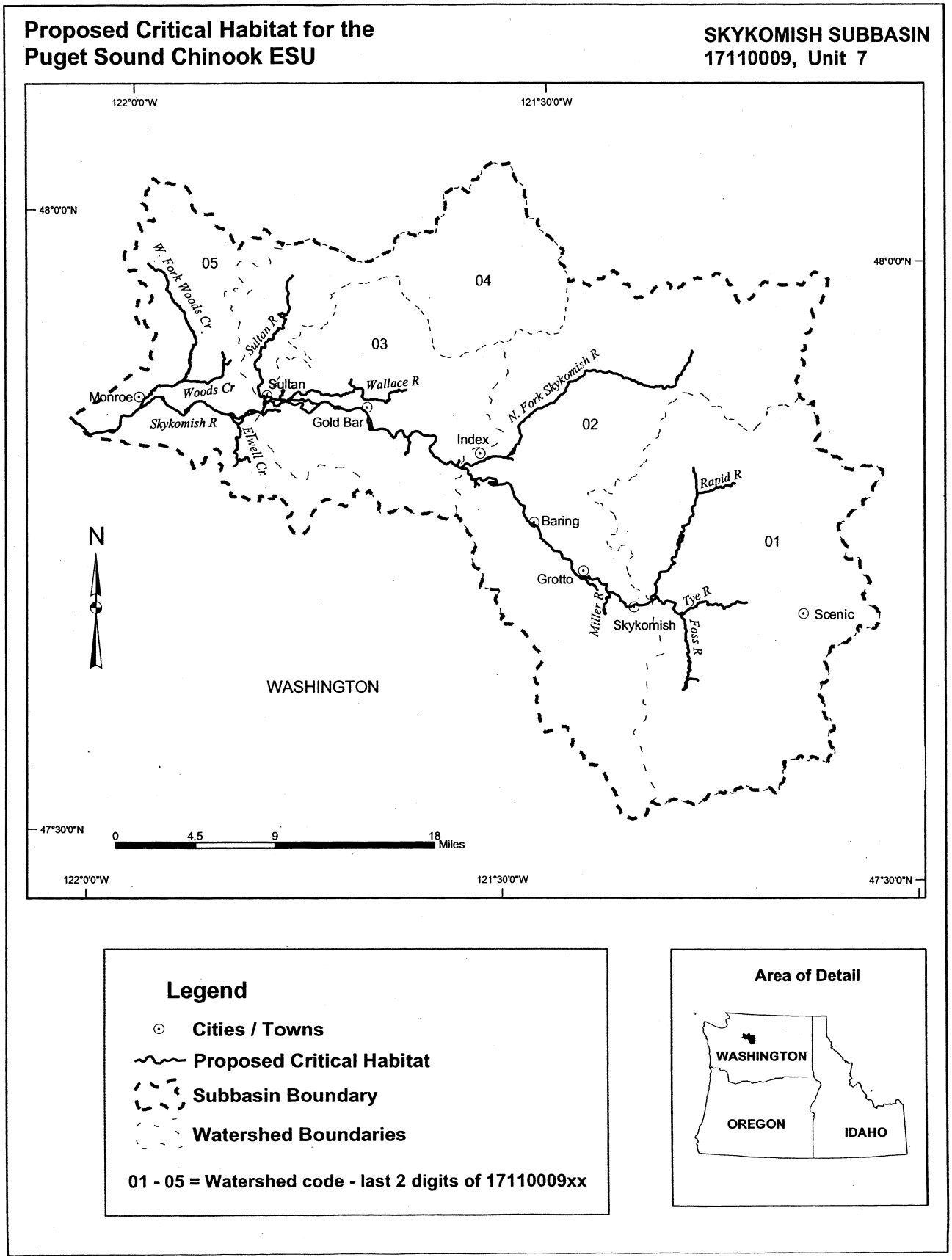
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 03 = Watershed code - last 2 digits of 17110008xx

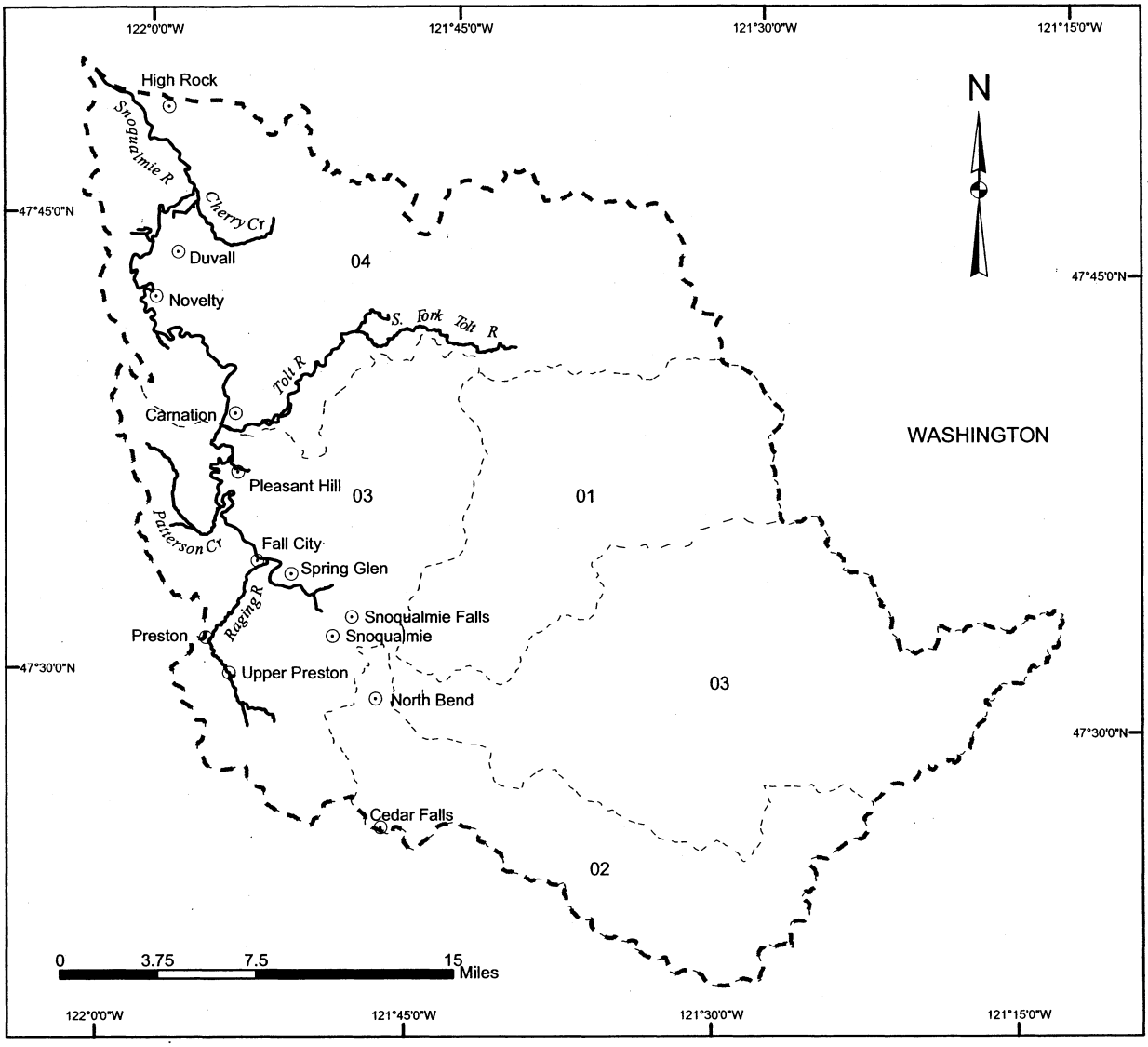
Area of Detail




Proposed Critical Habitat for the
Puget Sound Chinook ESU
SKYKOMISH SUBBASIN
17110009, Unit 7
122°0'0"W
121°30'0"W
48°0'0"N
47°30'0"N
05
04
03
02
01
W. Fork Woods Cr.
Sultan R
Woods Cr
Monroe
Sultan
Wallace R
Skykomish R
Gold Bar
Elwell Cr
N. Fork Skykomish R
Index
Rapid R
Baring
Grotto
Miller R
Skykomish
Tye R
Foss R
Scenic
N
WASHINGTON
0
4.5
9
18
Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17110009xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Puget Sound Chinook ESU

SNOQUALMIE SUBBASIN 17110010, Unit 8

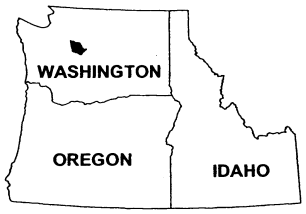


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

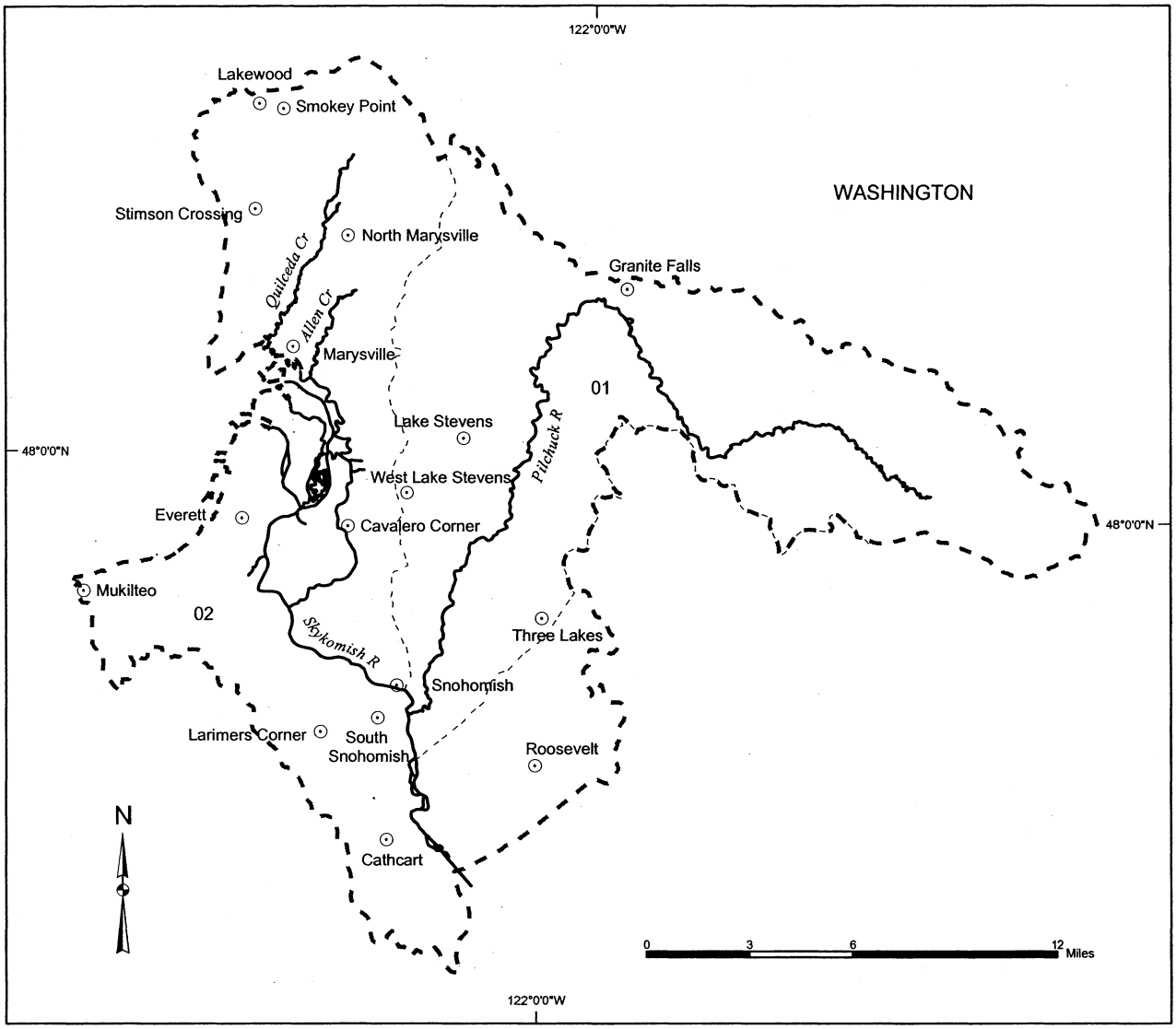
01 - 04 = Watershed code - last 2 digits of 17110010xx

Area of Detail



Proposed Critical Habitat for the Puget Sound Chinook ESU

SNOHOMISH SUBBASIN 17110011, Unit 9

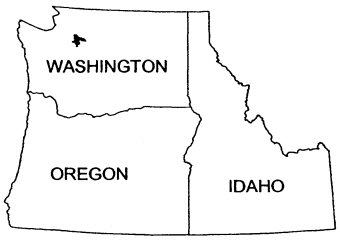


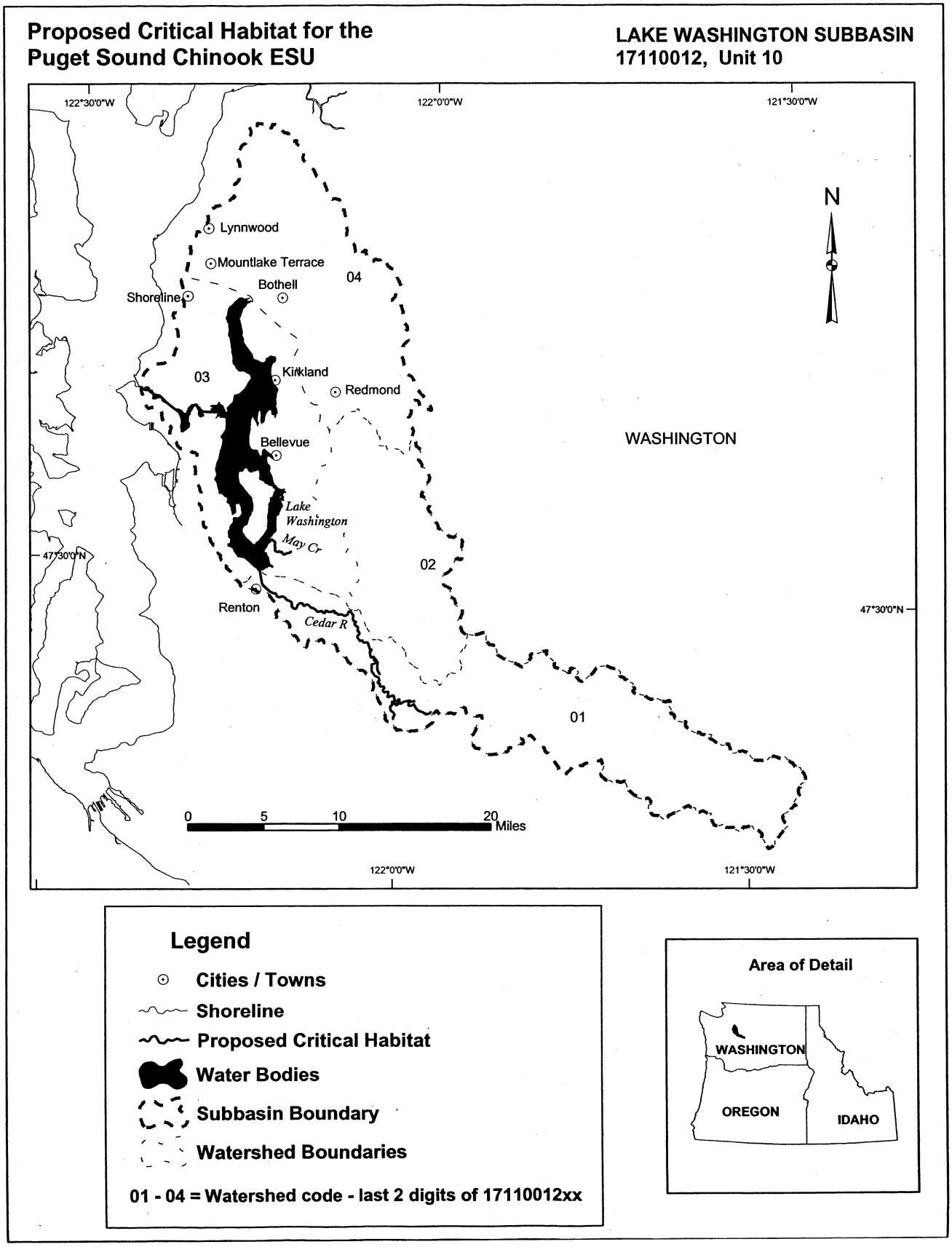
Legend

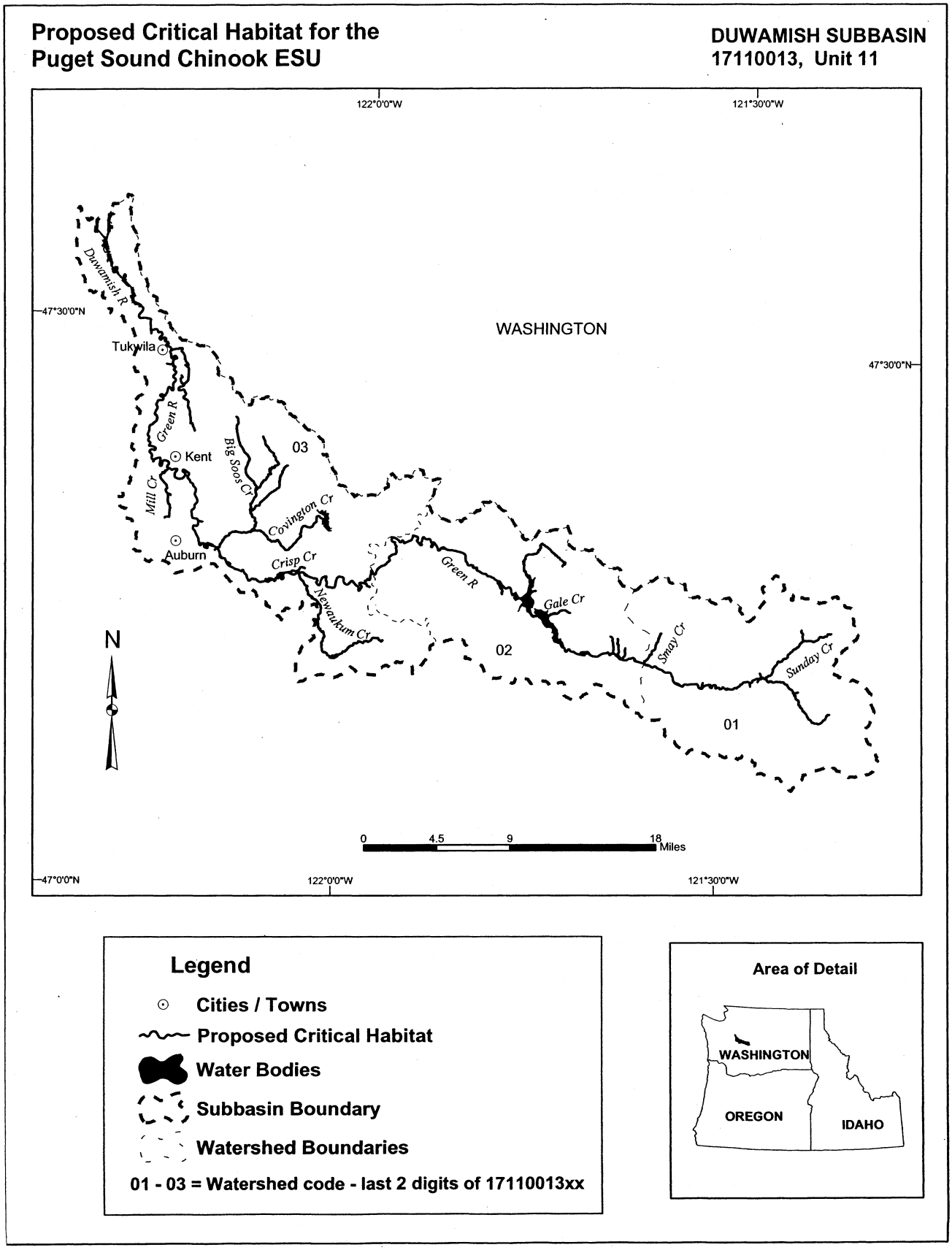
- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

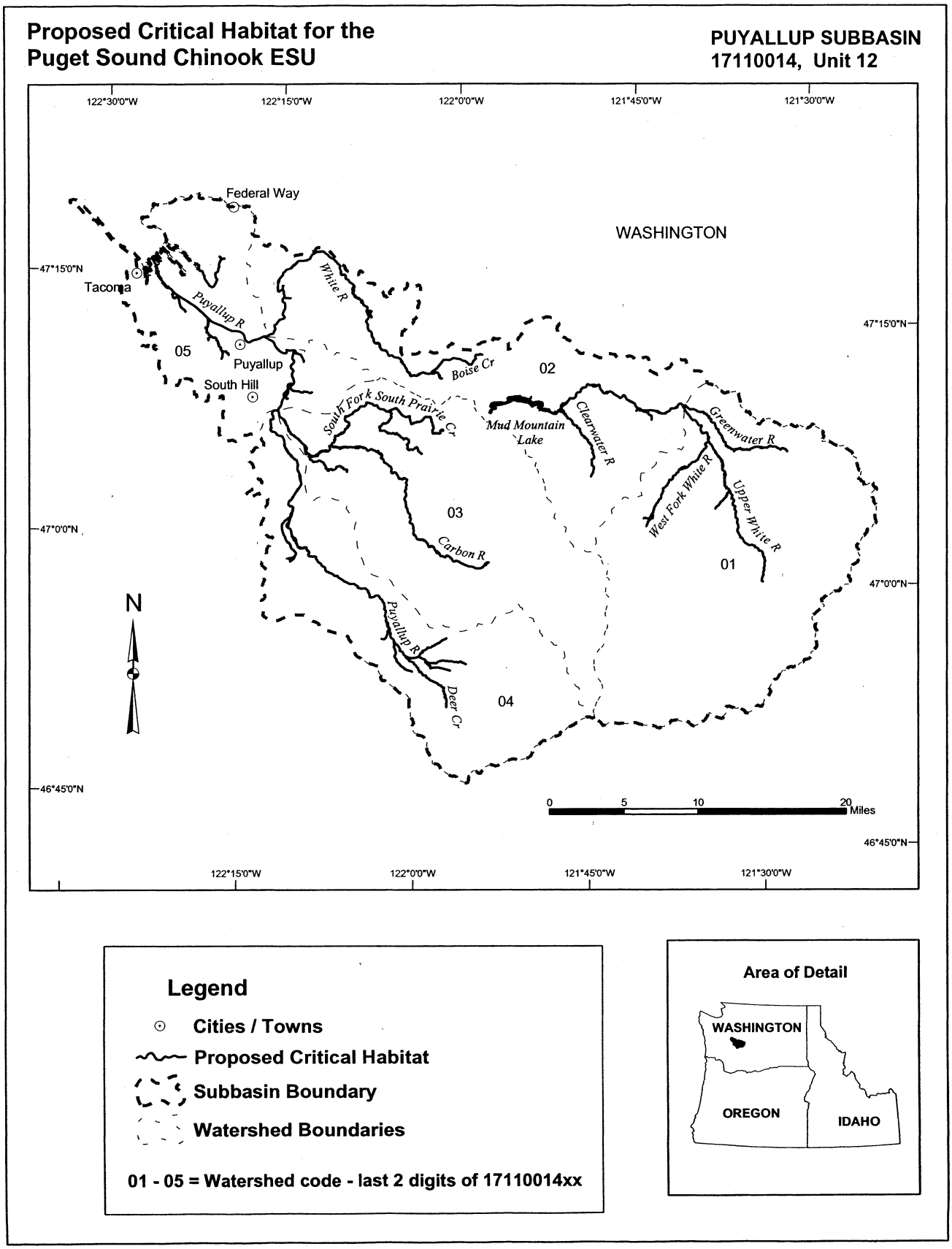
01 - 02 = Watershed code - last 2 digits of 17110011xx

Area of Detail



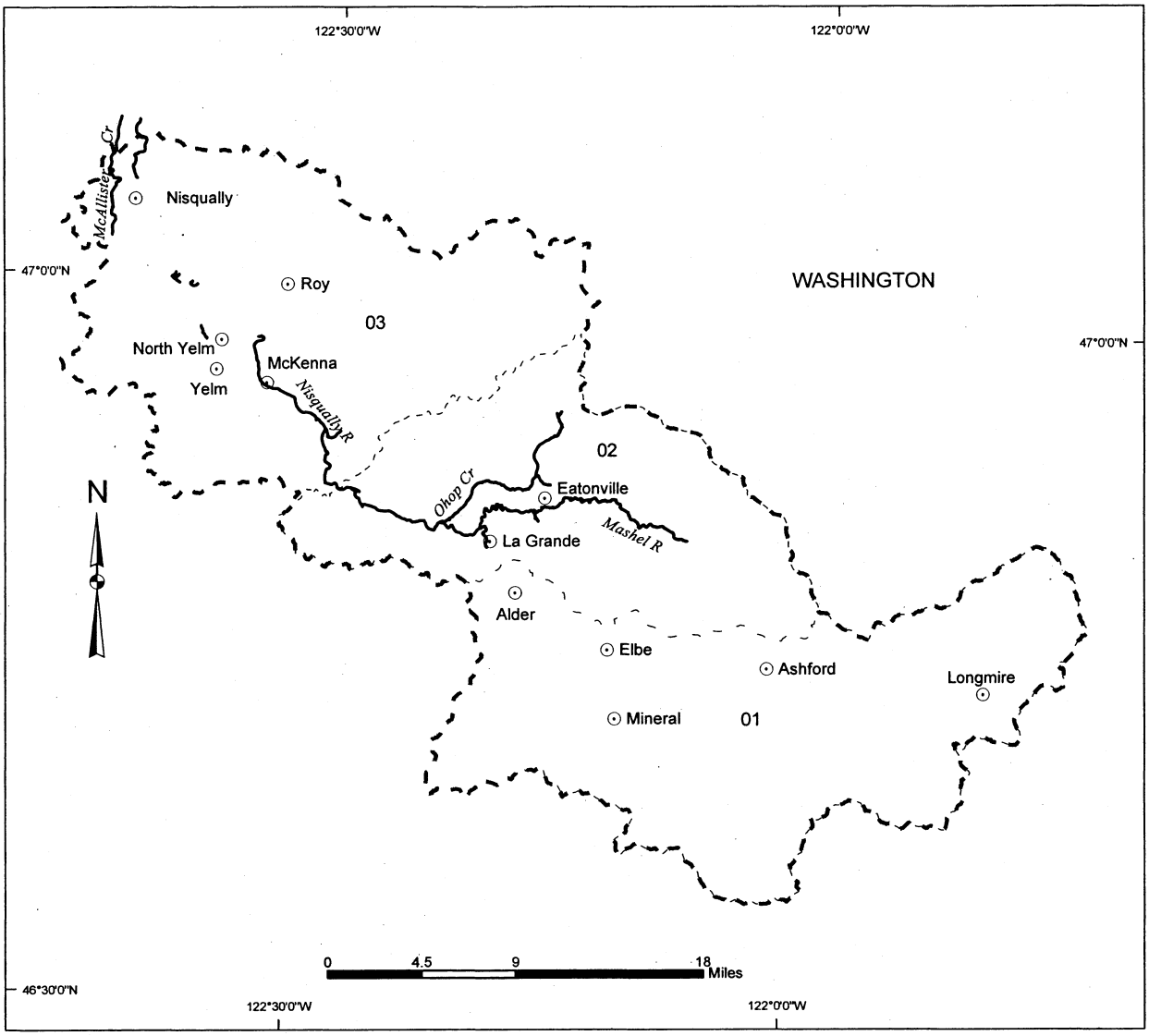

Proposed Critical Habitat for the
Puget Sound Chinook ESU
LAKE WASHINGTON SUBBASIN
17110012, Unit 10
122°30'0"W
122°0'0"W
121°30'0"W
47°30'0"N
N
Lynnwood
Mountlake Terrace
Bothell
Shoreline
Kirkland
Redmond
Bellevue
Renton
Lake Washington
May Cr
Cedar R
04
03
02
01
WASHINGTON
0 5 10 20 Miles
Legend
Cities / Towns
Shoreline
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 04 = Watershed code - last 2 digits of 17110012xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Puget Sound Chinook ESU
DUWAMISH SUBBASIN
17110013, Unit 11
122°0'0"W
121°30'0"W
47°30'0"N
47°0'0"N
WASHINGTON
Duwamish R
Tukwila
Green R
Kent
Mill Cr
Big Soos Cr
03
Covington Cr
Auburn
Crisp Cr
Newaukum Cr
Green R
Gale Cr
02
Snay Cr
Sunday Cr
01
N
0
4.5
9
18
Miles
Legend
Cities / Towns
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17110013xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Puget Sound Chinook ESU
PUYALLUP SUBBASIN
17110014, Unit 12
122°30'0"W
122°15'0"W
122°0'0"W
121°45'0"W
121°30'0"W
47°15'0"N
47°0'0"N
46°45'0"N
Federal Way
WASHINGTON
Tacoma
Puyallup R
White R
05
Puyallup
South Hill
Boise Cr
02
South Fork South Prairie Cr
Mud Mountain Lake
Clearwater R
Greenwater R
West Fork White R
Upper White R
03
Carbon R
01
N
Puyallup R
Deer Cr
04
0 5 10 20 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17110014xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Puget Sound Chinook ESU

NISQUALLY SUBBASIN 17110015, Unit 13

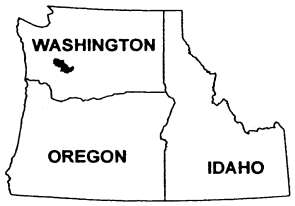


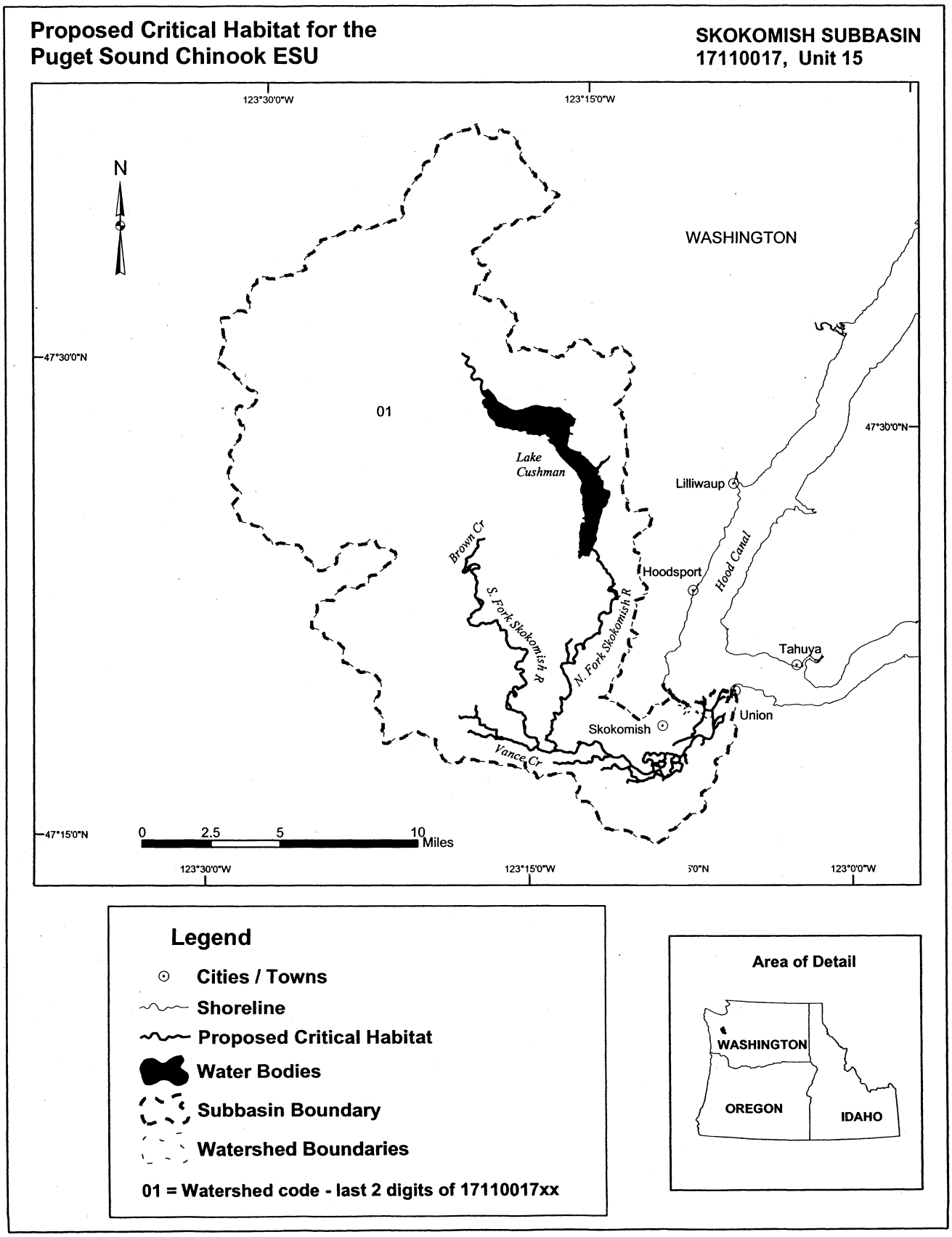
Legend

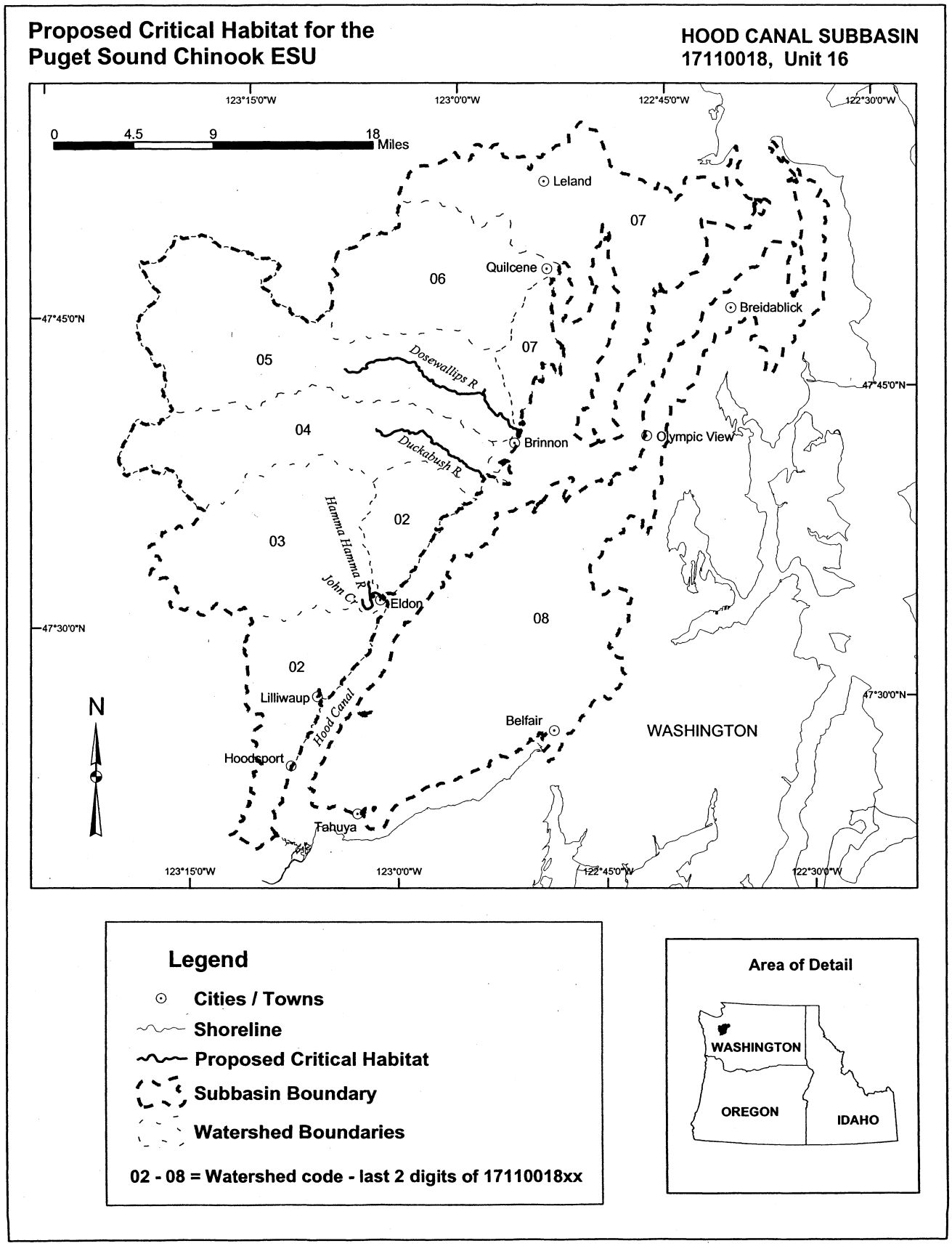
- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 03 = Watershed code - last 2 digits of 17110015xx

Area of Detail

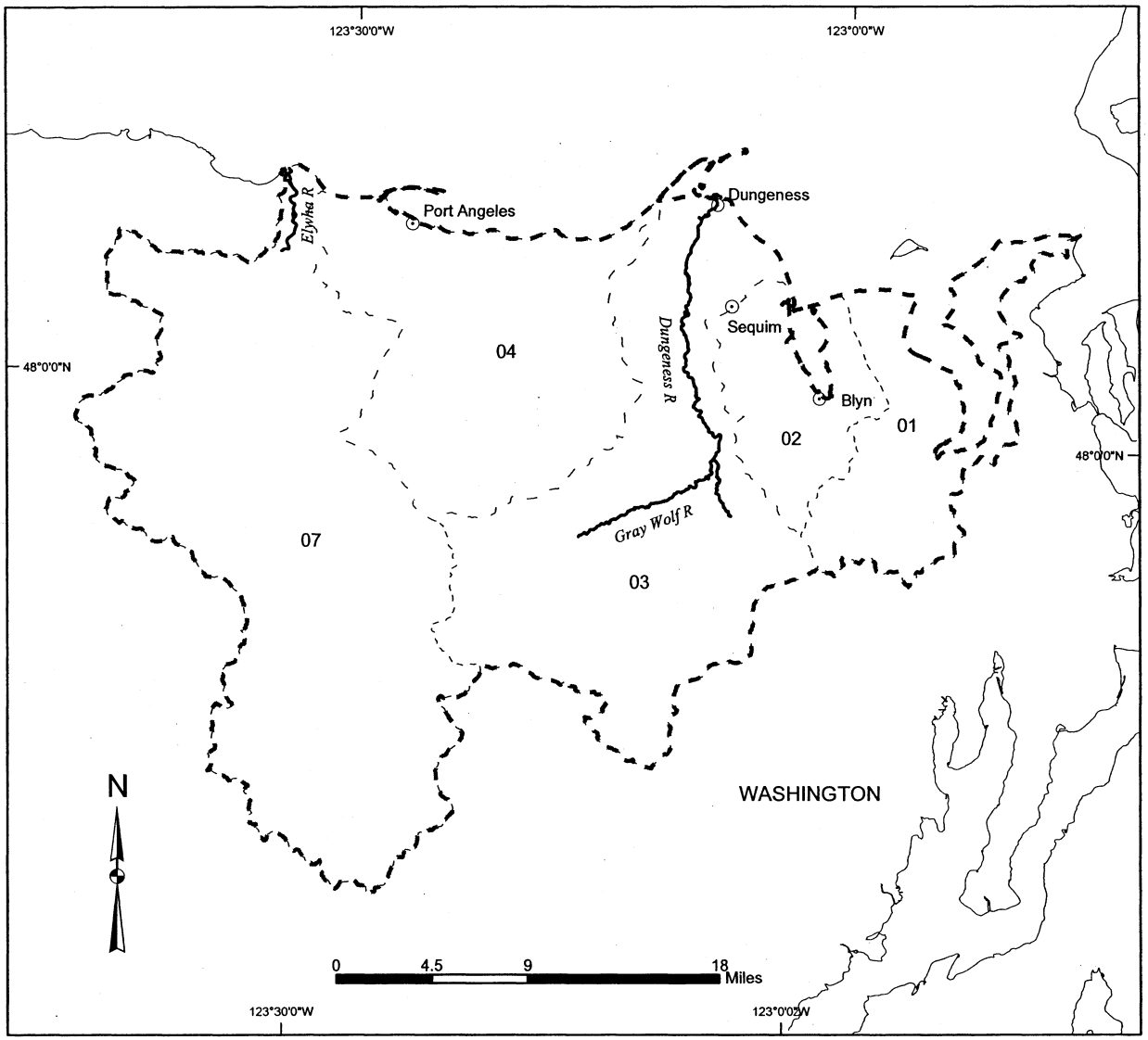



Proposed Critical Habitat for the
Puget Sound Chinook ESU
SKOKOMISH SUBBASIN
17110017, Unit 15
123°30'0"W
123°15'0"W
N
WASHINGTON
47°30'0"N
01
Lake
Cushman
Lilliwaup
Brown Cr
Hoodsport
Hood Canal
S. Fork Skokomish R
N. Fork Skokomish R
Tahuya
Union
Skokomish
Vance Cr
47°15'0"N
0
2.5
5
10
Miles
123°0'0"W
Legend
Cities / Towns
Shoreline
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 = Watershed code - last 2 digits of 17110017xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Puget Sound Chinook ESU
HOOD CANAL SUBBASIN
17110018, Unit 16
0 4.5 9 18 Miles
123°15'0"W
123°0'0"W
122°45'0"W
122°30'0"W
47°45'0"N
47°30'0"N
Leland
Quilcene
Breidablick
Brinnon
Olympic View
Eldon
Lilliwaup
Hoodsport
Tahuya
Belfair
WASHINGTON
Dosewallips R
Duckabush R
Hamma Hamma R
John Cr
Hood Canal
02
03
04
05
06
07
08
N
Legend
Cities / Towns
Shoreline
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
02 - 08 = Watershed code - last 2 digits of 17110018xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Puget Sound Chinook ESU

DUNGENESS / ELWHA SUBBASIN 17110020, Unit 18

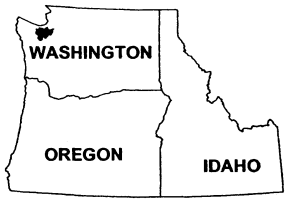


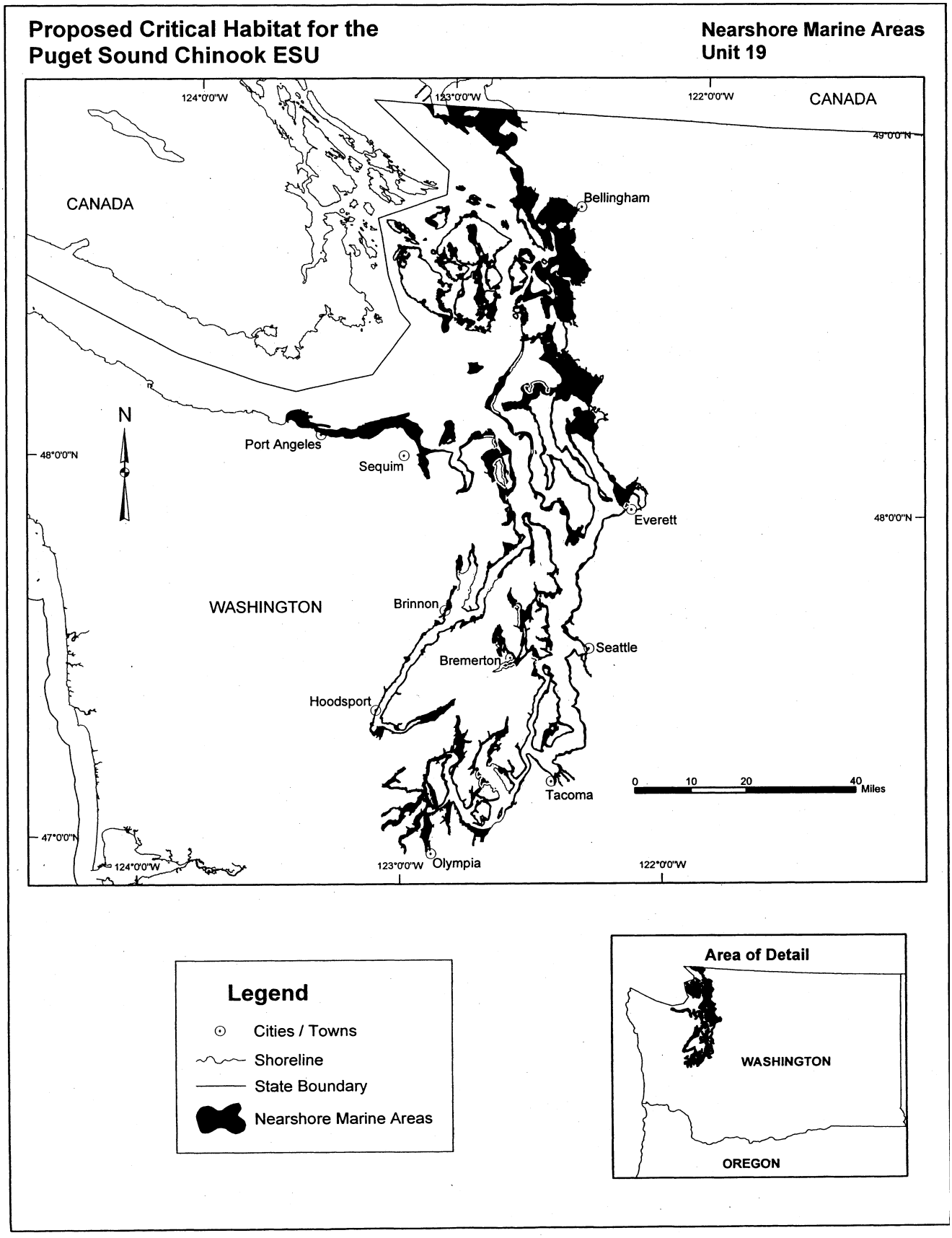
Legend

- Cities / Towns
- Shorelines
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 04, 07 = Watershed code - last 2 digits of 17110020xx

Area of Detail





BILLING CODE 3510–22–C

(g) Lower Columbia River Chinook Salmon (Oncorhynchus tshawytscha).

Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Middle Columbia/Hood Subbasin 17070105—*(i) East Fork Hood River Watershed 1707010506.* Outlet(s) = Hood River (Lat 45.6050, Long −121.6323) upstream to endpoint(s) in: Dog River (45.4655, −121.5656); East Fork Hood River (45.4665, −121.5669); Pinnacle Creek (45.4595, −121.6568); Tony Creek (45.5435, −121.6411).

(ii) West Fork Hood River Watershed 1707010507. Outlet(s) = West Fork Hood River (Lat 45.6050, Long −121.6323) upstream to endpoint(s) in: Divers Creek (45.5457, −121.7447); Elk Creek (45.4277, −121.7889); Indian Creek (45.5375, −121.7857); Jones Creek (45.4629, −121.7942); Lake Branch (45.5083, −121.8485); McGee Creek (45.4179, −121.7675); No Name Creek (45.5347, −121.7929); Red Hill Creek (45.4720, −121.7705), Unnamed (45.5502, −121.7014).

(iii) Hood River Watershed 1707010508. Outlet(s) = Hood River (Lat 45.7205, Long −121.5055) upstream to endpoint(s) in: Hood River (45.6050, −121.6323).

(iv) White Salmon River Watershed 1707010509. Outlet(s) = White Salmon River (Lat 45.7226, Long −121.5214) upstream to endpoint(s) in: White Salmon River (45.7677, −121.5374).

(v) Wind River Watershed 1707010511. Outlet(s) = Wind River (Lat 45.7037, Long −121.7946) upstream to endpoint(s) in: Bear Creek (45.7620, −121.8293); Big Hollow Creek (45.9399, −121.9996); Dry Creek (45.9296, −121.9721); Falls Creek (45.9105, −121.9222); Little Wind River (45.7392, −121.7772); Ninemile Creek (45.8929, −121.9526); Paradise Creek (45.9527, −121.9408); Trapper Creek (45.8887, −122.0065); Trout Creek (45.8021, −121.9313); Wind River (45.9732, −121.9031).

(vi) Middle Columbia/Grays Creek Watershed 1707010512. Outlet(s) = Columbia River (Lat 45.7044, Long −121.7980) upstream to endpoint(s) in: Columbia River (45.7205, −121.5056); Dog Creek (45.7200, −121.6804); Gorton Creek (45.6912, −121.7721); Lindsey Creek (45.6868, −121.7153); Unnamed (45.7022, −121.7435).

(vii) Middle Columbia/Eagle Creek Watershed 1707010513. Outlet(s) = Columbia River (Lat 45.6447, Long −121.9395) upstream to endpoint(s) in: Columbia River (45.7044, −121.7980); Eagle Creek (45.6365, −121.9171); Herman Creek (45.6749, −121.8477); Rock Creek (45.6958, −121.8915).

(2) Unit 2. Lower Columbia/Sandy Subbasin 17080001—*(i) Salmon River Watershed 1708000101.* Outlet(s) = Salmon River (Lat 45.3768, Long −122.0293) upstream to endpoint(s) in: Cheeney Creek (45.3104, −121.9561); Copper Creek (45.2508, −121.9053); Salmon River (45.2511, −121.9025); South Fork Salmon River (45.2606, −121.9474); Unnamed (45.3434, −121.9920).

(ii) Zigzag River Watershed 1708000102. Outlet(s) = Zigzag River (Lat 45.3489, Long −121.9442) upstream to endpoint(s) in: Henry Creek (45.3328, −121.9110); Still Creek (45.2755, −121.8413); Unnamed (45.3019, −121.8202); Zigzag River (45.3092, −121.8642).

(iii) Upper Sandy River Watershed 1708000103. Outlet(s) = Sandy River (Lat 45.3489, Long −121.9442) upstream to endpoint(s) in: Clear Creek (45.3712, −121.9246); Clear Fork Sandy River (45.3994, −121.8525); Horseshoe Creek (45.3707, −121.8936); Lost Creek (45.3709, −121.8150); Sandy River (45.3899, −121.8620).

(iv) Middle Sandy River Watershed 1708000104. Outlet(s) = Sandy River (Lat 45.4464, Long −122.2459) upstream to endpoint(s) in: Alder Creek (45.3776, −122.0994); Bear Creek (45.3368, −121.9265); Cedar Creek (45.4087, −122.2617); North Boulder Creek (45.3822, −122.0168); Sandy River (45.3489, −121.9442).

(v) Bull Run River Watershed 1708000105. Outlet(s) = Bull Run River (Lat 45.4464, Long −122.2459) upstream to endpoint(s) in: Bull Run River (45.4455, −122.1561); Little Sandy Creek (45.4235, −122.1975).

(vi) Columbia Gorge Tributaries Watershed 1708000107. Outlet(s) = Columbia River (Lat 45.5735, Long −122.3945) upstream to endpoint(s) in: Bridal Veil Creek (45.5542, −122.1793); Columbia River (45.6447, −121.9395); Coopey Creek (45.5656, −122.1671); Government Cove (45.5948, −122.0630); Hamilton Creek (45.6414, −121.9764); Hardy Creek (45.6354, −121.9987); Horsetail Creek (45.5883, −122.0675); Latourell Creek (45.5388, −122.2173); McCord Creek (45.6115, −121.9929); Moffett Creek (45.6185, −121.9662); Multnomah Creek (45.5761, −122.1143), Oneonta Creek (45.5821, −122.0718); Tanner Creek (45.6264, −121.9522); Turnaft Creek (45.6101, −122.0284); Unnamed (45.5421, −122.2624); Unnamed (45.5488, −122.3504); Unnamed (45.6025, −122.0443); Unnamed (45.6055, −122.0392); Unnamed (45.6083, −122.0329); Unnamed (45.6118, −122.0216); Unnamed (45.6124, −122.0172); Unnamed (45.6133, −122.0055); Wahkeena Creek (45.5755, −122.1266); Young Creek (45.5480, −122.1997).

(vii) Lower Sandy River Watershed 1708000108. Outlet(s) = Sandy River (Lat 45.5680, Long −122.4023) upstream to endpoint(s) in: Beaver Creek (45.5258, −122.3822); Gordon Creek (45.4915, −122.2423); Sandy River (45.4464, −122.2459); Trout Creek (45.4844, −122.2785); Unnamed (45.5542, −122.3768); Unnamed (45.5600, −122.3650).

(3) Unit 3. Lewis Subbasin 17080002—*(i) East Fork Lewis River Watershed 1708000205.* Outlet(s) = East Fork Lewis River (Lat 45.8664, Long −122.7189) upstream to endpoint(s) in: East Fork Lewis River (45.8395, −122.4463).

(ii) Lower Lewis River Watershed 1708000206. Outlet(s) = Lewis River (Lat 45.8519, Long −122.7806) upstream to endpoint(s) in: Cedar Creek (45.9049, −122.3684); Chelatchie Creek (45.9169, −122.4130); Johnson Creek (45.9385, −122.6261); Lewis River (45.9570, −122.5550); Pup Creek (45.9391, −122.5440); Unnamed (45.8882, −122.7412); Unnamed (45.9153, −122.4362).

(4) Unit 4. Lower Columbia/Clatskanie Subbasin 17080003—*(i) Kalama River Watershed 1708000301.* Outlet(s) = Burris Creek (45.8926, −122.7892); Kalama River (46.0340, −122.8695) upstream to endpoint(s) in: Arnold Creek (46.0463, −122.5938); Burris Creek (45.9391, −122.7780); Elk Creek (46.0891, −122.5117); Gobar Creek (46.0963, −122.6042); Hatchery Creek (46.0459, −122.8027); Kalama River (46.1109, −122.3579); Little Kalama River (45.9970, −122.6939); North Fork Kalama River (46.1328, −122.4118); Wild Horse Creek (46.0626, −122.6367).

(ii) Clatskanie River Watershed 1708000303. Outlet(s) = Clatskanie River (Lat 46.1398, Long −123.2303) upstream to endpoint(s) in: Clatskanie River (46.0435, −123.0829); Merrill Creek (46.0916, −123.1727); Perkins Creek (46.0826, −123.1678).

(iii) Skamokawa/Elochoman Watershed 1708000305. Outlet(s) = Elochoman River (Lat 46.2269, Long −123.4040); Skamokawa Creek (46.2677, −123.4562); Unnamed (46.2243, −123.3975) upstream to endpoint(s) in: Beaver Creek (46.2256, −123.3071); Elochoman River (46.3503, −123.2428); Falk Creek (46.2954, −123.4413); Left Fork Skamokawa Creek (46.3249, −123.4538); McDonald Creek (46.3398, −123.4116); Standard Creek (46.3292, −123.3999); West Fork Elochoman River (46.3211, −123.2605); West Fork Skamokawa Creek (46.2871, −123.4654); Wilson Creek (46.2970, −123.3434).

(iv) Plympton Creek Watershed 1708000306. Outlet(s) = Westport Slough (Lat 46.1434, Long −123.3816)

upstream to endpoint(s) in: Plympton Creek (46.1261, −123.3842); Westport Slough (46.1195, −123.2797).

(5) Unit 5. Upper Cowlitz Subbasin 17080004—*(i) Headwaters Cowlitz River 1708000401.* Outlet(s) = Cowlitz River (Lat 46.6580, Lat −121.6032) upstream to endpoint(s) in: Clear Fork Cowlitz River (46.6858, −121.5668); Muddy Fork Cowlitz River (46.6994, −121.6169); Ohanapecosh River (46.6883, −121.5809).

(ii) Upper Cowlitz River Watershed 1708000402. Outlet(s) = Cowlitz River (Lat 46.5763, Long −121.7051) upstream to endpoint(s) in: Cowlitz River (46.6580, −121.6032).

(iii) Cowlitz Valley Frontal Watershed 1708000403. Outlet(s) = Cowlitz River (Lat 46.4765, Long −122.0952) upstream to endpoint(s) in: Cowlitz River (46.5763, −121.7051); Silver Creek (46.5576, −121.9178).

(iv) Upper Cispus River Watershed 1708000404. Outlet(s) = Cispus River (Lat 46.4449, Long −121.7954) upstream to endpoint(s) in: Cispus River (46.3410, −121.6709); East Canyon Creek (46.3454, −121.7031); North Fork Cispus River (46.4355, −121.654).

(v) Lower Cispus River Watershed 1708000405. Outlet(s) = Cispus River (Lat 46.4765, Long −122.0952) upstream to endpoint(s) in: Cispus River (46.4449, −121.7954); McCoy Creek (46.3892, −121.8190); Yellowjacket Creek (46.3871, −121.8335).

(6) Unit 6. Cowlitz Subbasin 17080005—(i) Tilton River Watershed 1708000501 Outlet(s) = Tilton River (Lat 46.5432, Long −122.5319) upstream to endpoint(s) in: Tilton River (46.5992, −122.2352).

(ii) Riffe Reservoir Watershed 1708000502. Outlet(s) = Cowlitz River (Lat 46.5033, Long −122.5870) upstream to endpoint(s) in: Cowlitz River (46.4765, −122.0952).

(iii) Jackson Prairie Watershed 1708000503. Outlet(s) = Cowlitz River (Lat 46.3678, Long −122.9337) upstream to endpoint(s) in: Bear Creek (46.4215, −122.9224); Blue Creek (46.4885, −122.7253); Cowlitz River (46.5033, −122.5870); Lacamas Creek (46.5118, −122.8113); Mill Creek (46.4701, −122.8557); Mill Creek (46.5176;−122.6209); Otter Creek (46.4800, −122.6996); Salmon Creek (46.4237, −122.8400); Skook Creek (46.5035, −122.7556).

(iv) North Fork Toutle River Watershed 1708000504. Outlet(s) = North Fork Toutle River (Lat 46.3669, Long −122.5859) upstream to endpoint(s) in: North Fork Toutle River (46.3718, −122.5847).

(v) Green River Watershed 1708000505. Outlet(s) = Green River (Lat 46.3718, Long −122.5847) upstream to endpoint(s) in: Cascade Creek (46.3924, −122.3530); Devils Creek (46.3875, −122.5113); Elk Creek (46.3929, −122.3224); Green River (46.3857, −122.1815); Miners Creek (46.3871, −122.2091); Shultz Creek (46.3744, −122.2987); Unnamed (46.3796, −122.3632).

(vi) South Fork Toutle River Watershed 1708000506. Outlet(s) = South Fork Toutle River (Lat 46.3282, Long −122.7215) upstream to endpoint(s) in: Johnson Creek (46.3100, −122.6338); South Fork Toutle River (46.2306, −122.4439); Studebaker Creek (46.3044, −122.6777).

(vii) East Willapa Watershed 1708000507. Outlet(s) = Cowlitz River (Lat 46.2660, Long −122.9154) upstream to endpoint(s) in: Arkansas Creek (46.3275, −123.0123); Baxter Creek (46.3034, −122.9709); Brim Creek (46.4263, −123.0139); Campbell Creek (46.3756, −123.0401); Cowlitz River (46.3678, −122.9337); Delameter Creek (46.2495, −122.9916); Hemlock Creek (46.2585, −122.7269); Hill Creek (46.3724, −122.9211); King Creek (46.5076, −122.9885); Monahan Creek (46.2954, −123.0286); North Fork Toutle River (46.3669, −122.5859); Olequa Creek (46.5174, −122.9042); Stillwater Creek (46.3851, −123.0478); Sucker Creek (46.2628, −122.8116); Unnamed (46.5074, −122.9585); Unnamed (46.5405, −122.9090); Wyant Creek (46.3424, −122.6302).

(viii) Coweeman Watershed 1708000508. Outlet(s) = Cowlitz River (Lat 46.0977, Long −122.9141); Owl Creek (46.0771, −122.8676) upstream to endpoint(s) in: Baird Creek (46.1704, −122.6119); Coweeman River (46.1505, −122.5792); Cowlitz River (46.2660, −122.9154); Leckler Creek (46.2092, −122.9206); Mulholland Creek (46.1932, −122.6992); North Fork Goble Creek (46.1209, −122.7689); Ostrander Creek (46.2095, −122.8623); Owl Creek (46.0914, −122.8692); Salmon Creek (46.2547, −122.8839); South Fork Ostrander Creek (46.1910, −122.8600); Unnamed (46.0838, −122.7264).

(7) Unit 7. Lower Columbia Subbasin 17080006—*(i) Big Creek Watershed 1708000602.* Outlet(s) = Bear Creek (Lat 46.1719; Long −123.6642); Big Creek (46.1847, −123.5943); Blind Slough (46.2011, −123.5822); John Day River (46.1820, −123.7392) upstream to endpoint(s) in: Bear Creek (46.1181, −123.6388); Big Creek (46.1475, −123.5819); Gnat Creek (46.1614, −123.4813); John Day River (46.1763, −123.7474).

(ii) Grays Bay Watershed 1708000603. Outlet(s) = Crooked Creek (Lat 46.2962, Long −123.6795); Deep River (46.3035, −123.7092); Grays River (46.3035, −123.6867); Sisson Creek (46.3011, −123.7237); Unnamed (46.3042, −123.6870) upstream to endpoint(s) in: Crooked Creek (46.3033, −123.6222); East Fork Grays River (46.4425, −123.4081); Fossil Creek (46.3628, −123.5530); Grays River (46.4910, −123.4334); Hull Creek (46.3725, −123.5866); Johnson Canyon (46.3699, −123.6659); Klints Creek (46.3562, −123.5675); Malone Creek (46.3280, −123.6545); Mitchell Creek (46.4512, −123.4371) South Fork Grays River (46.3813, −123.4581); Sweigiler Creek (46.4195, −123.5375); Unnamed (46.3283, −123.7376); Unnamed (46.3651, −123.6839); Unnamed (46.4701, −123.4515); West Fork Grays River (46.4195, −123.5530).

(8) Unit 9. Clackamas Subbasin 17090011—*Lower Clackamas River Watershed 1709001106.* Outlet(s) = Clackamas River (Lat 45.3719, Long −122.6071) upstream to endpoint(s) in: Clackamas River (45.2440, −122.2798); Clear Creek (45.3568, −122.4781); Deep Creek (45.3916, −122.4028); Richardson Creek (45.3971, −122.4712); Rock Creek (45.4128, −122.5043).

(9) Unit 10. Lower Willamette Subbasin 17090012—*(i) Johnson Creek Watershed 1709001201.* Outlet(s) = Willamette River (Lat 45.4423, Long −122.6453) upstream to endpoint(s) in: Crystal Springs Creek (45.4770, −122.6403); Kellogg Creek (45.4344, −122.6314); Tryon Creek (45.4239, −122.6595); Unnamed (45.4002, −122.6423); Willamette River (45.3719, −122.6071).

(ii) Scappoose Creek Watershed 1709001202. Outlet(s) = Multnomah Channel (Lat 45.8577, Long −122.7919) upstream to endpoint(s) in: Cunningham Slough (45.8250, −122.8069); Multnomah Channel (45.6188, −122.7921); North Scappoose Creek (45.8014, −122.9340).

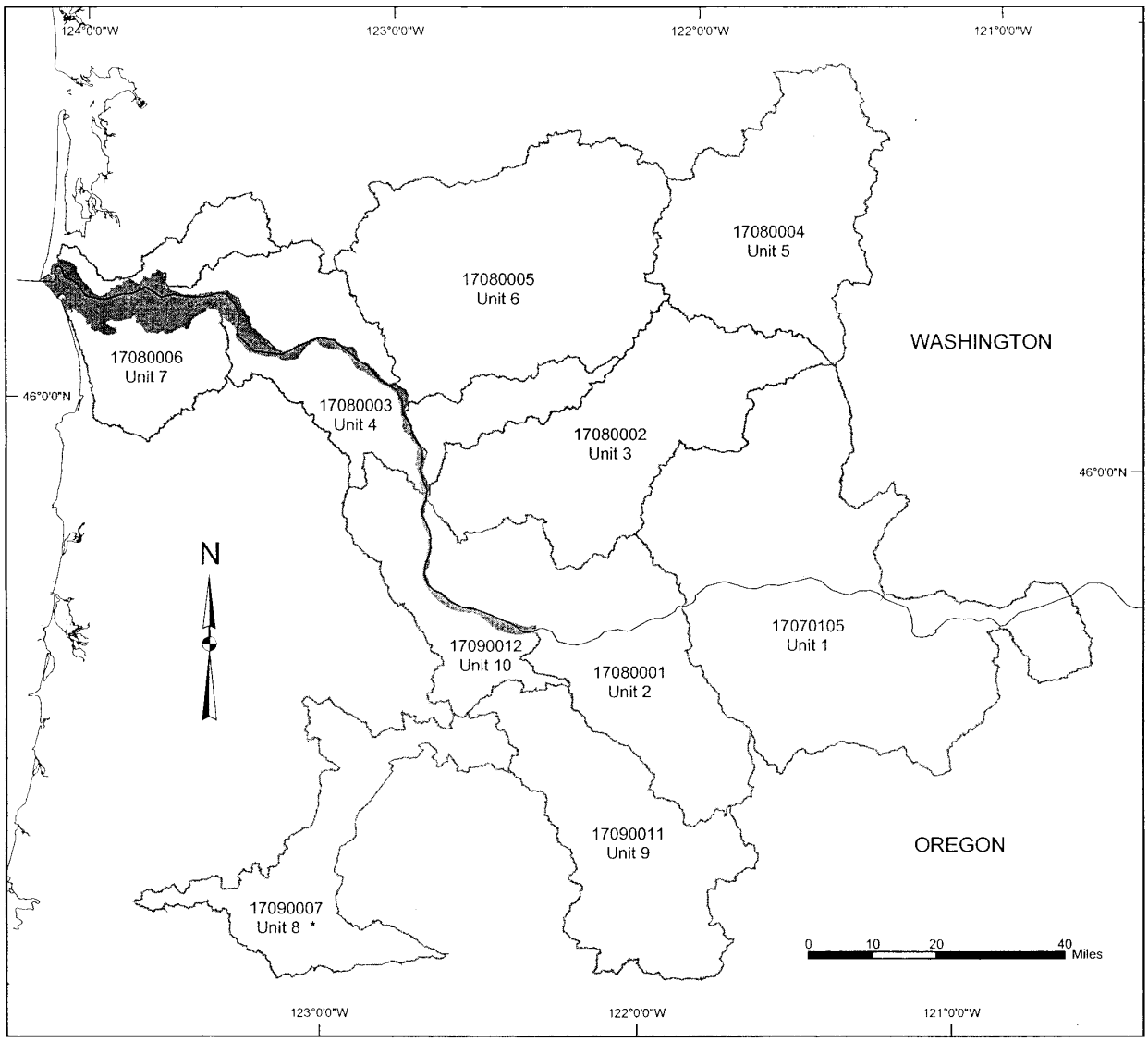
(iii) Columbia Slough/Willamette River Watershed 1709001203. Outlet(s) = Willamette River (Lat 45.6530, Long −122.7646) upstream to endpoint(s) in: Bybee/Smith Lakes (45.6189, −122.7333); Columbia Slough (45.5979, −122.7137); Willamette River (45.4423, −122.6453).

(10) Unit 11. Lower Columbia River Corridor—*(i) Lower Columbia River Corridor.* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (45.5709, −122.4021).

(11) Maps of proposed critical habitat for the Lower Columbia River chinook salmon ESU follow:

BILLING CODE 3510–22–P

Map of the Lower Columbia River Chinook Salmon ESU

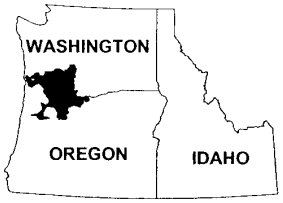


Legend

- State Boundaries
- Water Bodies
- Subbasin Boundaries

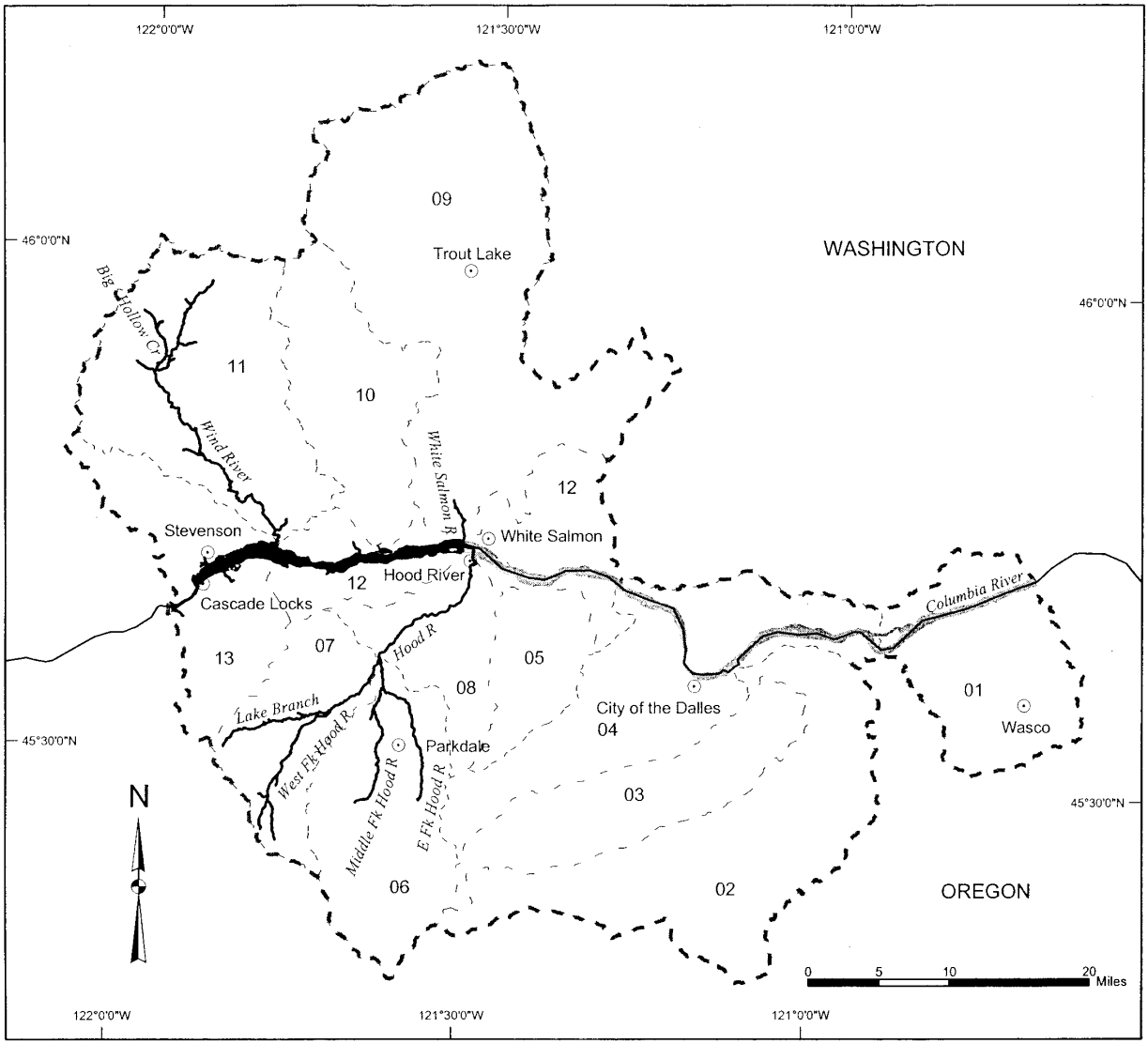
* All habitat areas in unit are proposed for exclusion

Area of Detail



Proposed Critical Habitat for the Lower Columbia River Chinook Salmon ESU

MIDDLE COLUMBIA / HOOD SUBBASIN 17070105, Unit 1

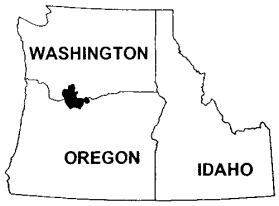


Legend

- Cities / Towns
- Proposed Critical Habitat
- State Boundary
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

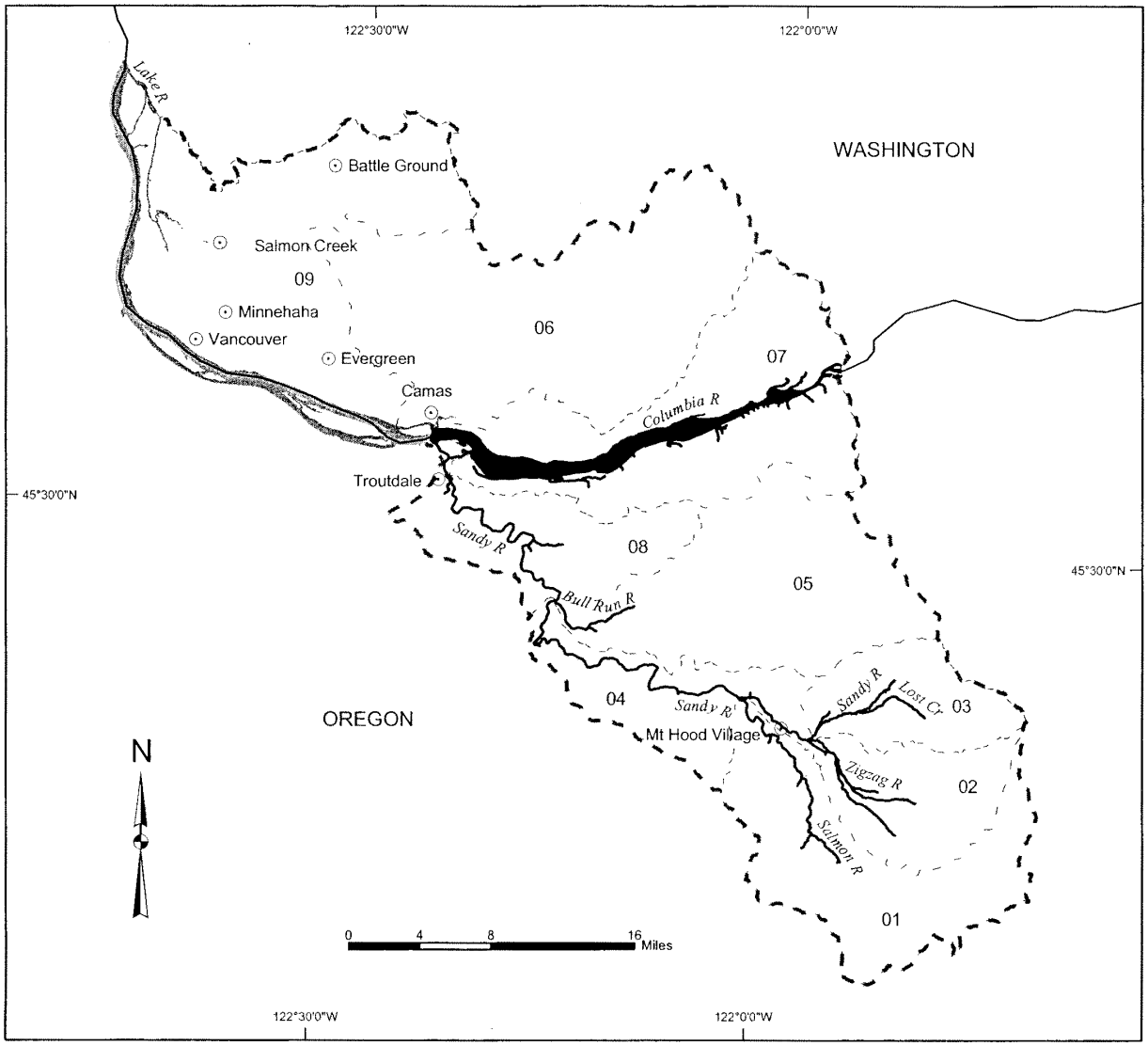
01 - 13 = Watershed code - last 2 digits of 17070105xx

Area of Detail



Proposed Critical Habitat for the Lower Columbia River Chinook Salmon ESU

LOWER COLUMBIA / SANDY SUBBASIN 17080001, Unit 2

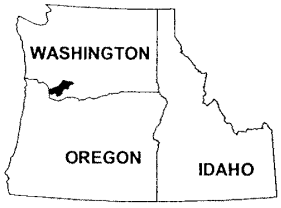


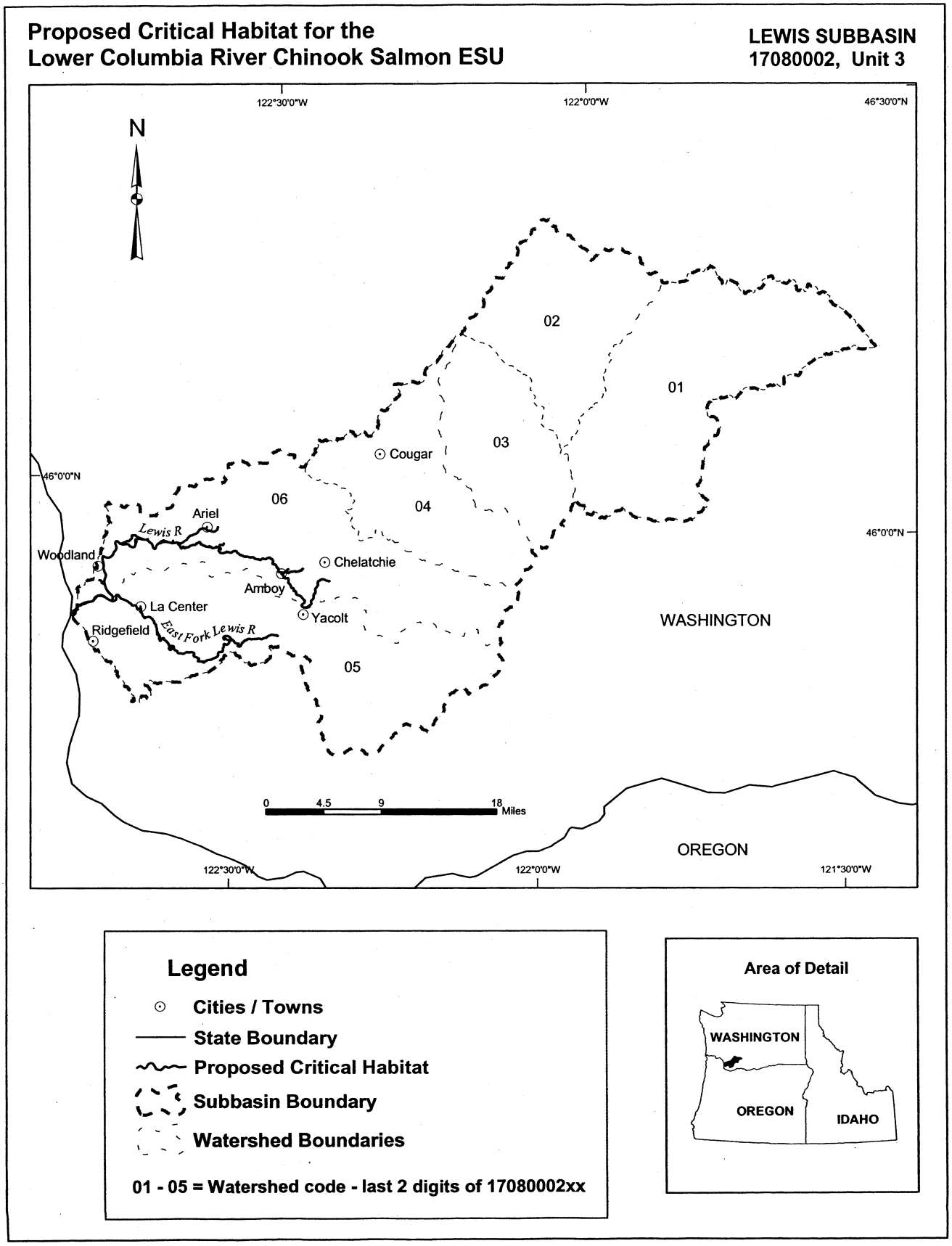
Legend

- Cities / Towns
- Proposed Critical Habitat
- State Boundary
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

01 - 09 = Watershed code - last 2 digits of 17080001xx

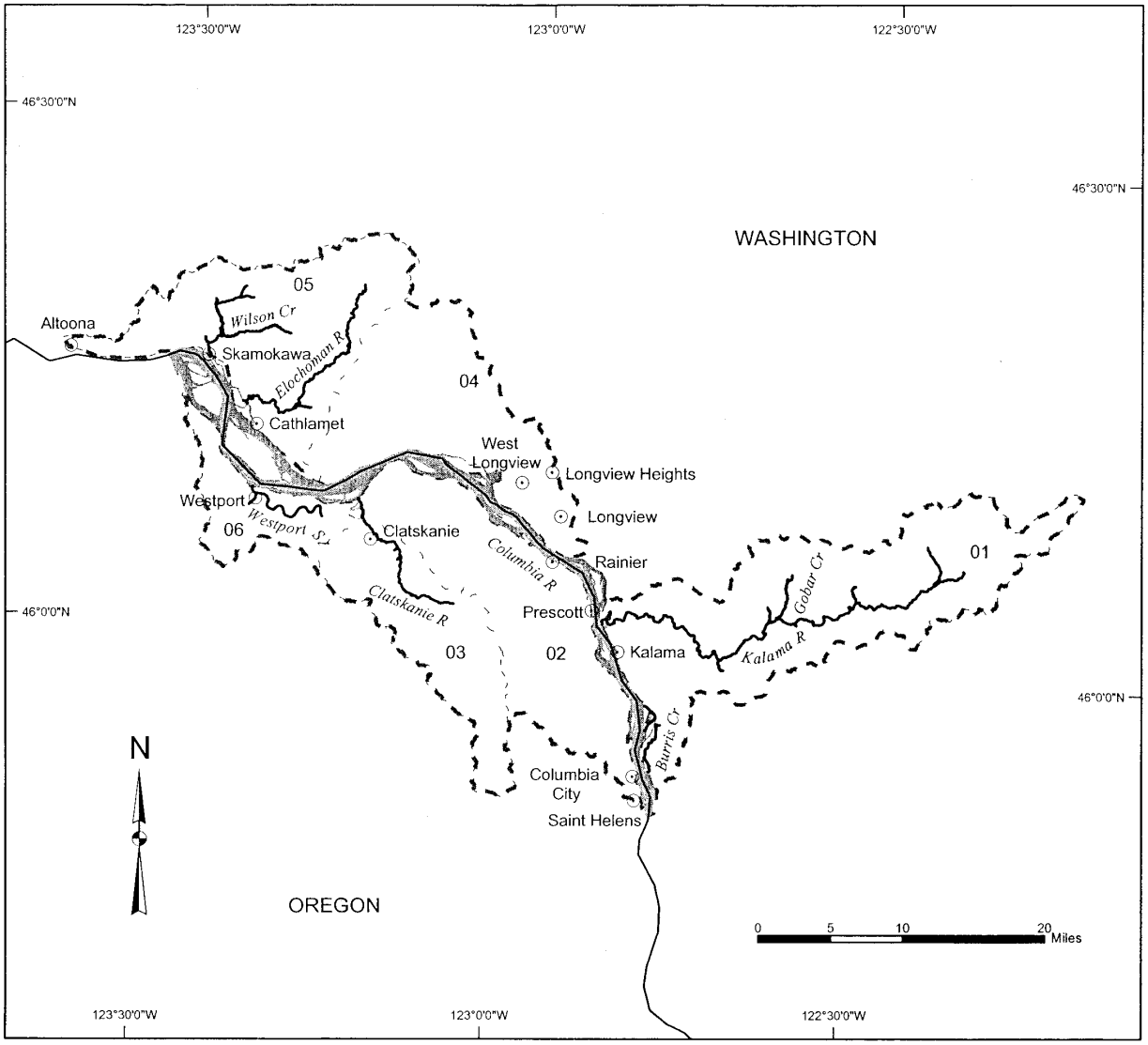
Area of Detail




Proposed Critical Habitat for the
Lower Columbia River Chinook Salmon ESU
LEWIS SUBBASIN
17080002, Unit 3
122°30'0"W
122°0'0"W
46°30'0"N
N
02
01
03
Cougar
46°0'0"N
06
04
Ariel
Lewis R
Woodland
Chelatchie
Amboy
La Center
Yacolt
Ridgefield
East Fork Lewis R
05
WASHINGTON
0 4.5 9 18 Miles
OREGON
122°30'0"W
122°0'0"W
121°30'0"W
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17080002xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Lower Columbia River Chinook Salmon ESU

LOWER COLUMBIA / CLATSKANIE SUBBASIN 17080003, Unit 4

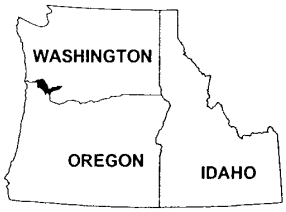


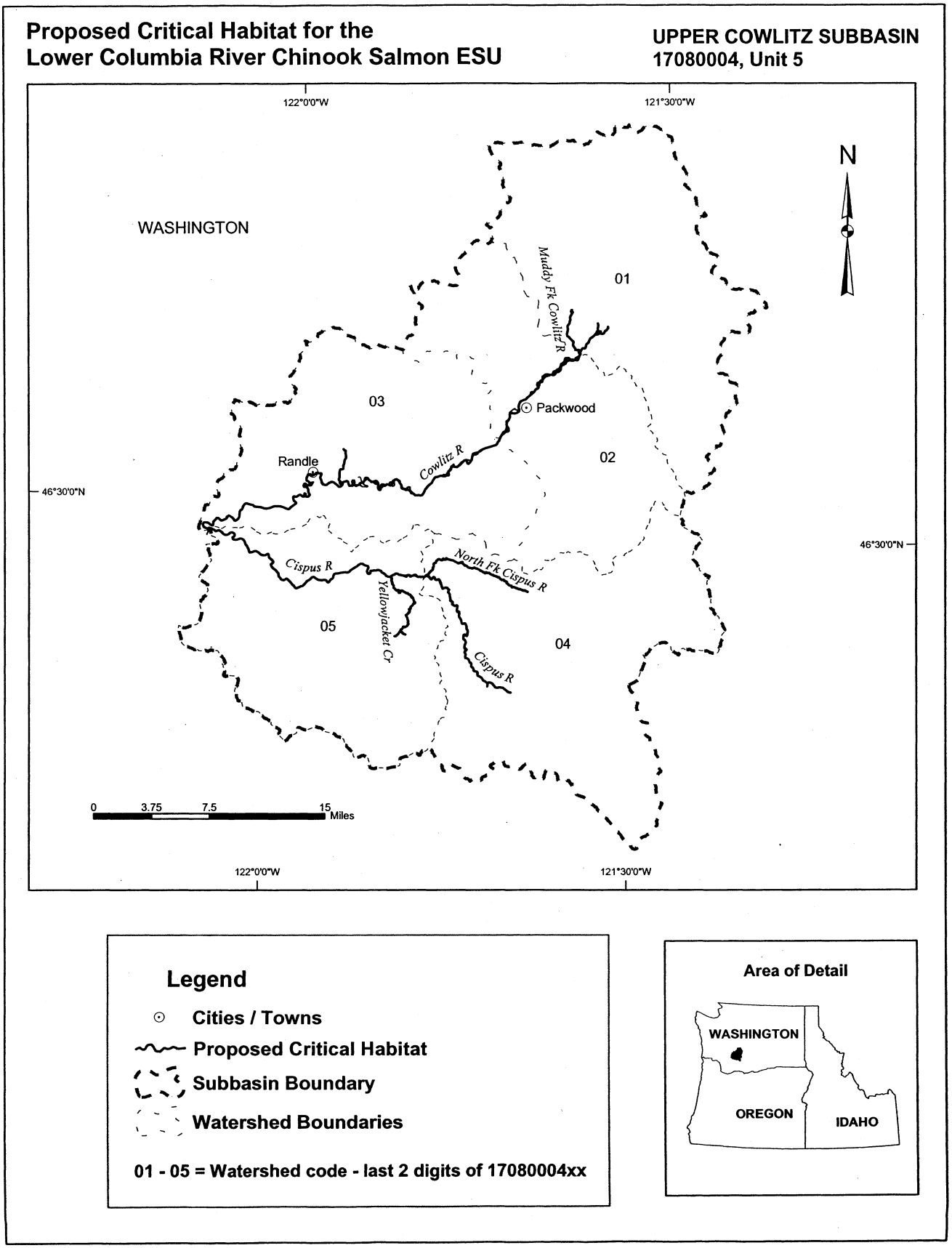
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Water Bodies
- Subbasin Boundary
- Watershed Boundary

01 - 06 = Watershed code - last 2 digits of 17080003xx

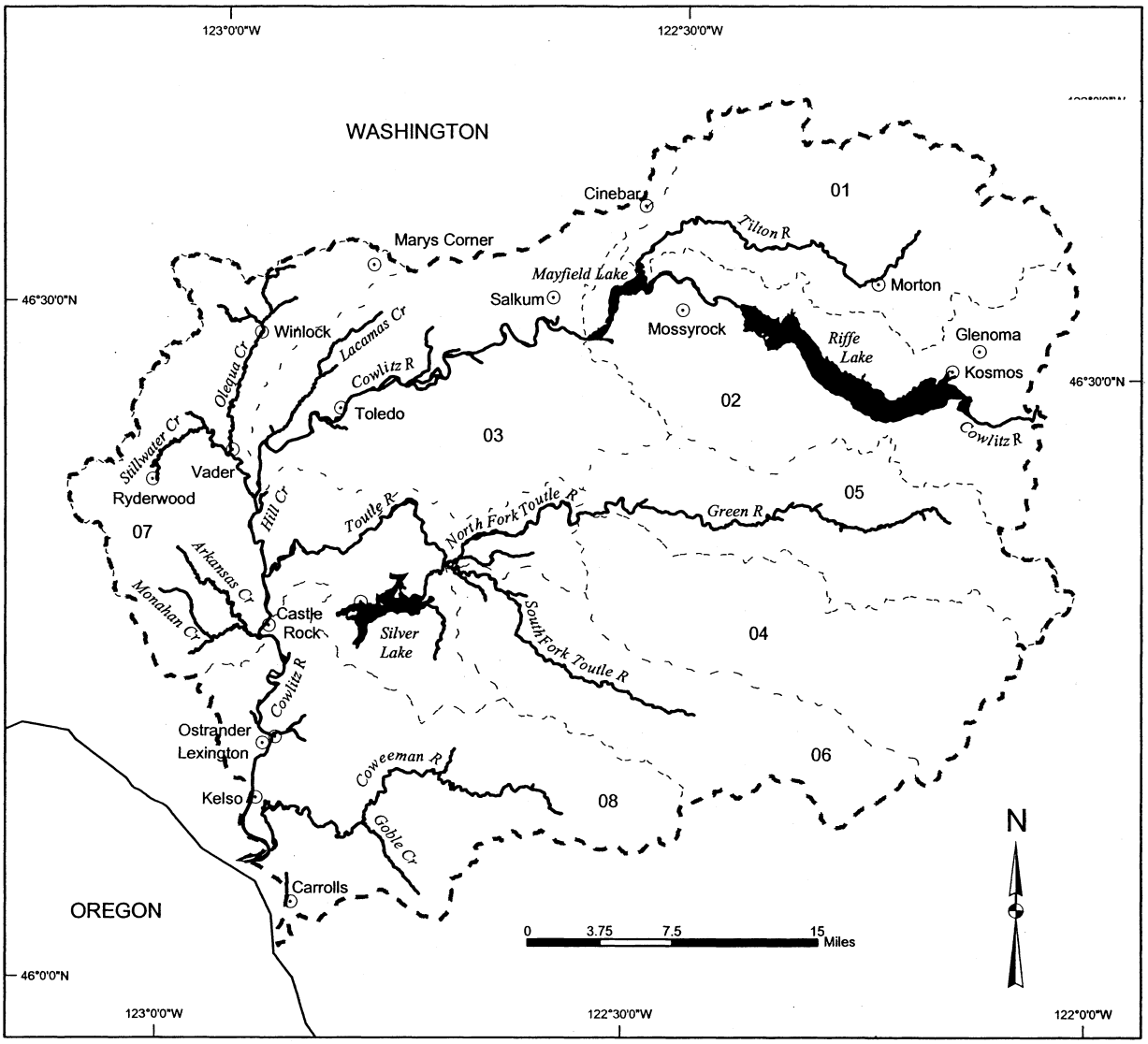
Area of Detail




Proposed Critical Habitat for the
Lower Columbia River Chinook Salmon ESU
UPPER COWLITZ SUBBASIN
17080004, Unit 5
122°0'0"W
121°30'0"W
N
WASHINGTON
Muddy Fk Cowlitz R
01
03
Packwood
Randle
Cowlitz R
02
46°30'0"N
Cispus R
North Fk Cispus R
Yellowjacket Cr
05
04
Cispus R
0 3.75 7.5 15 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17080004xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Lower Columbia River Chinook Salmon ESU

COWLITZ SUBBASIN 17080005, Unit 6

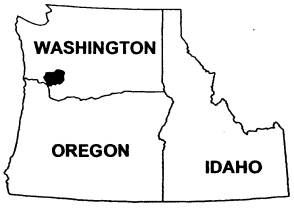


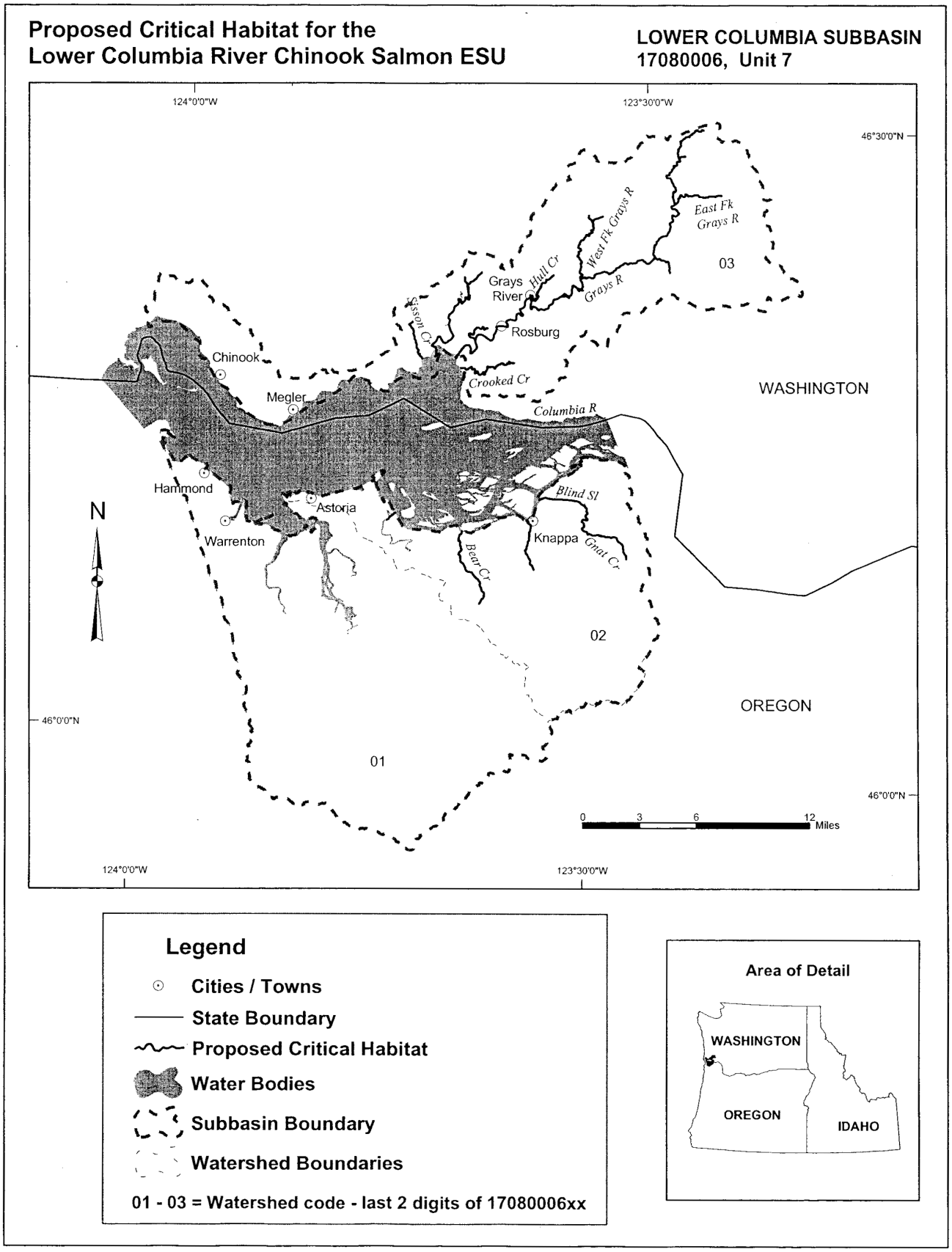
Legend

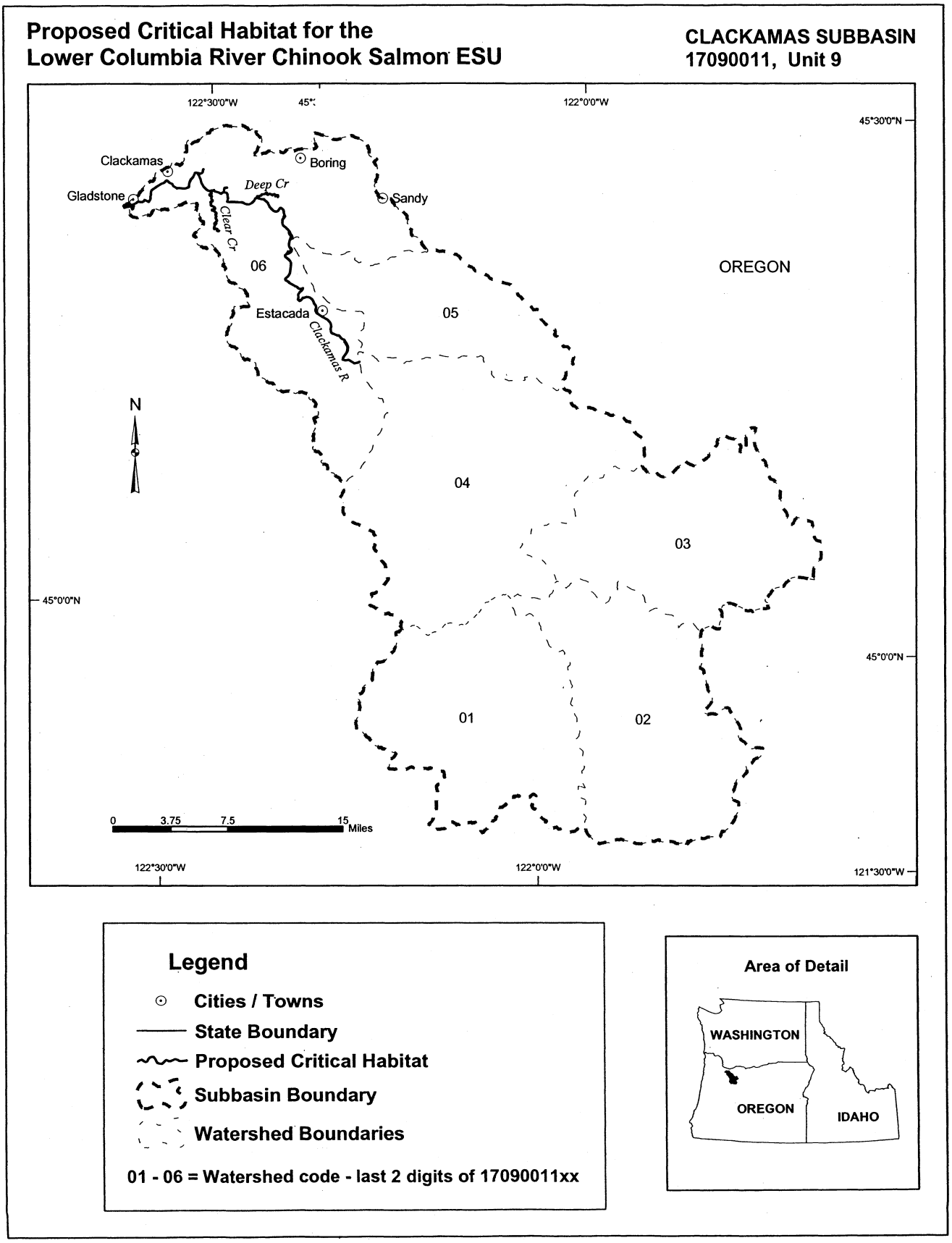
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

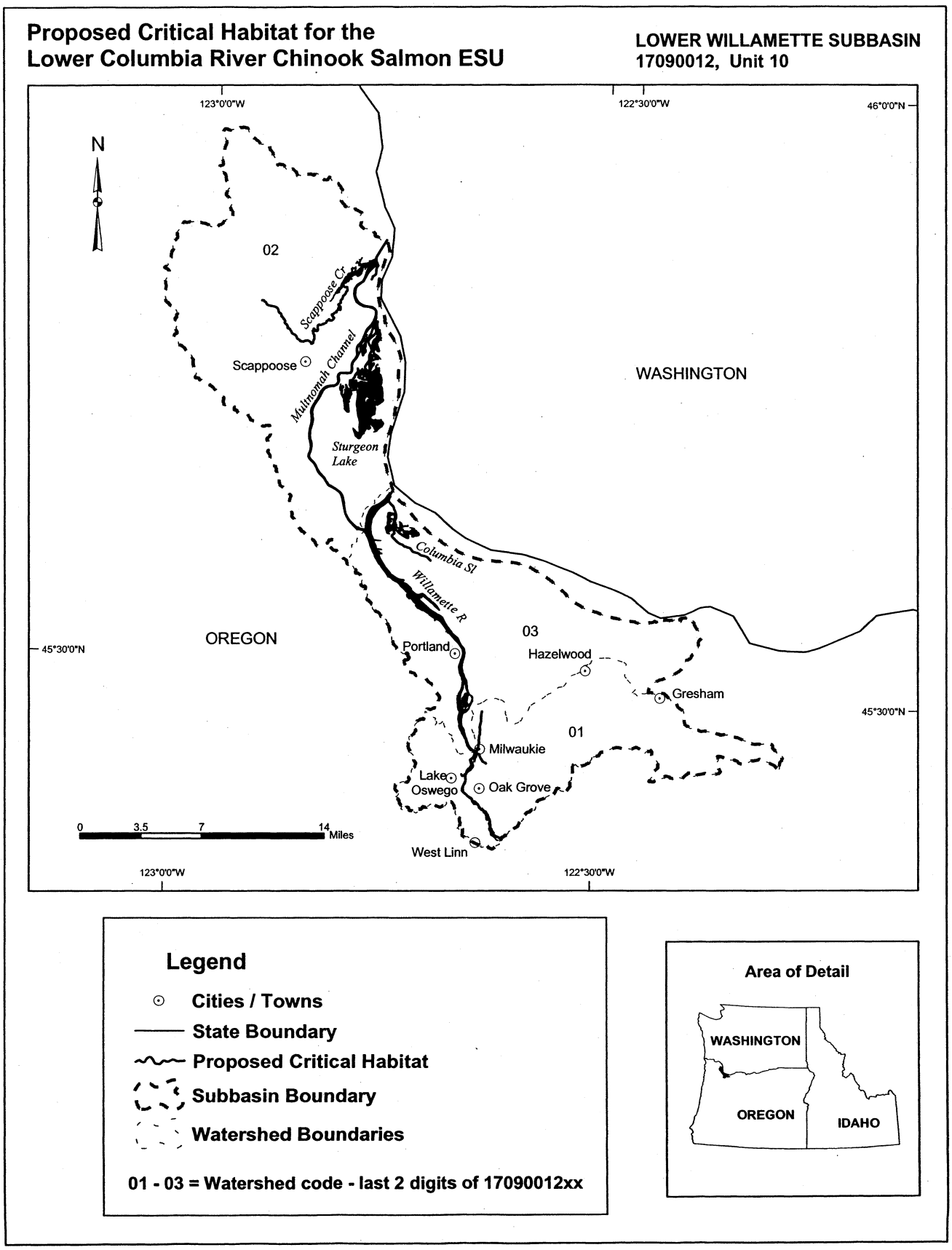
01 - 08 = Watershed code - last 2 digits of 17080005xx

Area of Detail

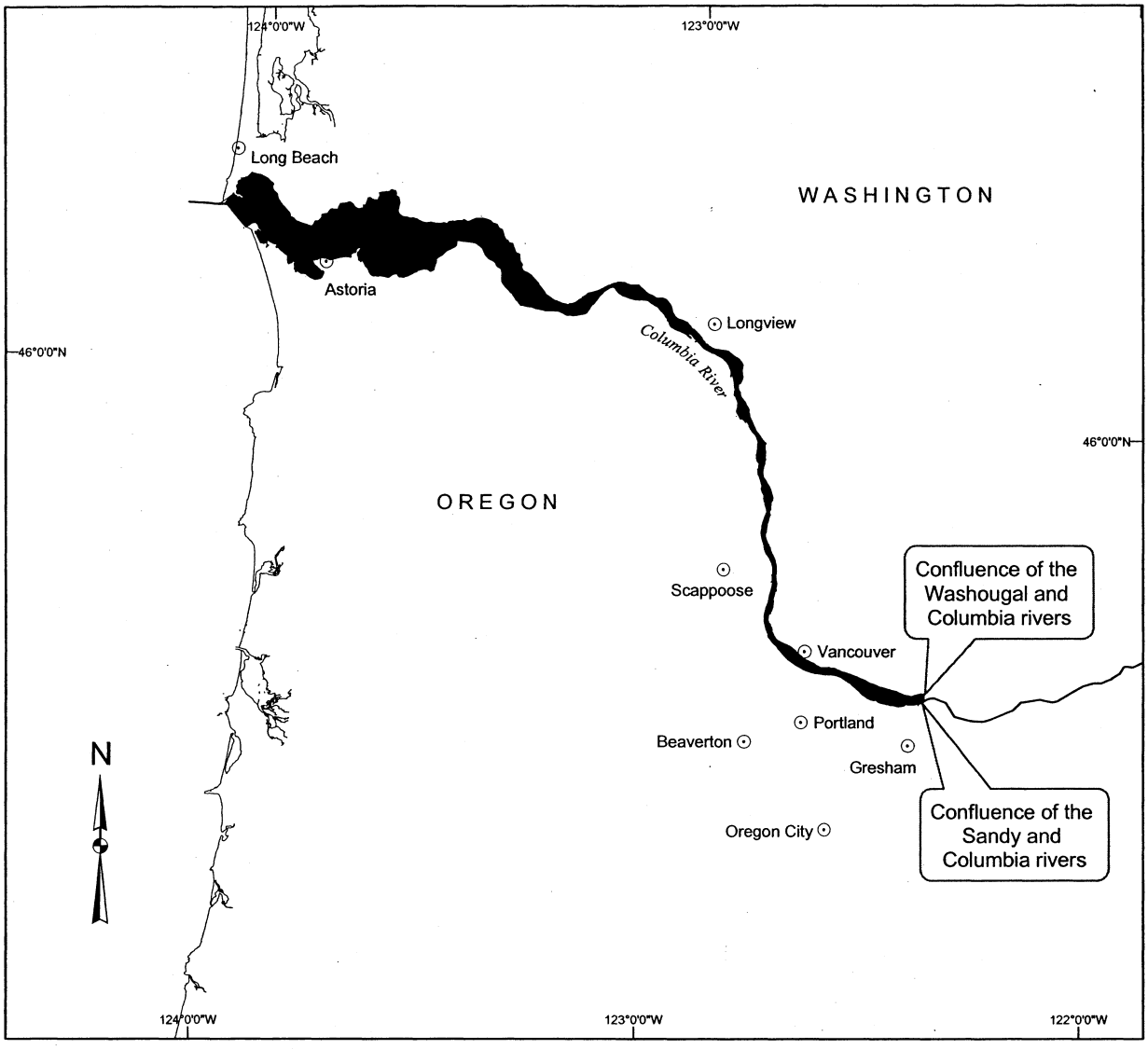



Proposed Critical Habitat for the
Lower Columbia River Chinook Salmon ESU
LOWER COLUMBIA SUBBASIN
17080006, Unit 7
124°0'0"W
123°30'0"W
46°30'0"N
46°0'0"N
East Fk Grays R
West Fk Grays R
Hull Cr
Grays River
Grays R
Tisson Cr
Rosburg
Chinook
Megler
Crooked Cr
Columbia R
WASHINGTON
Hammond
Astoria
Warrenton
Blind Sl
Knappa
Gnat Cr
Bear Cr
N
03
02
01
OREGON
0 3 6 12 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17080006xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Lower Columbia River Chinook Salmon ESU
CLACKAMAS SUBBASIN
17090011, Unit 9
122°30'0"W
122°0'0"W
45°30'0"N
45°0'0"N
121°30'0"W
Clackamas
Boring
Gladstone
Deep Cr
Sandy
Clear Cr
06
OREGON
Estacada
05
Clackamas R
N
04
03
01
02
0 3.75 7.5 15 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17090011xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Lower Columbia River Chinook Salmon ESU
LOWER WILLAMETTE SUBBASIN
17090012, Unit 10
123°0'0"W
122°30'0"W
46°0'0"N
45°30'0"N
N
02
Scappoose Cr
Scappoose
Multnomah Channel
Sturgeon Lake
WASHINGTON
Columbia Sl
Willamette R
OREGON
03
Portland
Hazelwood
Gresham
01
Milwaukie
Lake Oswego
Oak Grove
West Linn
0 3.5 7 14 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17090012xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Rearing / Migration Corridor for the Lower Columbia River Chinook Salmon ESU, Unit 11



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Lower Columbia River Chinook ESU

Unit 11. Lower Columbia River Corridor
The lower Columbia River corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to a line connecting the confluences of the Sandy River (Oregon) and Washougal River (Washington).

BILLING CODE 3510–22–C

(h) Upper Willamette River Chinook Salmon (Oncorhynchus tshawytscha).

Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Middle Fork Willamette Subbasin 17090001—*(i) Upper Middle Fork Willamette River Watershed 1709000101.* Outlet(s) = Middle Fork Willamette River (Lat 43.4961, Long −122.3989) upstream to endpoint(s) in: Echo Creek (43.4670, −122.3172); Found Creek (43.5048, −122.2831); Middle Fork Willamette River (43.4801, −122.2534); Noisy Creek (43.5083, −122.3016); Simpson Creek (43.5031, −122.3801); Skunk Creek (43.5069, −122.2866); Staley Creek (43.4527, −122.3650); Swift Creek (43.5438, −122.2431); Tumblebug Creek (43.4740, −122.2549); Unnamed (43.4967, −122.2645); Unnamed (43.4986, −122.2686); Unnamed (43.5020, −122.2764).

(ii) Hills Creek Watershed 1709000102. Outlet(s) = Hills Creek (Lat 43.7071, Long −122.4195) upstream to endpoint(s) in: Hills Creek (43.6718, −122.3502).

(iii) Salt Creek/Willamette River Watershed 1709000103. Outlet(s) = Salt Creek (Lat 43.7261, Long −122.4381) upstream to endpoint(s) in: Coyote Creek (43.6682, −122.2378); Eagle Creek (43.6795, −122.2293); Salt Creek (43.6204, −122.1413); South Fork Salt Creek (43.6518, −122.2261).

(iv) Hills Creek Reservoir Watershed 1709000105. Outlet(s) = Middle Fork Willamette River (Lat 43.7589, Long −122.5242) upstream to endpoint(s) in: Big Willow Creek (43.6341, −122.4139); Buck Creek (43.5945, −122.4272); Bull Creek (43.6598, −122.4014); Coal Creek (43.4882, −122.4246); Coffeepot Creek (43.6182, −122.4160); Gold Creek (43.5860, −122.4768); Indian Creek (43.5034, −122.4638); Larison Creek (43.6851,−122.4760); Middle Fork Willamette River (43.4961, −122.3989); Packard Creek (43.6516, −122.4904); Snake Creek (43.5388, −122.4554) Snow Creek (43.6061, −122.4585); Windfall Creek (43.5984, −122.4638).

(v) North Fork of Middle Fork Willamette River Watershed 1709000106. Outlet(s) = North Fork Middle Fork Willamette River (Lat 43.7589, Long −122.5242) upstream to endpoint(s) in: Cayuse Creek (43.8651, −122.1856); Chalk Creek (43.8750, −122.4044); Christy Creek (43.9079, −122.3796); Fisher Creek (43.8699, −122.1551); North Fork Middle Fork Willamette River (43.8671, −122.0711).

(vi) Middle Fork Willamette/Lookout Point Watershed 1709000107. Outlet(s) = Middle Fork Willamette River (Lat 43.9495, Long −122.8471) upstream to endpoint(s) in: Anthony Creek (43.8799, −122.8498); Bannister Creek (43.8743, −122.6538); Buckhead Creek (43.7753, −122.5253); Burnt Bridge Creek (43.7900, −122.5334); Carr Creek (43.8558, −122.8177); Deception Creek (43.7551, −122.5541); East Fork Minnow Creek (43.8902, −122.7342); Goodman Creek (43.8309, −122.6940); Gosage Creek (43.8446, −122.8129); Guiley Creek (43.8419, −122.7962); Hazel Creek (43.8637, −122.6891); Lost Creek (43.8427, −122.7781); Middle Creek (43.8624, −122.8323); Middle Fork Willamette River (43.7589, −122.5242); Minnow Creek (43.8872, −122.7458); North Creek (43.8247, −122.6236); Rolling Riffle Creek (43.8750, −122.7052); School Creek (43.8604, −122.6099); South Creek (43.8230, −122.6216); Unnamed (43.8329, −122.6775); Unnamed (43.8427, −122.6643); Unnamed (43.8433, −122.6950).

(vii) Little Fall Creek Watershed 1709000108. Outlet(s) = Little Fall Creek (Lat 43.9577, Long −122.8166) upstream to endpoint(s) in: Little Fall Creek (44.0579, −122.5440); Norton Creek (44.0006, −122.7044); Sturdy Creek (44.0196, −122.6475).

(viii) Fall Creek Watershed 1709000109. Outlet(s) = Fall Creek (Lat 43.9707, Long −122.8677) upstream to endpoint(s) in: Alder Creek (44.0000, −122.4993); Fall Creek (43.9922, −122.3758); Gold Creek (43.9772, −122.4051); Logan Creek (43.9447, −122.4504); Nelson Creek (43.9285, −122.6850); Portland Creek (43.9331, −122.4655); Sunshine Creek (43.9943, −122.4672); Winberry Creek (43.9142, −122.6890).

(ix) Lower Middle Fork Willamette River Wateshed 1709000110. Outlet(s) = Middle Fork Willamette River (Lat 44.0226, Long −123.0169) upstream to endpoint(s) in: Hills Creek (43.9945, −122.8651); Middle Fork Willamette River (43.9495, −122.8471); Mill Race (44.0407, −123.0004); Pudding Creek (44.0173, −122.9501); Rattlesnake Creek (43.9352, −122.8608); Wallace Creek (44.0074, −122.8984).

(2) Unit 3. Upper Willamette Subbasin 17090003—*(i) Muddy Creek Watershed 1709000302.* Outlet(s) = Willamette River (Lat 44.6400, Long −123.1096) upstream to endpoint(s) in: Willamette River (44.0226, −123.0169).

(ii) Calapooia River Watershed 1709000303. Outlet(s) = Calapooia River (Lat 44.5088, Long −123.1101) upstream to endpoint(s) in: Calapooia River (44.2354, −122.4128).

(iii) Oak Creek Watershed 1709000304. Outlet(s) = Willamette River (Lat 44.7504, Long −123.1421) upstream to endpoint(s) in: Calapooia River (44.5088, −123.1101); Cox Creek (44.6417, −123.0680); First Lake (44.6471, −123.0725); Truax Creek (44.6560, −123.0598); Unnamed (44.6603, −123.0590); Willamette River (44.6400, −123.1096).

(iv) Marys River Watershed 1709000305. Outlet(s) = Marys River (Lat 44.5566, Long −123.2597) upstream to endpoint(s) in: Beaver Creek (44.4554, −123.3748); Marys River (44.5373, −123.3762); Oak Creek (44.5636, −123.2932).

(v) Luckiamute River Watershed 1709000306. Outlet(s) = Luckiamute River (Lat 44.7561, Long −123.1468) upstream to endpoint(s) in: Soap Creek (44.7317, −123.2151); Unnamed (44.7661, −123.2011).

(3) Unit 4. McKenzie Subbasin 17090004—*(i) Upper McKenzie River Watershed 1709000401.* Outlet(s) = McKenzie River (Lat 44.1721, Long −122.2058) upstream to endpoint(s) in: Deer Creek (44.2677, −122.0712); Frissell Creek (44.2288, −122.0699); Lost Creek (44.1729, −122.0401); McKenzie River (44.3109, −122.0199); Scott Creek (44.1981, −122.0195); Smith River (44.2824, −122.0506).

(ii) Horse Creek Watershed 1709000402. Outlet(s) = West Fork Horse Creek (Lat 44.1721, Long −122.2058) upstream to endpoint(s) in: Cedar Swamp Creek (44.1563, −122.1132); Horse Creek (44.0602, −122.0087); King Creek (44.1635, −122.1693); Separation Creek (44.1274, −122.0077).

(iii) South Fork McKenzie River Watershed 1709000403. Outlet(s) = South Fork McKenzie River (Lat 44.1595, Long −122.2946) upstream to endpoint(s) in: Augusta Creek (43.9562, −122.1632); Cougar Creek (44.1397, −122.2437); East Fork South Fork McKenzie (44.0850, −122.0997); Elk Creek (43.9455, −122.0384); French Pete Creek (44.0402, −122.1854); Hardy Creek (44.0345, −122.2047); Rebel Creek (44.0167, −122.1505); Roaring River (43.9479, −122.0811); South Fork McKenzie River (43.9533, −121.9995).

(iv) McKenzie River/Quartz Creek Watershed 1709000405. Outlet(s) = McKenzie River (Lat 44.1112, Long −122.4209) upstream to endpoint(s) in: Cone Creek (44.1528, −122.3649); McKenzie River (44.1721, −122.2058); Quartz Creek (44.0188, −122.3015); Wycoff Creek (44.0846, −122.3143).

(v) Mohawk River Watershed 1709000406. Outlet(s) = Mohawk River (Lat 44.0860, Long −122.9741) upstream to endpoint(s) in: Cartwright Creek (44.1693, −122.8421); Cash Creek (44.2127, −122.8468); Drury Creek (44.2417, −122.8212); Log Creek (44.2616, −122.7967); McGowan Creek (44.1525, −122.9502); Mill Creek (44.1901, −122.6777); Mohawk River (44.2390, −122.6867); Nebo Creek (44.1765, −122.7087); Oshkosh Creek

(44.1949, −122.7316); Parsons Creek (44.1929, −122.9060); Shotgun Creek (44.2792, −122.8778); Spores Creek (44.1192, −122.9429); Unnamed (44.1079, −122.9705); Unnamed (44.1374, −122.8875); Unnamed (44.1455, −122.8787); Unnamed (44.1551, −122.8971); Unnamed (44.2673, −122.8487); Wade Creek (44.1688, −122.9007).

(vi) Lower McKenzie River Watershed 1709000407. Outlet(s) = McKenzie River (Lat 44.1255, Long −123.1059) upstream to endpoint(s) in: Boulder Creek (44.0601, −122.7825); Camp Creek (44.0896, −122.8544); Deer Creek (44.0895, −122.4234); Ennis Creek (44.0804, −122.3754); Finn Creek (44.1471, −122.5972); Forest Creek (44.0861, −122.7153); Haagen Creek (44.0880, −122.7126); Hatchery Creek (44.1449, −122.6056); Holden Creek (44.1056, −122.7061); Indian Creek (44.1526, −122.5816); Lane Creek (44.0928, −122.7323); Marten Creek (44.1075, −122.5046); McKenzie River (44.1112, −122.4209); North Fork Gate Creek (44.1718, −122.5248); Osborn Creek (44.0565, −122.7880); Ritchie Creek (44.1028, −122.6567); South Fork Gate Creek (44.1667, −122.4980); Taylor Creek (44.0783, −122.7481); Toms Creek (44.1316, −122.5586); Unnamed (44.0646, −122.9399); Walterville Canal (44.0765, −122.7537).

(4) Unit 5. North Santiam Subbasin 17090005—*(i) Middle North Santiam River Watershed 1709000504.* Outlet(s) = North Santiam River (Lat 44.7852, Long −122.6079) upstream to endpoint(s) in: Mad Creek (44.7453, −122.3898); North Santiam River (44.7510, −122.2821); Rock Creek (44.7077, −122.4171); Snake Creek (44.7477, −122.4905).

(ii) Little North Santiam River Watershed 1709000505. Outlet(s) = Little North Santiam River (Lat 44.7852, Long −122.6079) upstream to endpoint(s) in: Elkhorn Creek (44.8134, −122.3561); Little North Santiam River (44.8390, −122.3364); Little Sinker Creek (44.8191, −122.4111); Sinker Creek (44.8166, −122.4174).

(iii) Lower North Santiam River Watershed 1709000506. Outlet(s) = Santiam River (Lat 44.7504, Long −123.1421) upstream to endpoint(s) in: Bear Branch (44.7559, −122.7974); Cold Creek (44.7522, −122.8848); Morgan Creek (44.7500, −123.0376); North Santiam River (44.7852, −122.6079); Salem Ditch (44.8000, −122.8120); Smallman Creek (44.7300, −122.9098); Stout Creek (44.7930, −122.6177); Trask Creek (44.7725, −122.6152); Unnamed (44.7672, −123.0517); Valentine Creek (44.8013, −122.7176).

(5) Unit 6. South Santiam Subbasin 17090006—*(i) Hamilton Creek/South Santiam River Watershed 1709000601.* Outlet(s) = South Santiam River (Lat 44.6869, Long −123.0052) upstream to endpoint(s) in: Hamilton Creek (44.5037, −122.7667); McDowell Creek (44.4580, −122.7128); Mill Creek (44.6750, −122.9721); Noble Creek (44.4519, −122.7976); South Santiam River (44.4163, −122.6693); Spring Branch (44.6821, −122.9811); Unnamed (44.6703, −122.9870); Unnamed (44.6801, −122.9786).

(ii) Crabtree Creek Watershed 1709000602. Outlet(s) = Crabtree Creek (Lat 44.6756, Long −122.9557) upstream to endpoint(s) in: Bald Peter Creek (44.5682, −122.5825); Beaver Creek (44.6271, −122.8504); Crabtree Creek (44.6058, −122.5405); Roaring River (44.6251, −122.7283); South Fork Crabtree Creek (44.5741, −122.5744).

(iii) Thomas Creek Watershed 1709000603. Outlet(s) = Thomas Creek (Lat 44.6778, Long −122.9654) upstream to endpoint(s) in: Jordan Creek (44.7531, −122.6595); Mill Creek (44.7055, −122.7842); Neal Creek (44.7101, −122.6912); South Fork Neal Creek (44.7033, −122.7078); Thomas Creek (44.6776, −122.4650).

(iv) South Santiam River Watershed 1709000606. Outlet(s) = South Santiam River (Lat 44.3977, Long −122.4491) upstream to endpoint(s) in: Falls Creek (44.4007, −122.3828); South Santiam River (44.3980, −122.2610).

(v) South Santiam River/Foster Reservoir Watershed 1709000607. Outlet(s) = South Santiam River (Lat 44.4163, Long −122.6693) upstream to endpoint(s) in: Middle Santiam River (44.4498, −122.5479); South Santiam River (44.3977, −122.4491).

(vi) Wiley Creek Watershed 1709000608. Outlet(s) = Wiley Creek (Lat 44.4140, Long −122.6752) upstream to endpoint(s) in: Little Wiley Creek (44.3673, −122.5916); Wiley Creek (44.3488, −122.5900).

(6) Unit 7. Middle Willamette Subbasin 17090007—*(i) Mill Creek/ Willamette River Watershed 1709000701.* Outlet(s) = Mill Creek (Lat 44.9520, Long −123.0381) upstream to endpoint(s) in: Battle Creek (44.8387, −122.9839); Beaver Creek (44.8532, −122.8662); McKinney Creek (44.8270, −122.9631); Mill Creek (44.8255, −122.8226).

(ii) Rickreall Creek Watershed 1709000702. Outlet(s) = Willamette River (Lat 44.9288, Long −123.1124) upstream to endpoint(s) in: Willamette River (44.7504, −123.1421).

(iii) Willamette River/Chehalem Creek Watershed 1709000703. Outlet(s) = Willamette River (Lat 45.2552, Long −122.8806) upstream to endpoint(s) in: Willamette River (44.9288, −123.1124).

(iv) Abernethy Creek Watershed 1709000704. Outlet(s) = Willamette River (Lat 45.3719, Long −122.6071) upstream to endpoint(s) in: Willamette River (45.2552, −122.8806).

(7) Unit 9. Molalla/Pudding Subbasin 17090009—*(i) Butte Creek/Pudding River Watershed 1709000902.* Outlet(s) = Pudding River (Lat 45.1907, Long −122.7527) upstream to endpoint(s) in: Butte Creek (45.0164, −122.5943); Pudding River (45.0740, −122.8525); Zollner Creek (45.0858, −122.7868).

(ii) Rock Creek/Pudding River Watershed 1709000903. Outlet(s) = Rock Creek (Lat 45.1907, Long −122.7527) upstream to endpoint(s) in: Rock Creek (45.1341, −122.7032).

(iii) Senecal Creek/Mill Creek Watershed 1709000904. Outlet(s) = Pudding River (Lat 45.2843, Long −122.7149) upstream to endpoint(s) in: Mill Creek (45.2220, −122.7691); Pudding River (45.1907, −122.7527).

(iv) Upper Molalla River Watershed 1709000905. Outlet(s) = Molalla River (Lat 45.1196, Long −122.5342) upstream to endpoint(s) in: Molalla River (44.9124, −122.3228); North Fork Molalla River (45.0872, −122.3849); Table Rock Fork Molalla River (44.9876, −122.2741).

(v) Lower Molalla River Watershed 1709000906. Outlet(s) = Molalla River (Lat 45.2979, Long −122.7141) upstream to endpoint(s) in: Gribble Creek (45. 2146, −122.6988); Milk Creek (45.2278, −122.5670); Molalla River (45.1196, −122.5342).

(8) Unit 10. Clackamas Subbasin 17090011—*(i) Collawash River Watershed 1709001101.* Outlet(s) = Collawash River (Lat 45.0321, Long −122.0600) upstream to endpoint(s) in: Blister Creek (44.9594, −122.1590); Collawash River (44.9507, −122.0350); Hot Springs Fk Collawash River (44.9385, −122.1721); Nohorn Creek (44.9442, −122.1957).

(ii) Upper Clackamas River 1709001102. Outlet(s) = Clackamas River (Lat 45.0321, Long −122.0600) upstream to endpoint(s) in: Cabin Creek (45.0087, −121.8958); Clackamas River (44.8966, −121.8800); Cub Creek (44.8969, −121.8876); Granite Creek (45.0184, −121.9885); Hunter Creek (44.9086, −121.8929); Last Creek (44.9715, −121.8547); Lowe Creek (44.9487, −121.8983); Pot Creek (45.0149, −121.9084); Unnamed (44.9469, −121.8691); Wall Creek (44.9555, −121.8843).

(iii) Oak Grove Fork Clackamas River Watershed 1709001103. Outlet(s) = Oak Grove Fork Clackamas River (Lat 45.0746, Long −122.0520) upstream to

endpoint(s) in: Oak Grove Fork Clackamas River (45.0822, −121.9859).

(iv) Middle Clackamas River Watershed 1709001104. Outlet(s) = Clackamas River (Lat 45.2440, Long −122.2798) upstream to endpoint(s) in: Clackamas River (45.0321, −122.0600); Fish Creek (45.0962, −122.1683); North Fork Clackamas River (45.2361, −122.2186); Roaring River (45.1773, −122.0650); South Fork Clackamas River (45.1939, −122.2257); Tag Creek (45.0607, −122.0512); Tar Creek (45.0494, −122.0570).

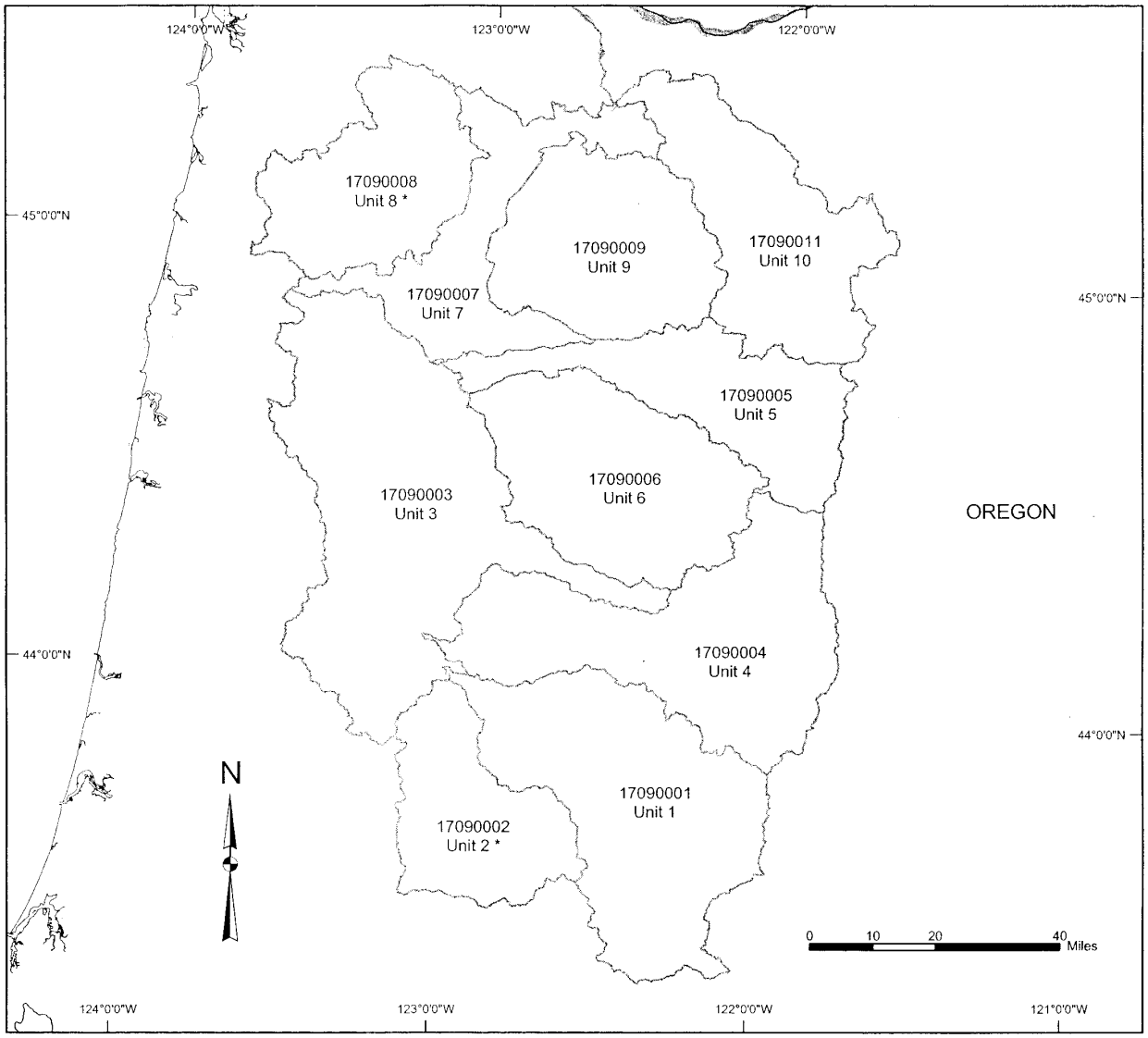
(v) Lower Clackamas River Watershed 1709001106. Outlet(s) = Clackamas River (Lat 45.3719, Long −122.6071) upstream to endpoint(s) in: Clackamas River (45.2440, −122.2798); Clear Creek (45.3568, −122.4781); Deep Creek (45.3937, −122.4095); Richardson Creek (45.3971, −122.4712).

(9) Unit 11. Lower Willamette/Columbia River Corridor—*Lower Willamette/Columbia River Corridor.* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Willamette River (45.3719, −122.6071).

(10) Maps of proposed critical habitat for the Upper Willamette River chinook salmon ESU follow:

BILLING CODE 3510–22–P

Map of the Upper Willamette River Chinook Salmon ESU



Legend

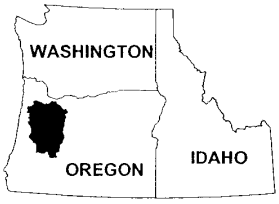
State Boundaries

Subbasin Boundaries

Water Bodies

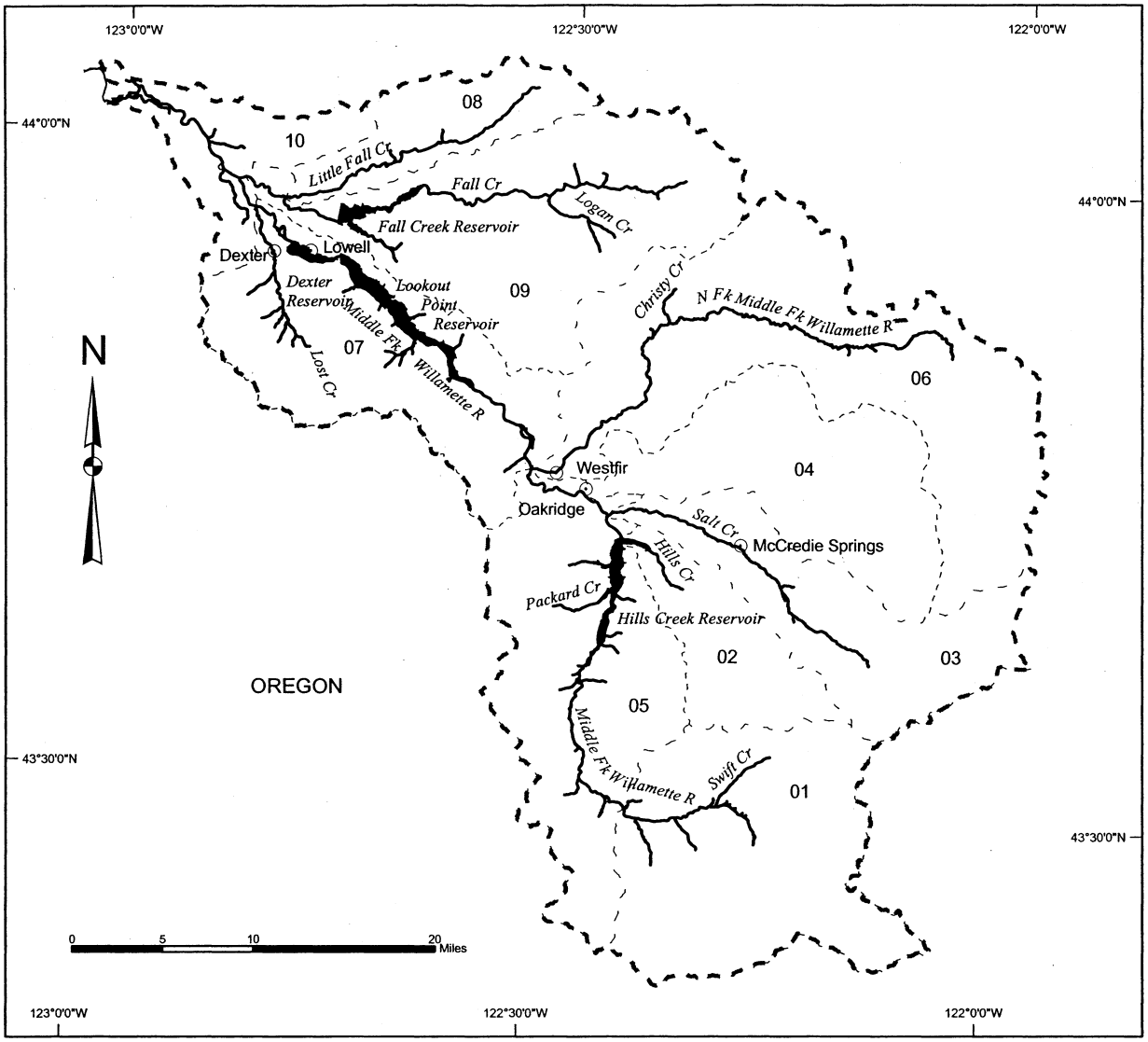
* All habitat areas in unit are proposed for exclusion

Area of Detail



Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

MIDDLE FORK WILLAMETTE SUBBASIN 17090001, Unit 1



Legend

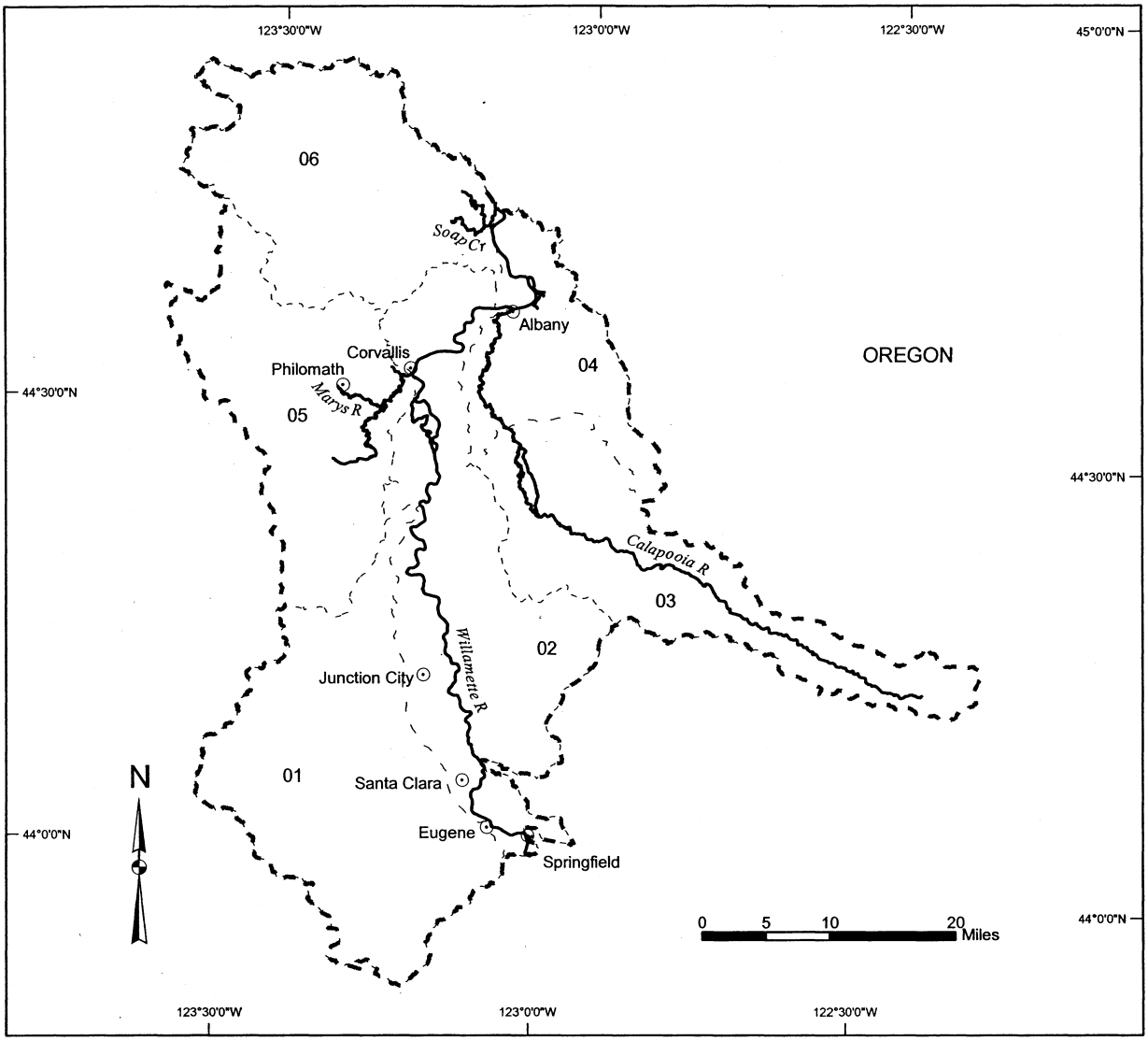
- Cities / Towns
- Proposed Critical Habitat
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

01 - 10 = Watershed code - last 2 digits of 17090001xx

Area of Detail

Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

UPPER WILLAMETTE SUBBASIN 170900003, Unit 3

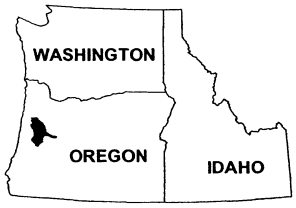


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

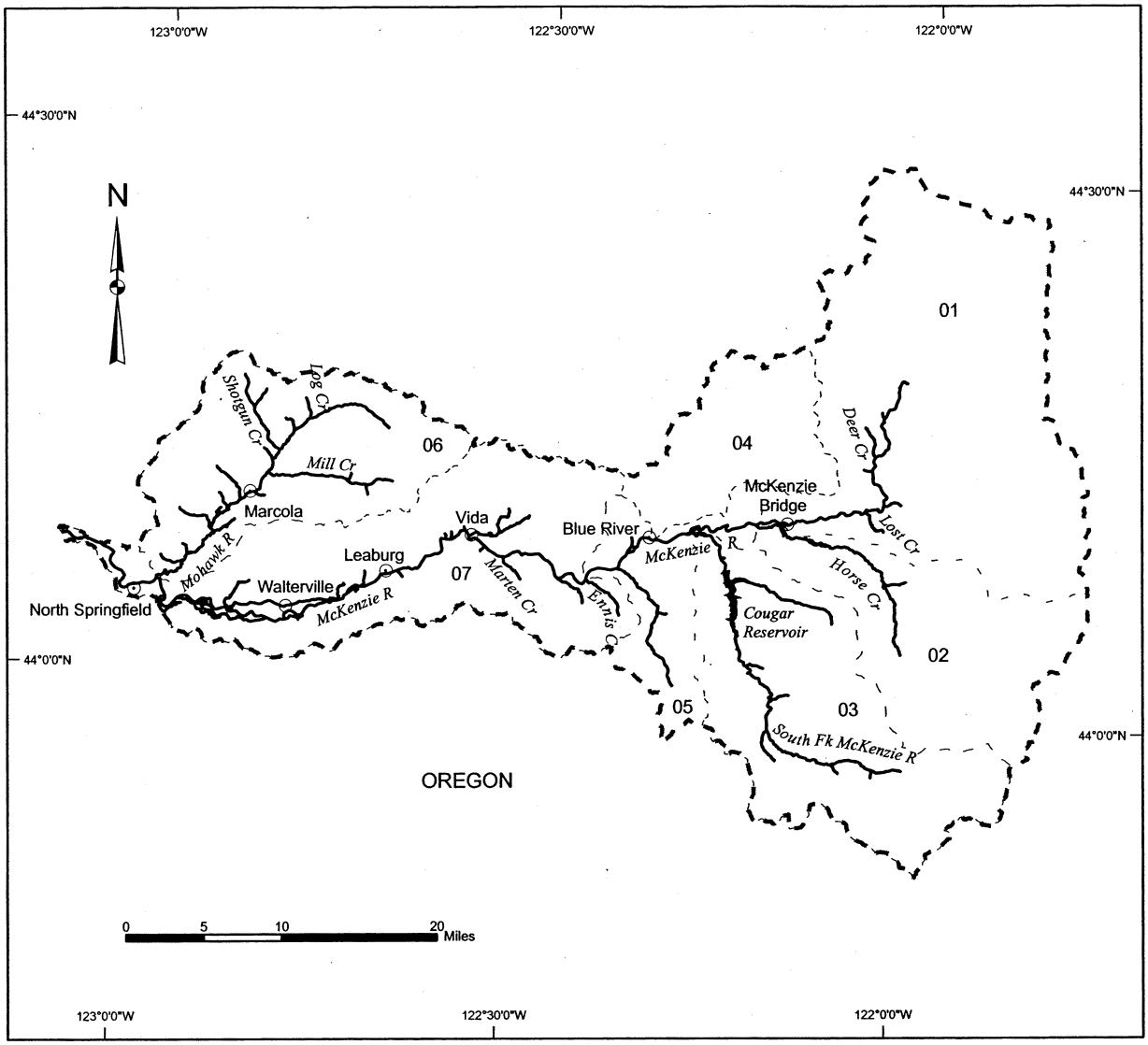
01 - 06 = Watershed code - last 2 digits of 17090003xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

MCKENZIE SUBBASIN 17090004, Unit 4

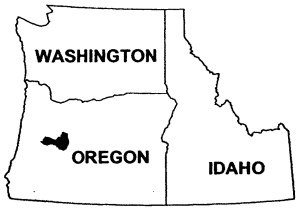


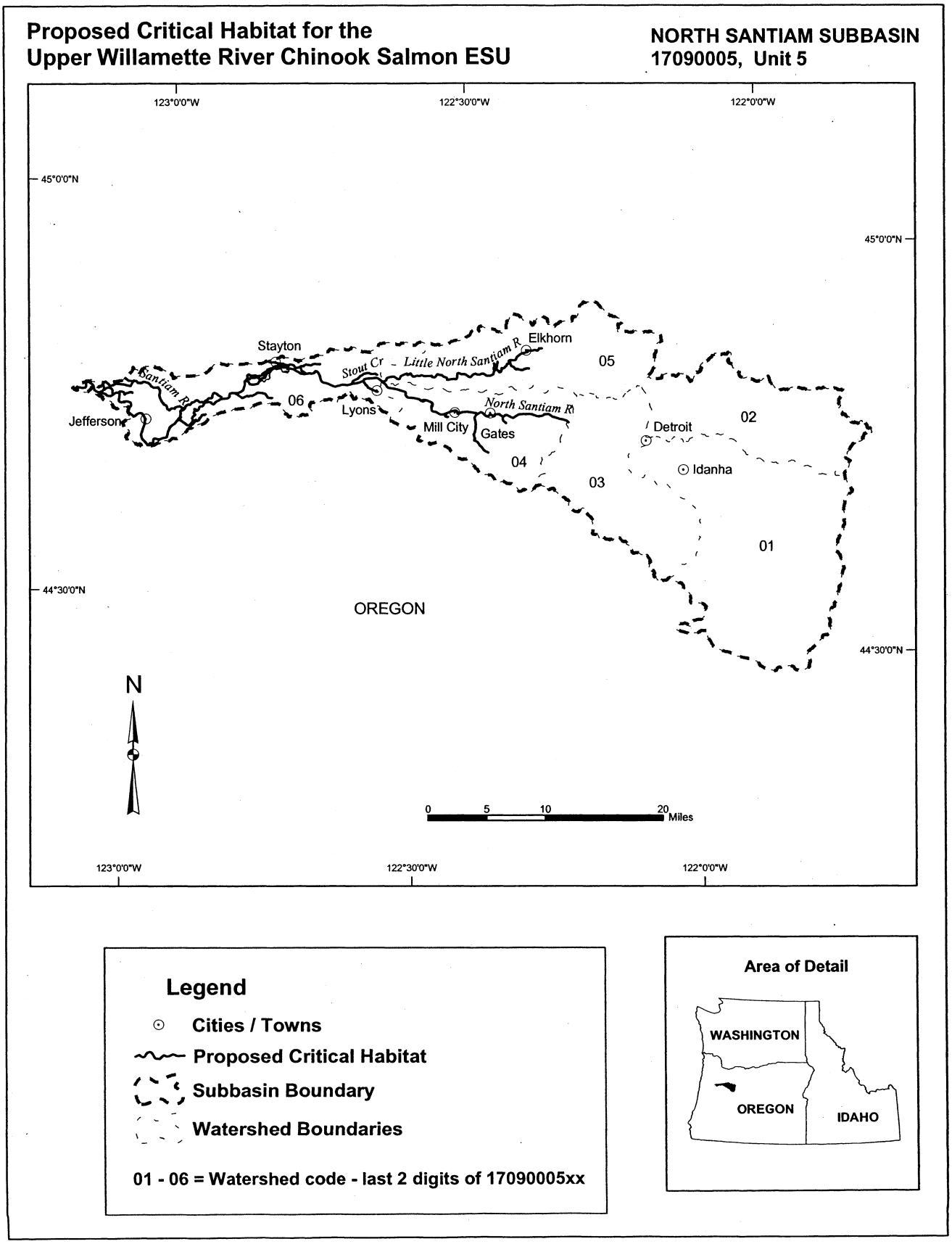
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 07 = Watershed code - last 2 digits of 17090004xx

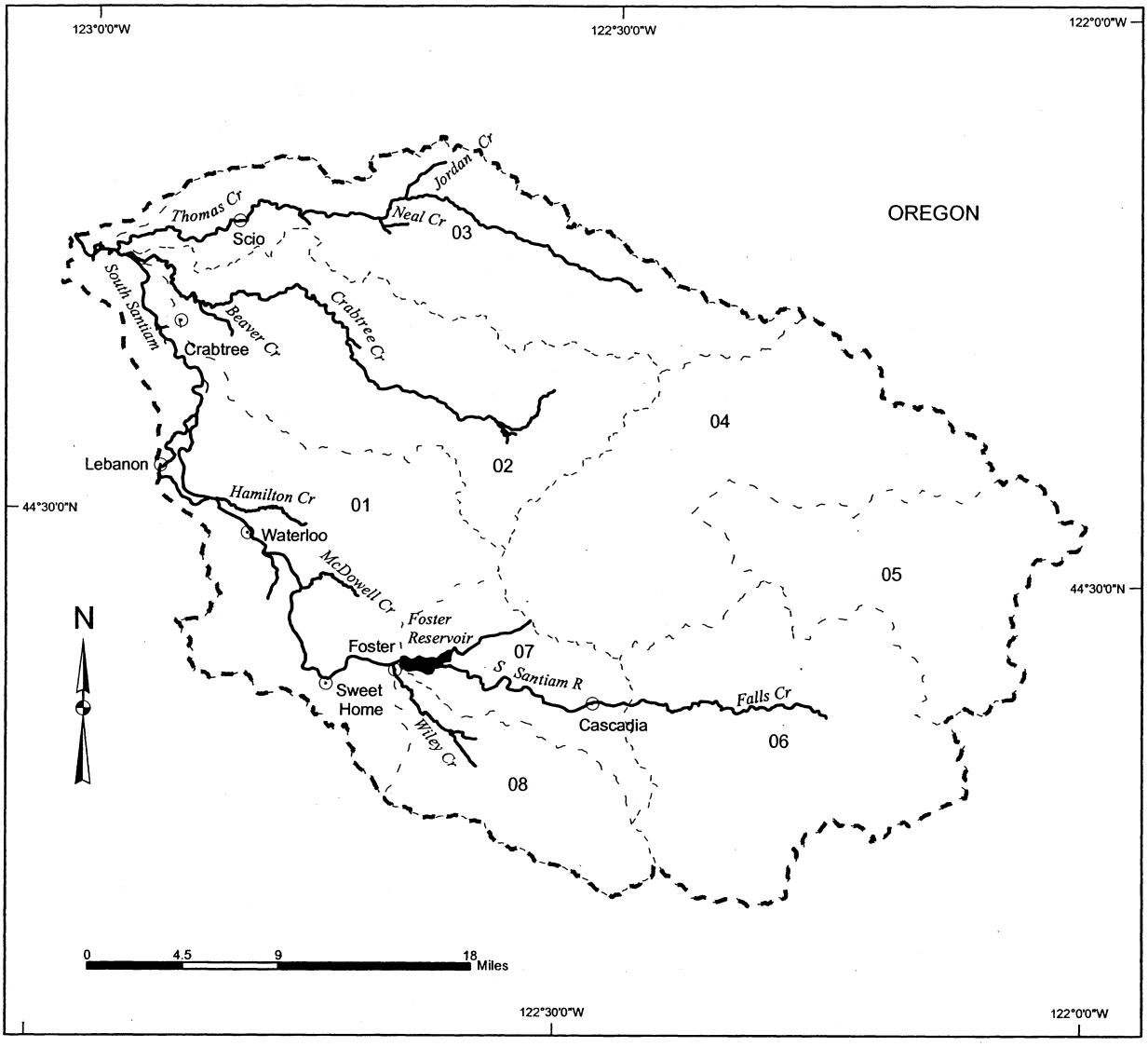
Area of Detail




Proposed Critical Habitat for the
Upper Willamette River Chinook Salmon ESU
NORTH SANTIAM SUBBASIN
17090005, Unit 5
123°0'0"W
122°30'0"W
122°0'0"W
45°0'0"N
44°30'0"N
Stayton
Elkhorn
Stout Cr
Little North Santiam R
Santiam R
Jefferson
Lyons
Mill City
Gates
North Santiam R
Detroit
Idanha
05
06
04
03
02
01
OREGON
N
0
5
10
20
Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17090005xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

SOUTH SANTIAM SUBBASIN 17090006, Unit 6

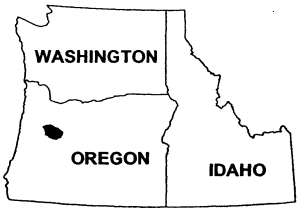


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

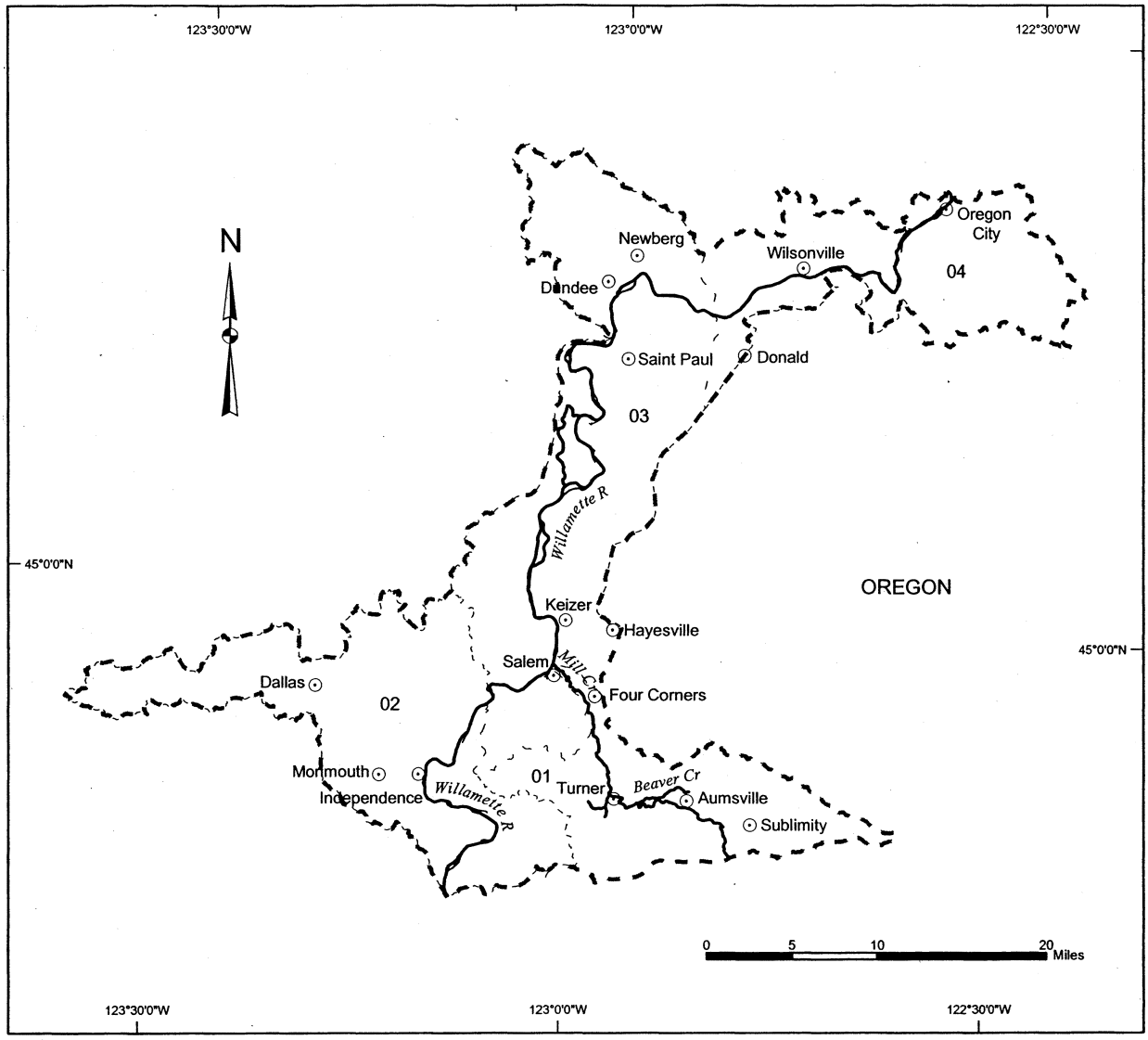
01 - 08 = Watershed code - last 2 digits of 17090006xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

MIDDLE WILLAMETTE SUBBASIN 17090007, Unit 7

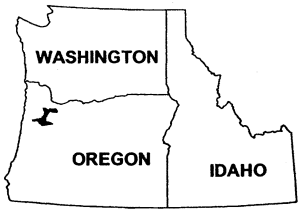


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

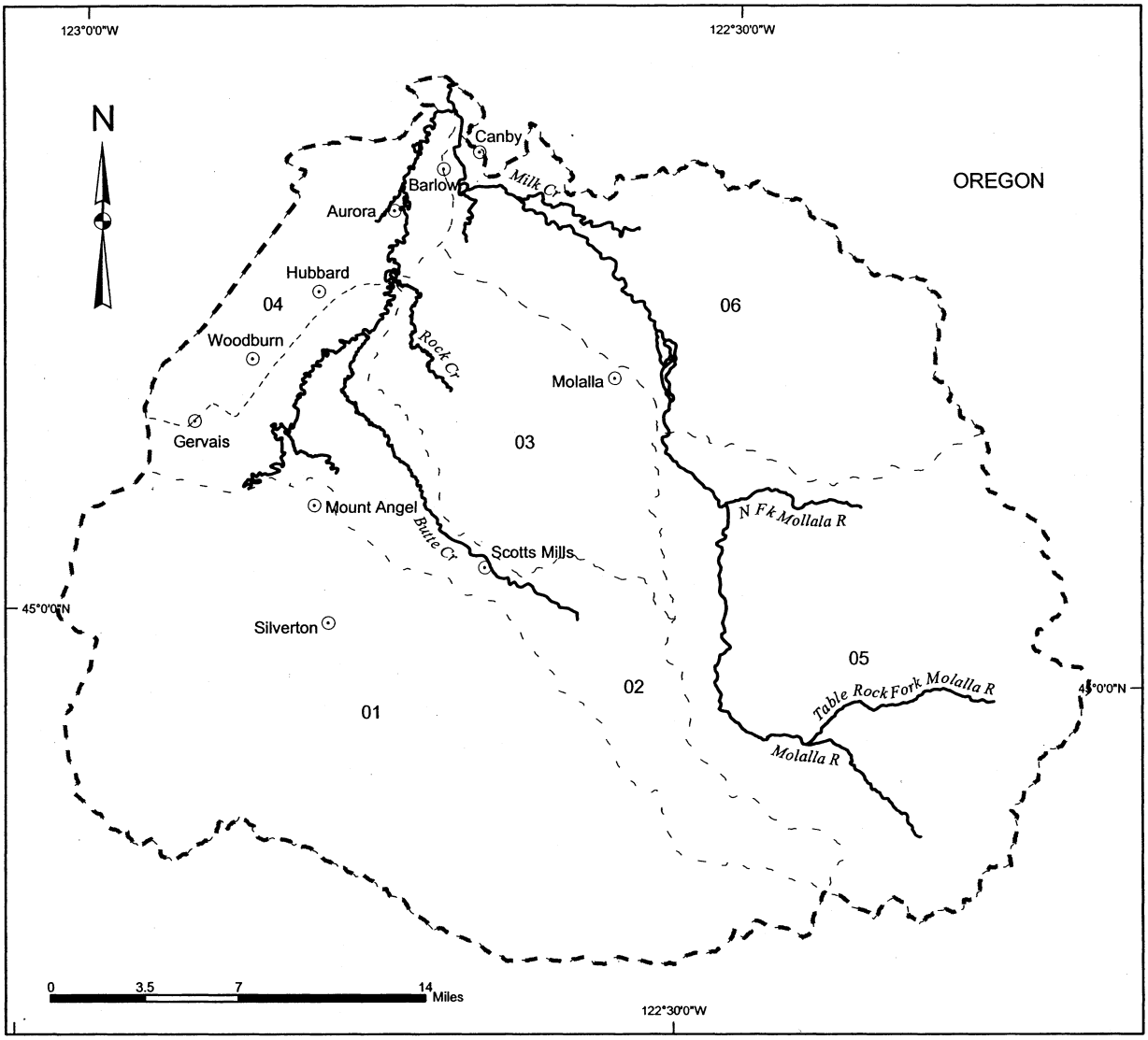
01 - 04 = Watershed code - last 2 digits of 17090007xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

MOLALLA / PUDDING SUBBASIN 17090009, Unit 9

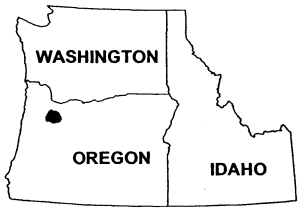


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

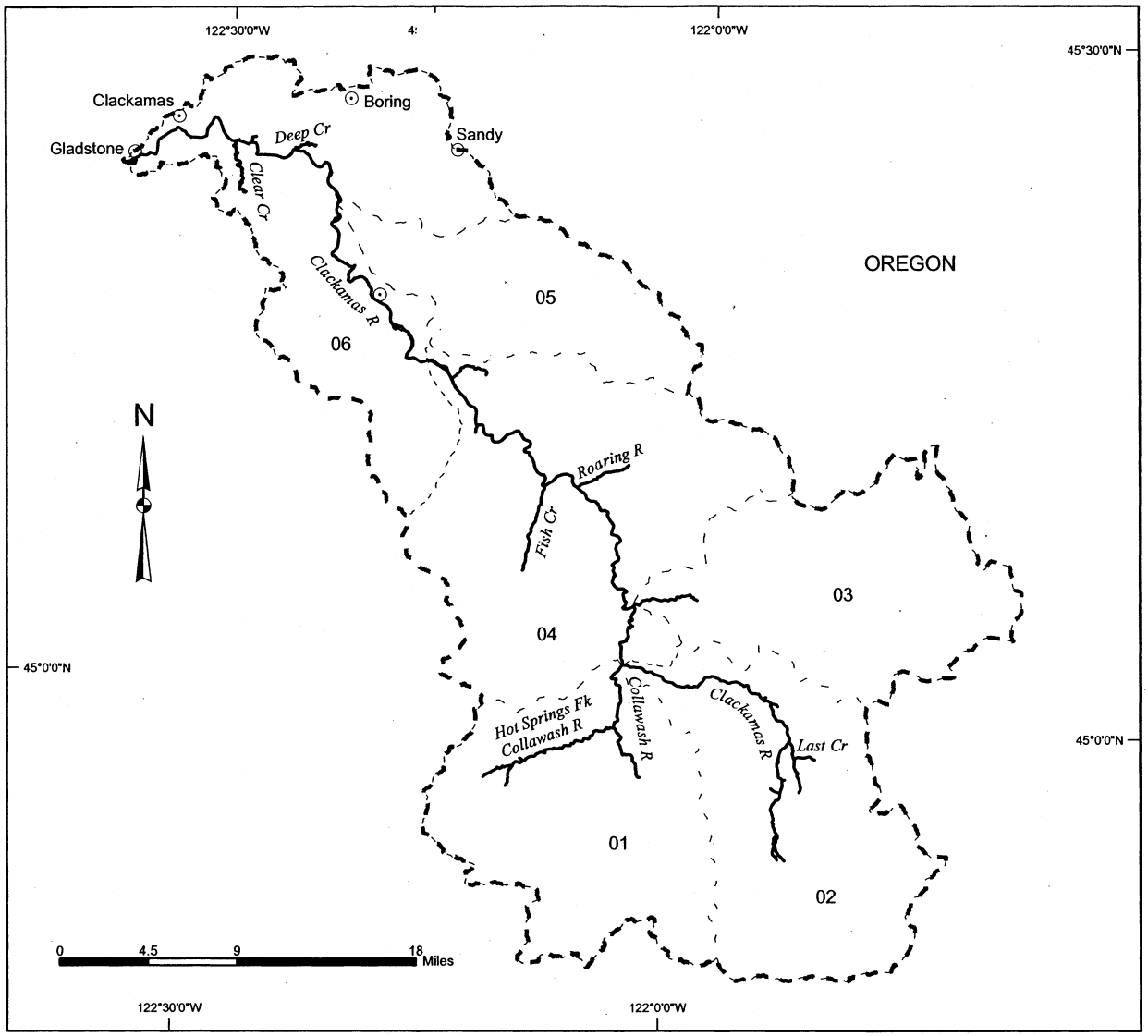
01 - 06 = Watershed code - last 2 digits of 17090009xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River Chinook Salmon ESU

CLACKAMAS SUBBASIN 17090011, Unit 10

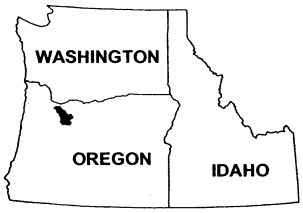


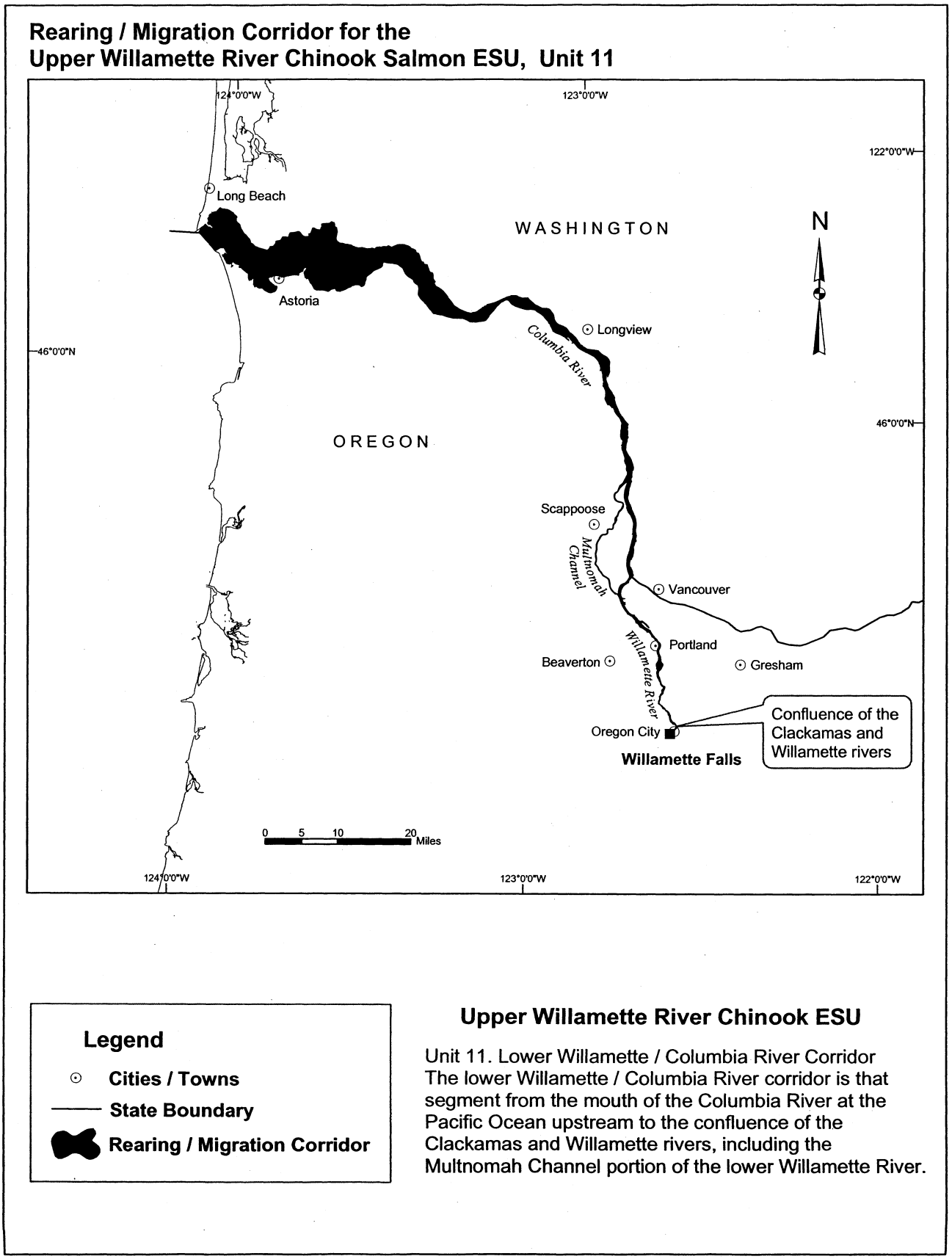
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 06 = Watershed code - last 2 digits of 17110011xx

Area of Detail





(i) Upper Columbia River Spring Chinook Salmon (Oncorhynchus tshawytscha). Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Chief Joseph Subbasin 17020005—*Upper Columbia/Swamp Creek Watershed 1702000505.* Outlet(s) = Columbia River (Lat 47.8077, Long −119.9754) upstream to endpoint(s) in: Columbia River (48.0502, −119.8942).

(2) Unit 2. Methow Subbasin 17020008—*(i) Lost River Watershed 1702000801.* Outlet(s) = Lost River Gorge (Lat 48.6501, Long −120.5103) upstream to endpoint(s) in: Eureka Creek (48.7020, −120.4986); Lost River Gorge (48.7324, −120.4475).

(ii) Upper Methow River Watershed 1702000802. Outlet(s) = Methow River (Lat 48.6015, Long −120.4376) upstream to endpoint(s) in: Early Winters Creek (48.5999, −120.5840); Methow River (48.6417, −120.6150); Rattlesnake Creek (48.6523, −120.5733); Robinson Creek(48.6680, −120.5394); South Fork Trout Creek (48.6448, −120.6030).

(iii) Upper Chewuch River Watershed 1702000803. Outlet(s) = Chewuch River (Lat 48.7501, Long −120.1356) upstream to endpoint(s) in: Andrews Creek (48.7855, −120.1087); Chewuch River (48.8614, −120.0288); Dog Creek (48.8218, −120.0151); Lake Creek (48.8258, −120.1996); Thirtymile Creek (48.8109, −120.0199).

(iv) Lower Chewuch River Watershed 1702000804. Outlet(s) = Chewuch River (Lat 48.4751, Lat −120.1790) upstream to endpoint(s) in: Boulder Creek (48.5797, −120.1538); Chewuch River (48.7501, −120.1356); Cub Creek (48.5513, −120.1899); Eightmile Creek (48.6071, −120.1775); Lake Creek (48.4926, −120.1629); Twentymile Creek (48.7029, −120.1117).

(v) Twisp River Watershed 1702000805. Outlet(s) = Twisp River (Lat 48.3682, Long −120.1176) upstream to endpoint(s) in: Buttermilk Creek (48.3528, −120.3239); Eagle Creek (48.3584, −120.3914); North Creek (48.4587, −120.5595); Poorman Creek (48.3674, −120.1997); South Creek (48.4330, −120.5431); Twisp River (48.4615, −120.5764); War Creek (48.3649, −120.4030).

(vi) Middle Methow River Watershed 1702000806. Outlet(s) = Methow River (Lat 48.2495, Long −120.1156) upstream to endpoint(s) in: Bear Creek (48.4527, −120.1423); Goat Creek (48.5888, −120.3705); Little Boulder Creek (48.5700, −120.3797); Methow River (48.6015, −120.4376); Wolf Creek (48.4776, −120.2840) Unnamed (48.4896, −120.2116).

(vii) Lower Methow River Watershed 1702000807. Outlet(s) = Methow River (Lat 48.0502, Long −119.8942) upstream to endpoint(s) in: Methow River (48.2495, −120.1156).

(3) Unit 3. Upper Columbia/Entiat Subbasin 17020010—*(i) Entiat River Watershed 1702001001.* Outlet(s) = Entiat River (Lat 47.6585, Long −120.2194) upstream to endpoint(s) in: Entiat River (47.9855, −120.5749); Hornet Creek (47.7714, −120.4403); Mad River (47.7804, −120.4403); Tillicum Creek (47.7295, −120.4304).

(ii) Lake Entiat Watershed 1702001002. Outlet(s) = Columbia River (Lat 47.3438, Long −120.0929) upstream to endpoint(s) in: Columbia River (47.8077, −119.9754).

(4) Unit 4. Wenatchee Subbasin 17020011—*(i) White River Watershed 1702001101.* Outlet(s) = White River (Lat 47.8088, Long −120.7159) upstream to endpoint(s) in: Little Wenatchee River (47.8526, −120.9541); Napeequa River (47.9285, −120.8829); Panther Creek (47.9355, −120.9482); White River (47.9535, −120.9380).

(ii) Chiwawa River Watershed 1702001102. Outlet(s) = Chiwawa River (Lat 47.7880, Long −120.6589) upstream to endpoint(s) in: Alder Creek (47.8483, −120.6587); Chikamin Creek (47.9785, −120.7194); Chiwawa River (48.1048, −120.8773); Goose Creek (47.8392, −120.6461); Minnow Creek (47.9137, −120.7182); Phelps Creek (48.0794, −120.8400); Unnamed (48.0366, −120.7615).

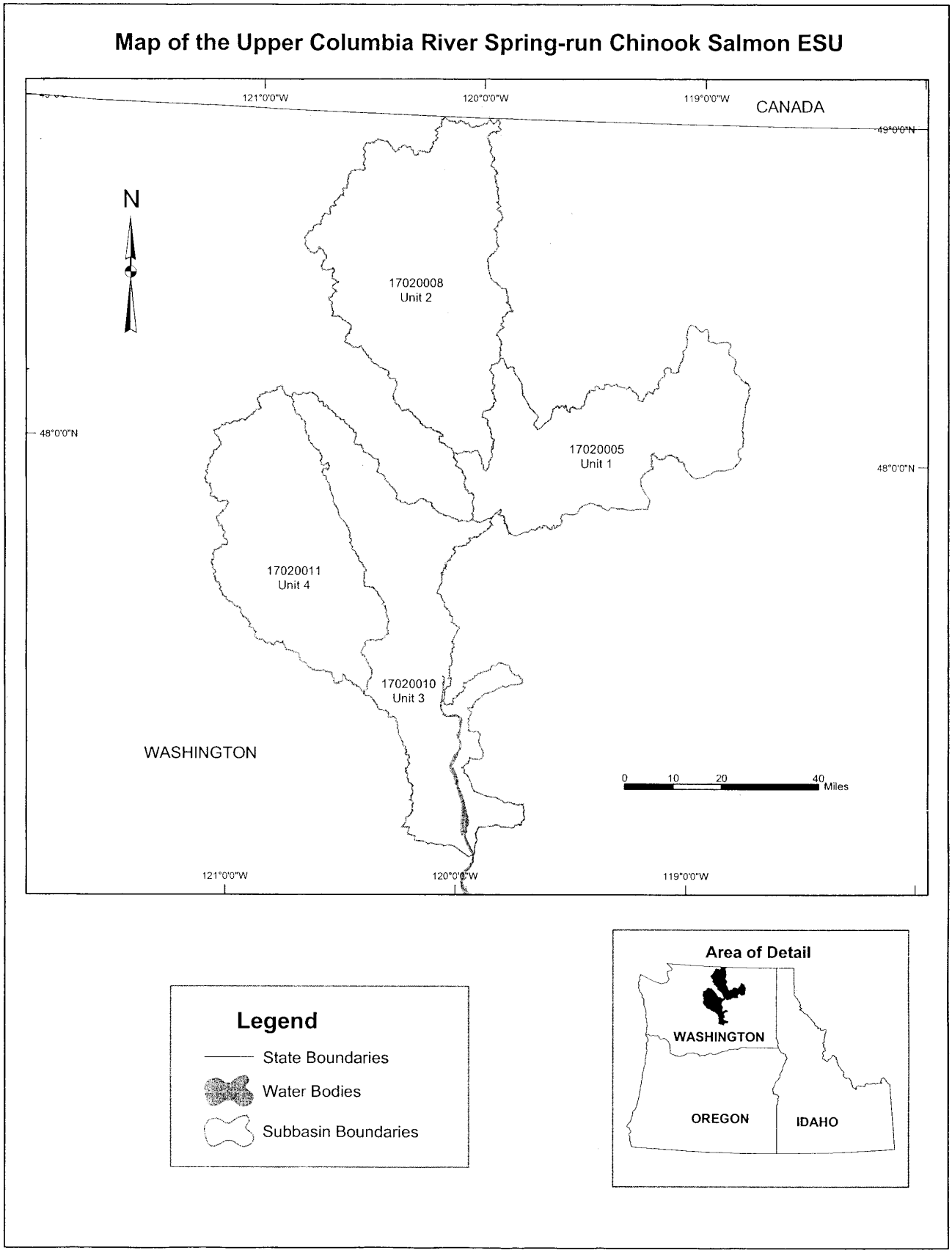
(iii) Nason/Tumwater Watershed 1702001103. Outlet(s) = Wenatchee River (Lat 47.5801, Long −120.6660) upstream to endpoint(s) in: Chiwaukum Creek (47.7039, −120.7791); Nason Creek (47.7769, −120.9103); Skinney Creek (47.6894, −120.7351).

(iv) Icicle/Chumstick Watershed 1702001104. Outlet(s) = Wenatchee River (Lat 47.5575, Long −120.5729) upstream to endpoint(s) in: Wenatchee River (47.5801, −120.6660).

(v) Lower Wenatchee River Watershed 1702001105. Outlet(s) = Wenatchee River (Lat 47.4553, Long −120.3185) upstream to endpoint(s) in: Wenatchee River (47.5575, −120.5729).

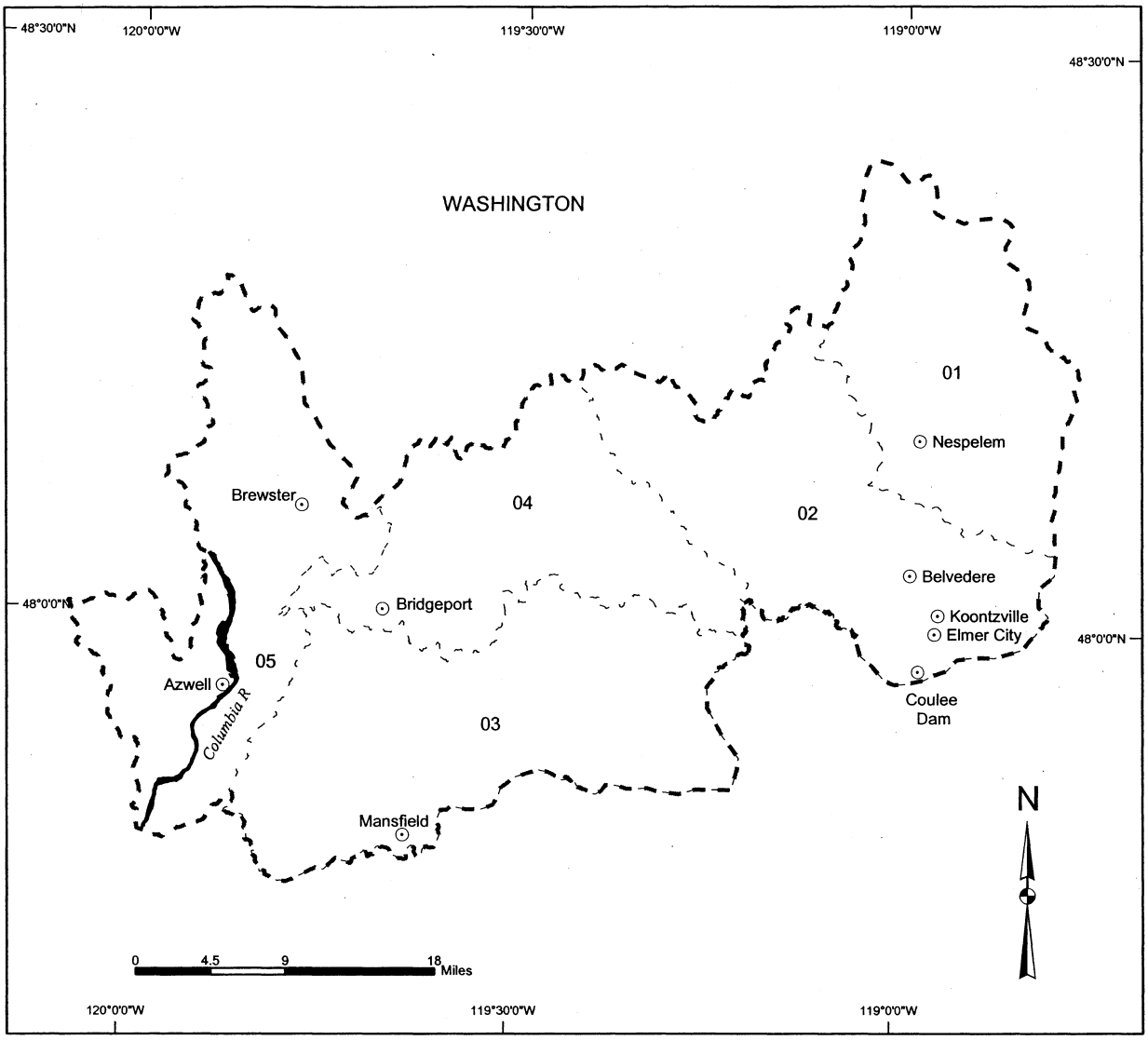
(5) Unit 5. Columbia River Corridor—*Columbia River Corridor.* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (47.3438, −120.0929).

(6) Maps of proposed critical habitat for the Upper Columbia River Spring-run chinook salmon ESU follow:


Map of the Upper Columbia River Spring-run Chinook Salmon ESU
121°0'0"W
120°0'0"W
119°0'0"W
CANADA
49°0'0"N
N
17020008
Unit 2
48°0'0"N
17020005
Unit 1
48°0'0"N
17020011
Unit 4
17020010
Unit 3
WASHINGTON
0 10 20 40 Miles
121°0'0"W
120°0'0"W
119°0'0"W
Legend
State Boundaries
Water Bodies
Subbasin Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU

CHIEF JOSEPH SUBBASIN 17020005, Unit 1

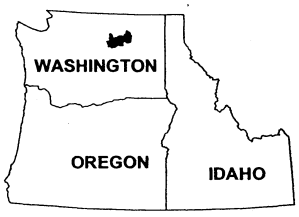


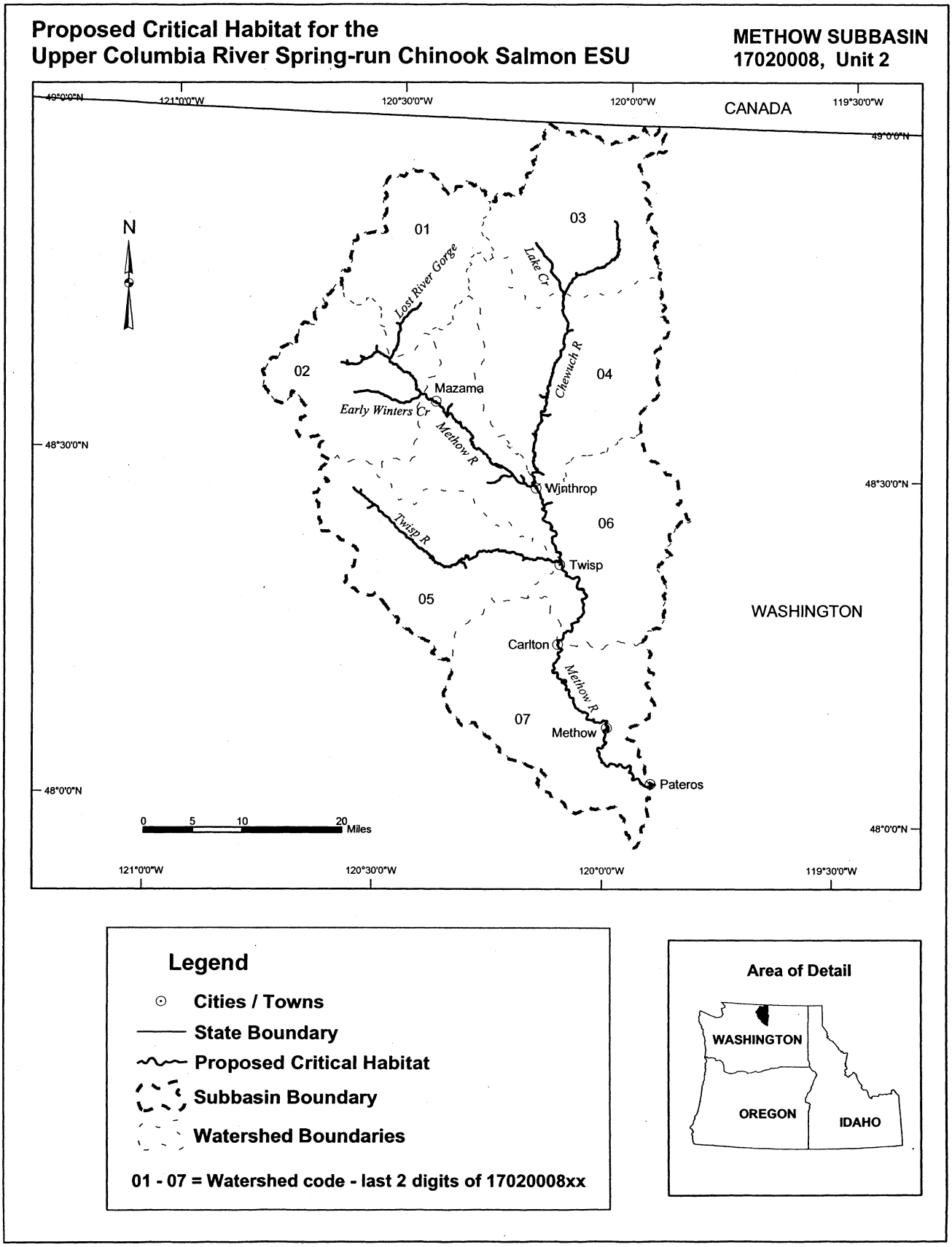
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 05 = Watershed code - last 2 digits of 17020005xx

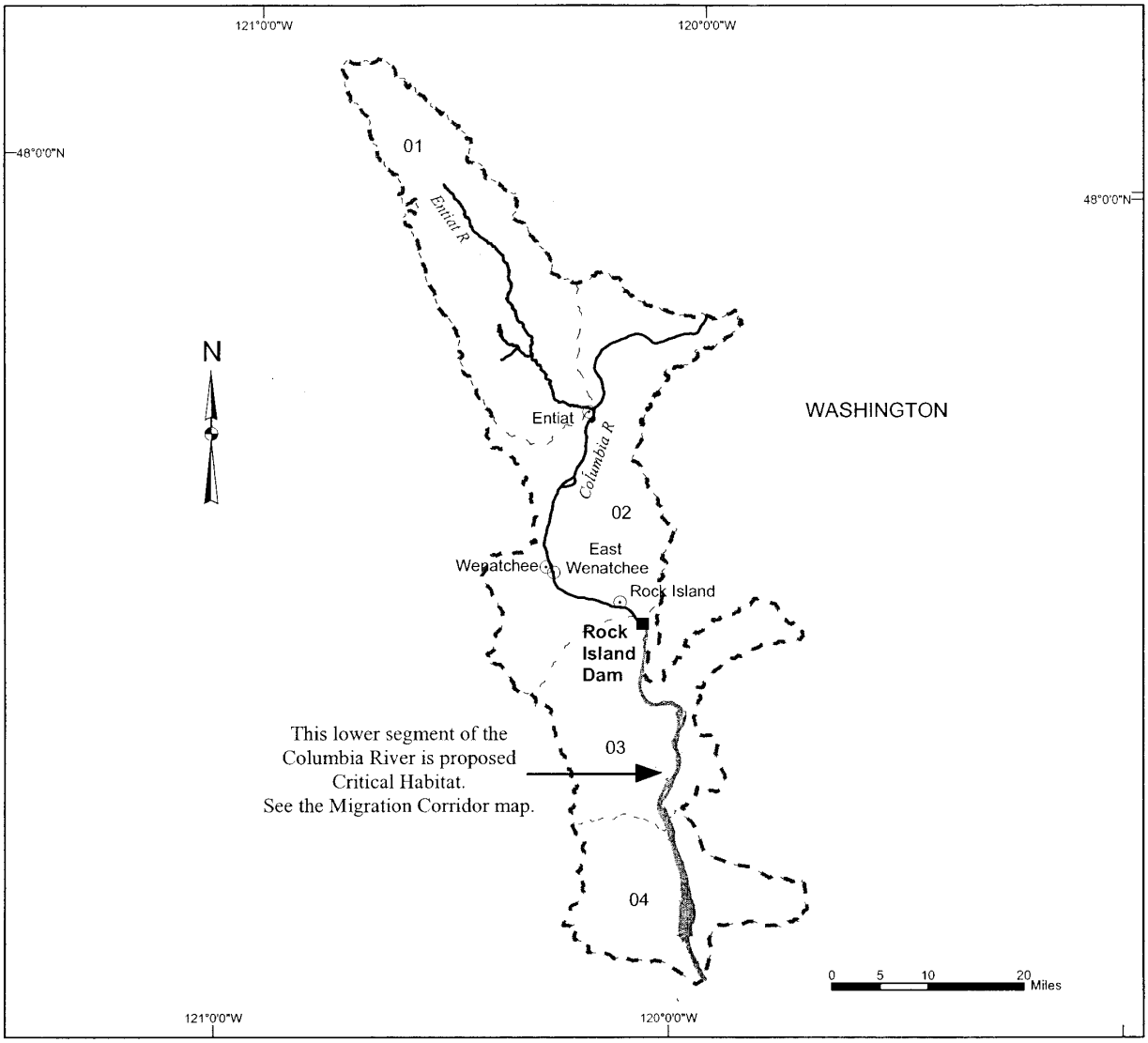
Area of Detail




Proposed Critical Habitat for the
Upper Columbia River Spring-run Chinook Salmon ESU
METHOW SUBBASIN
17020008, Unit 2
CANADA
WASHINGTON
N
01
02
03
04
05
06
07
Lost River Gorge
Lake Cr
Chewuch R
Mazama
Early Winters Cr
Methow R
Winthrop
Twisp R
Twisp
Carlton
Methow R
Methow
Pateros
0 5 10 20 Miles
49°0'0"N
48°30'0"N
48°0'0"N
121°0'0"W
120°30'0"W
120°0'0"W
119°30'0"W
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 07 = Watershed code - last 2 digits of 17020008xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Upper Columbia River Spring-run Chinook Salmon ESU

UPPER COLUMBIA / ENTIAT SUBBASIN 17020010, Unit 3

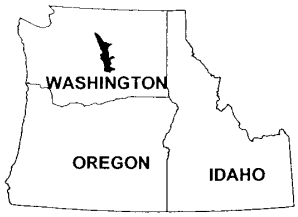


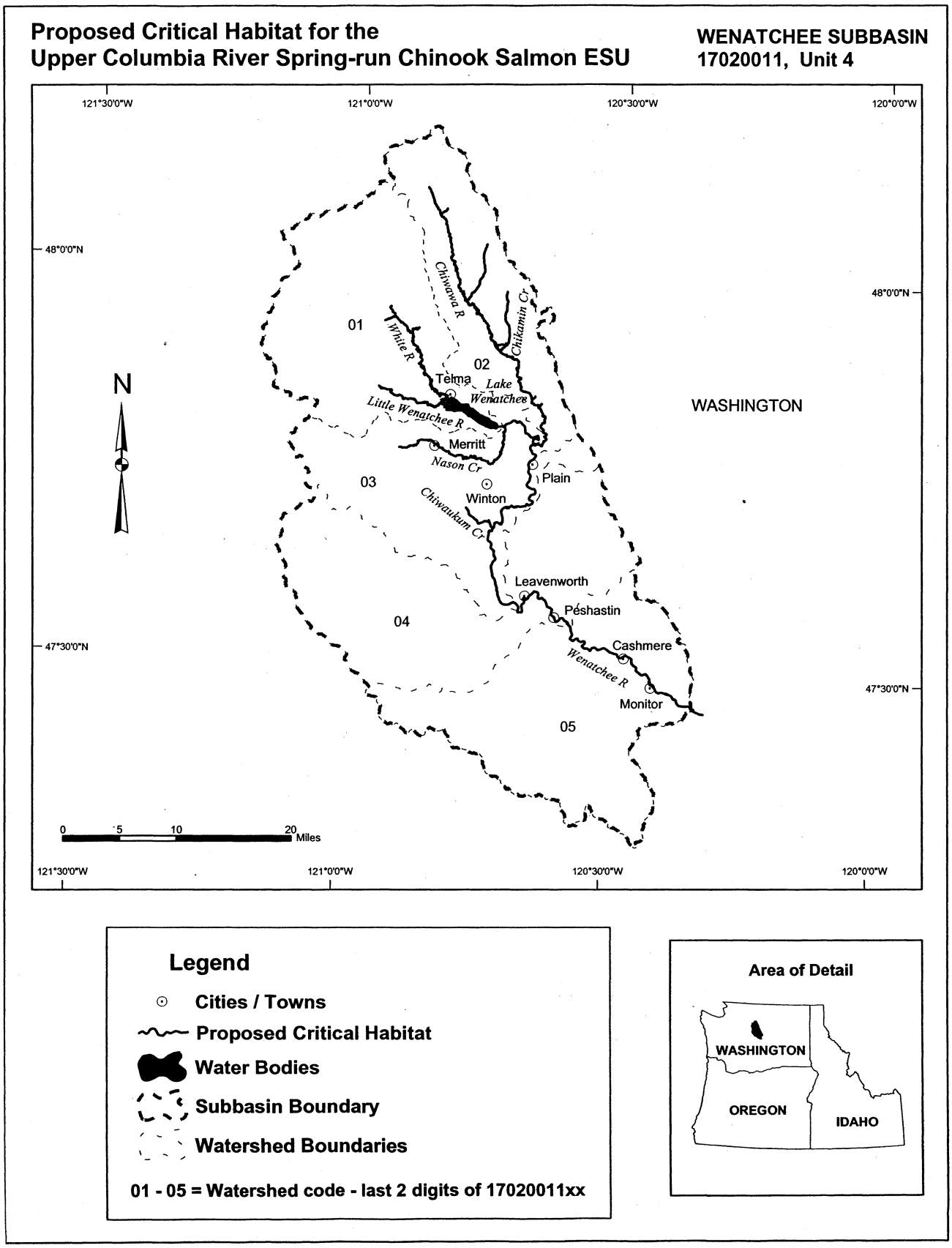
Legend

- Cities / Towns
- Proposed Critical Habitat
- Water Body
- Subbasin Boundary
- Watershed Boundaries

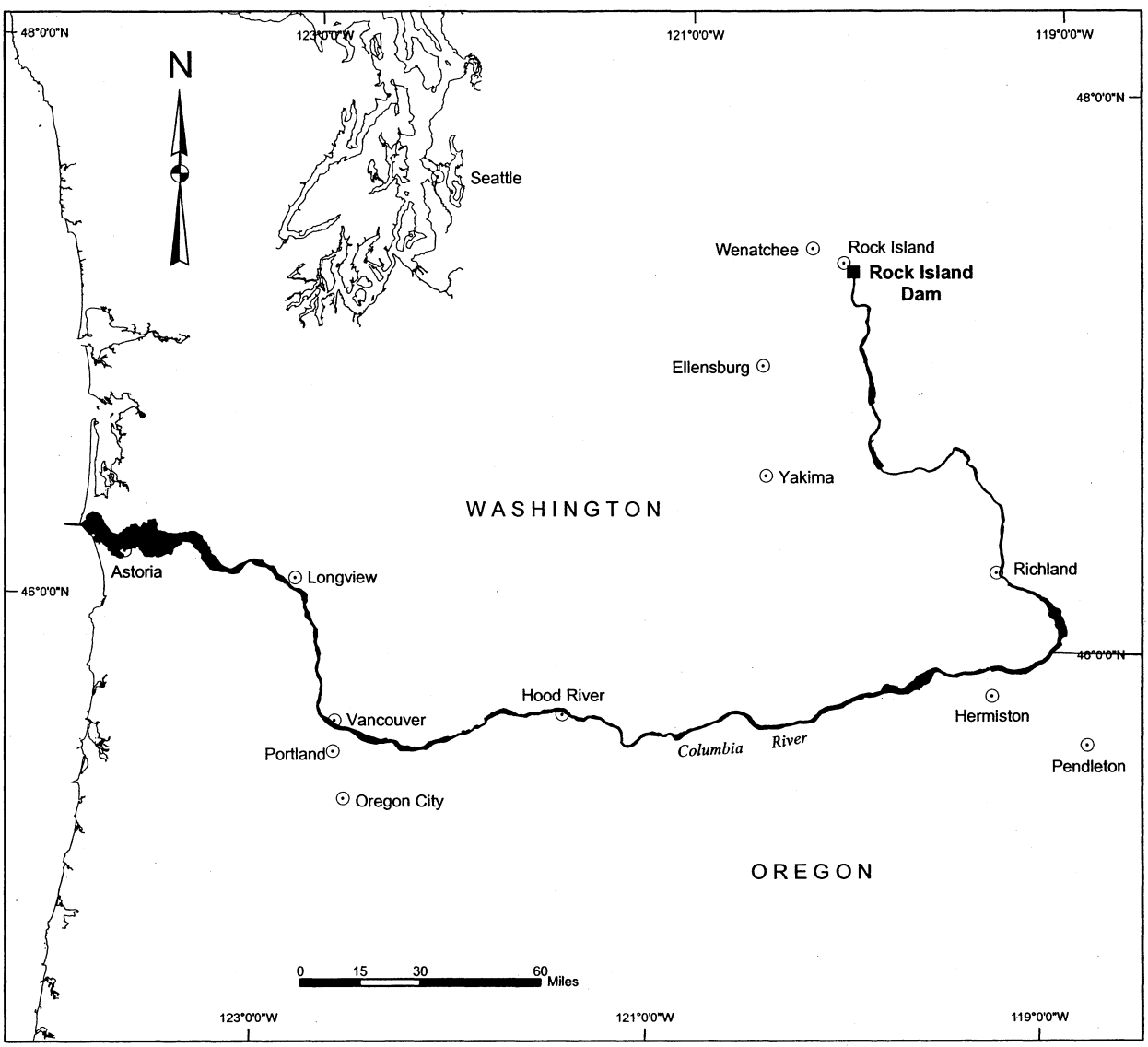
01 - 04 = Watershed code - last 2 digits of 17020010xx

Area of Detail




Proposed Critical Habitat for the
Upper Columbia River Spring-run Chinook Salmon ESU
WENATCHEE SUBBASIN
17020011, Unit 4
121°30'0"W
121°0'0"W
120°30'0"W
120°0'0"W
48°0'0"N
47°30'0"N
N
01
02
03
04
05
Chiwawa R
Chikamin Cr
White R
Lake Wenatchee
Little Wenatchee R
Nason Cr
Chiwaukum Cr
Wenatchee R
Tema
Merritt
Winton
Plain
Leavenworth
Peshastin
Cashmere
Monitor
WASHINGTON
0 5 10 20 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17020011xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Rearing / Migration Corridor for the Upper Columbia River Spring-run Chinook Salmon ESU, Unit 5



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Upper Columbia River Spring Chinook ESU

Unit 5. Columbia River Corridor
The Columbia River Corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to Rock Island Dam.

BILLING CODE 3510–22–C

(j) Oregon Coast Coho Salmon (Oncorhynchus kisutch). Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Necanicum Subbasin 17100201—*Necanicum River Watershed 1710020101.* Outlet(s) = Arch Cape Creek (Lat 45.8035, Long −123.9656); Asbury Creek (45.8150, −123.9624); Ecola Creek (45.8959, −123.9649); Necanicum River (46.0113, −123.9264); Short Sand Creek (45.7595, −123.9641) upstream to endpoint(s) in: Arch Cape Creek (45.8044, −123.9404); Asbury Creek (45.8150, −123.9584); Beerman Creek (45.9557, −123.8749); Bergsvik Creek (45.8704, −123.7650); Brandis Creek (45.8894, −123.8529); Charlie Creek (45.9164, −123.7606); Circle Creek (45.9248, −123.9436); Circle Creek Trib A (45.9335, −123.9457); North Fork Ecola Creek (45.8705, −123.9070); West Fork Ecola Creek (45.8565, −123.9424); Grindy Creek (45.9179, −123.7390); Hawley Creek (45.9259, −123.8864); Joe Creek (45.8747, −123.7503); Johnson Creek (45.8885, −123.8816); Klootchie Creek (45.9450, −123.8413); Klootchie Creek Trib A (45.9250, −123.8447); Lindsley Creek (45.9198, −123.8339); Little Humbug Creek (45.9235, −123.7653); Little Joe Creek (45.8781, −123.7852); Little Muddy Creek (45.9551, −123.9559); Mail Creek (45.8887, −123.8655); Meyer Creek (45.9279, −123.9135); Mill Creek (46.0245, −123.8905); Mill Creek Trib 1 (46.0142, −123.8967); Neacoxie Creek (46.0245, −123.9157); Neawanna Creek (45.9810, −123.8809); Necanicum River (45.9197, −123.7106); North Fork Necanicum River (45.9308, −123.7986); North Fork Necanicum River Trib A (45.9398, −123.8109); South Fork Necanicum River (45.8760, −123.8122); Shangrila Creek (45.9706, −123.8778); Short Sand Creek (45.7763, −123.9406); Thompson Creek (46.0108, −123.8951); Tolovana Creek (45.8581, −123.9370); Unnamed (45.8648, −123.9371); Unnamed (45.8821, −123.9318); Unnamed (45.8881, −123.7436); Unnamed (45.8883, −123.9366); Unnamed (45.8906, −123.7460); Unnamed (45.8912, −123.9433); Unnamed (45.8950, −123.8715); Unnamed (45.9026, −123.9540); Unnamed (45.9046, −123.9578); Unnamed (45.9050, −123.9585); Unnamed (45.9143, −123.8656); Unnamed (45.9161, −123.9000); Unnamed (45.9210, −123.8668); Unnamed (45.9273, −123.8499); Unnamed (45.9292, −123.8900); Unnamed (45.9443, −123.9038); Unnamed (45.9850, −123.8999); Unnamed (46.0018, −123.8998); Volmer Creek (45.9049, −123.9139); Warner Creek (45.8887, −123.7801); Williamson Creek (45.9522, −123.9060).

(2) Unit 2. Nehalem Subbasin 17100202—*(i) Upper Nehalem River Watershed 1710020201.* Outlet(s) = Nehalem River (Lat 45.9019, Long −123.1442) upstream to endpoint(s) in: Bear Creek (45.7781, −123.4252); Bear Creek (45.8556, −123.2205); Beaver Creek (45.7624, −123.2073); Beaver Creek Trib A (45.8071, −123.2143); Beaver Creek Trib B (45.7711, −123.2318); Carlson Creek (45.7173, −123.3425); Castor Creek (45.7103, −123.2698); Cedar Creek (45.8528, −123.2928); Clear Creek, Lower North Fork (45.8229, −123.3111); Clear Creek (45.8239, −123.3531); Coal Creek Trib B (45.8149, −123.1174); Coal Creek (45.7978, −123.1293); Coon Creek (45.8211, −123.1446); Dell Creek (45.7919, −123.1559); Derby Creek (45.7225, −123.3857); Dog Creek (45.8957, −123.0741); Elk Creek (45.8256, −123.1290); Fall Creek (45.8626, −123.3247); Ginger Creek (45.8520, −123.3511); Ivy Creek (45.8938, −123.3160); Jim George Creek (45.8009, −123.1041); Kenusky Creek (45.8859, −123.0422); Kist Creek (45.7826, −123.2507); Lousignont Creek (45.7424, −123.3722); Lousignont Creek, North Fork (45.7463, −123.3576); Martin Creek (45.8474, −123.4025); Maynard Creek (45.8556, −123.3038); Military Creek (45.8233, −123.4812); Nehalem River (45.7269, −123.4159); Nehalem River, East Fork (45.8324, −123.0502); Olson Creek (45.8129, −123.3853); Pebble Creek (45.7661, −123.1357); Pebble Creek, West Fork (45.7664, −123.1899); Robinson Creek (45.7363, −123.2512); Rock Creek (45.8135, −123.5201); Rock Creek, North Fork (45.8616, −123.4560); Rock Creek, South Fork (45.7598, −123.4249); Rock Creek Trib C (45.7957, −123.4882); South Fork Rock Creek Trib A (45.7753, −123.4586); South Fork Nehalem River (45.7073, −123.4017); Selder Creek (45.8975, −123.3806); South Fork Clear Creek (45.8141, −123.3484); South Prong Clear Creek (45.7832, −123.2975); Step Creek (45.6824, −123.3348); Swamp Creek (45.8217, −123.2004); Unnamed (45.7270, −123.3419); Unnamed (45.8095, −123.0908); Unnamed (45.7558, −123.2630); Unnamed (45.7938, −123.3847); Unnamed (45.7943, −123.4059); Unnamed (45.8197, −123.0679); Unnamed (45.8477, −123.0734); Unnamed (45.8817, −123.1266); Unnamed (45.8890, −123.3817); Unnamed (45.9019, −123.1346); Weed Creek (45.8707, −123.4049); Wolf Creek, South Fork (45.7989, −123.4028); Wolf Creek (45.7768, −123.3556).

(ii) Middle Nehalem River Watershed 1710020202. Outlet(s) = Nehalem River (Lat 45.9838, Long −123.4214) upstream to endpoint(s) in: Adams Creek (46.0263, −123.2869); Archibald Creek (45.9218, −123.0829); Beaver Creek (46.0554, −123.2985); Boxler Creek (46.0486, −123.3521); Calvin Creek (45.9514, −123.2976); Cedar Creek (45.9752, −123.1143); Cook Creek (45.9212, −123.1087); Cow Creek (46.0500, −123.4326); Crooked Creek (45.9043, −123.2689); Deep Creek (45.9461, −123.3719); Deep Creek Trib A (45.9127, −123.3794); Deep Creek Trib B (45.9314, −123.3809); Deer Creek (45.9033, −123.3142); Eastman Creek (46.0100, −123.2262); Fall Creek (45.9438, −123.2012); Fishhawk Creek (46.0596, −123.3857); Fishhawk Creek, North Fork (46.0907, −123.3675); Fishhawk Creek, Trib C (46.0808, −123.3692); Ford Creek (46.0570, −123.2872); Gus Creek (45.9828, −123.1453); Johnson Creek (46.0021, −123.2133); Lane Creek (45.9448, −123.3253); Little Deer Creek (45.9378, −123.2780); Lousignont Creek (46.0342, −123.4186); Lundgren Creek (46.0240, −123.2092); McCoon Creek (46.0665, −123.3043); Messing Creek (46.0339, −123.2260); Nehalem River (45.9019, −123.1442); Northrup Creek (46.0672, −123.4377); Oak Ranch Creek (45.9085, −123.0834); Sager Creek (45.9388, −123.4020); Unnamed (45.9039, −123.2044); Unnamed (45.9067, −123.0595); Unnamed (45.9488, −123.2220); Unnamed (45.9629, −123.3845); Unnamed (45.9999, −123.1732); Unnamed (46.0088, −123.4508); Unnamed (46.0208, −123.4588); Unnamed (46.0236, −123.2381); Unnamed (46.0308, −123.3135); Unnamed (46.0325, −123.4650); Unnamed (46.0390, −123.3648); Unnamed (46.0776, −123.3274); Unnamed (46.0792, −123.3409); Unnamed (46.0345, −123.2956); Warner Creek (46.0312, −123.3817); Wrong Way Creek (46.0789, −123.3142).

(iii) Lower Nehalem River Watershed 1710020203. Outlet(s) = Nehalem River (Lat 45.7507, Long −123.6530) upstream to endpoint(s) in: Alder Creek (45.9069, −123.5907); Beaver Creek (45.8949, −123.6764); Big Creek (45.8655, −123.6476); Bull Heifer Creek (45.9908, −123.5322); Buster Creek (45.9306, −123.4165); Cedar Creek (45.8931, −123.6029); Cow Creek (45.8587, −123.5206); Crawford Creek (45.9699, −123.4725); Cronin Creek, Middle Fork (45.7719, −123.5747); Cronin Creek, North Fork (45.7795, −123.6064); Cronin Creek, South Fork (45.7456, −123.5596); Destruction

Creek (45.8750, −123.6571); East Humbug Creek (45.9454, −123.6358); Fishhawk Creek (45.9666, −123.5895); Fishhawk Creek (46.0224, −123.5374); George Creek (45.8461, −123.6226); George Creek (45.9118, −123.5766); Gilmore Creek (45.9609, −123.5372); Hamilton Creek (46.0034, −123.5881); Klines Creek (45.8703, −123.4908); Larsen Creek (45.8757, −123.5847); Liitle Fishhawk Creek (45.9256, −123.5501); Little Rock Creek (45.8886, −123.4558); McClure Creek (45.8560, −123.6227); Moores Creek (45.8801, −123.5178); Nehalem River (45.9838, −123.4214); Quartz Creek (45.8414, −123.5184); Spruce Run Creek (45.8103, −123.6028); Squaw Creek (45.9814, −123.4529); Stanley Creek (45.8861, −123.4352); Strum Creek (45.9321, −123.4275); Trailover Creek (46.0129, −123.4976); Unnamed (45.8083, −123.6280); Unnamed (45.8682, −123.6168); Unnamed (45.9078, −123.6630); Unnamed (45.9207, −123.4534); Unnamed (45.9405, −123.6338); Unnamed (45.9725, −123.5544); West Humbug Creek (45.9402, −123.6726); Walker Creek (45.9266, −123.4423); Walker Creek (46.0391, −123.5142); West Brook (45.9757, −123.4638).

(iv) Salmonberry River Watershed 1710020204. Outlet(s) = Salmonberry River (Lat 45.7507, Long −123.6530) upstream to endpoint(s) in: Pennoyer Creek (45.7190, −123.4366); Salmonberry River (45.7248, −123.4436); Salmonberry River, North Fork (45.7181, −123.5204); Wolf Creek (45.6956, −123.4485).

(v) North Fork of Nehalem River Watershed 1710020205. Outlet(s) = Nehalem River, North Fork (Lat 45.7317, Long −123.8765) upstream to endpoint(s) in: Acey Creek (45.7823, −123.8292); Anderson Creek (45.7643, −123.9073); Big Rackheap Creek (45.7546, −123.8145); Boykin Creek (45.8030, −123.8595); Buchanan Creek (45.8270, −123.7901); Coal Creek (45.7897, −123.8676); Coal Creek, West Fork (45.7753, −123.8871); Cougar Creek (45.8064, −123.8090); Fall Creek (45.7842, −123.8547); Fall Creek (45.8226, −123.7054); Gods Valley Creek (45.7689, −123.7793); Grassy Lake Creek (45.7988, −123.8193); Gravel Creek (45.7361, −123.8126); Henderson Creek (45.7932, −123.8548); Jack Horner Creek (45.8531, −123.7837); Lost Creek (45.7909, −123.7195); Nehalem River, Little North Fork (45.9101, −123.6972); Nehalem River, North Fork (45.8623, −123.7463); Nehalem River, North Fork, Trib R (45.8287, −123.6625); Nehalem River, North Fork, Trib T (45.8492, −123.6796); Rackheap Creek (45.7677, −123.8008); Sally Creek (45.8294, −123.7468); Soapstone Creek (45.8498, −123.7469); Soapstone Creek, Trib A (45.8591, −123.7616); Sweethome Creek (45.7699, −123.6616); Unnamed (45.7457, −123.8490); Unnamed (45.7716, −123.7691); Unnamed (45.7730, −123.7789); Unnamed (45.7736, −123.7607); Unnamed (45.7738, −123.7534); Unnamed (45.7780, −123.7434); Unnamed (45.7784, −123.7742); Unnamed (45.7794, −123.7315); Unnamed (45.7824, −123.7396); Unnamed (45.7833, −123.7680); Unnamed (45.7841, −123.7299); Unnamed (45.7858, −123.7660); Unnamed (45.7898, −123.7424); Unnamed (45.7946, −123.7365); Unnamed (45.7966, −123.7953); Unnamed (45.8008, −123.7349); Unnamed (45.8193, −123.7436); Unnamed (45.8322, −123.7789); Unnamed (45.8359, −123.7766); Unnamed (45.8569, −123.7235); Unnamed (45.8629, −123.7347); Unnamed (45.8662, −123.7444); Unnamed (45.8962, −123.7189).

(vi) Lower Nehalem River/Cook Creek Watershed 1710020206. Outlet(s) = Nehalem River (Lat 45.6577, Long −123.9355) upstream to endpoint(s) in: Alder Creek (45.7286, −123.9091); Anderson Creek (45.6711, −123.7470); Bastard Creek (45.7667, −123.6943); Bob's Creek (45.7444, −123.9038); Cook Creek (45.6939, −123.6146); Cook Creek, East Fork (45.6705, −123.6440); Daniels Creek (45.6716, −123.8606); Dry Creek (45.6449, −123.8507); Dry Creek (45.6985, −123.7422); East Foley Creek (45.6621, −123.8068); Fall Creek (45.7489, −123.7778); Foley Creek (45.6436, −123.8933); Gallagher Slough (45.7140, −123.8657); Hanson Creek (45.6611, −123.7179); Harliss Creek (45.6851, −123.7249); Helloff Creek (45.7545, −123.7603); Hoevett Creek (45.6894, −123.6276); Jetty Creek (45.6615, −123.9103); Lost Creek (45.7216, −123.7164); Nehalem River (45.7507, −123.6530); Peterson Creek (45.6975, −123.8098); Piatt Canyon (45.6844, −123.6983); Roy Creek (45.7174, −123.8038); Snark Creek (45.7559, −123.6713); Unnamed (45.6336, −123.8549); Unnamed (45.6454, −123.8663); Unnamed (45.6483, −123.8605); Unnamed (45.6814, −123.8786); Unnamed (45.7231, −123.9016).

(3) Unit 3. Wilson/Trask/Nestucca Subbasin 17100203—*(i) Little Nestucca River Watershed 1710020301.* Outlet(s) = Little Nestucca River (Lat 45.1827, Long −123.9543) upstream to endpoint(s) in: Austin Creek (45.1080, −123.8748); Austin Creek, West Fork (45.1074, −123.8894); Baxter Creek (45.1149, −123.7705); Bear Creek (45.1310, −123.8500); Bowers Creek (45.1393, −123.9198); Cedar Creek (45.0971, −123.8094); Fall Creek (45.1474, −123.8767); Hiack Creek (45.0759, −123.8042); Kautz Creek (45.0776, −123.8317); Kellow Creek (45.1271, −123.9072); Little Nestucca River (45.0730, −123.7825); Little Nestucca River, South Fork (45.0754, −123.8393); Louie Creek (45.1277, −123.7869); McKnight Creek (45.1124, −123.8363); Small Creek (45.1151, −123.8227); Sourgrass Creek (45.0917, −123.7623); Sourgrass Creek, Trib A (45.1109, −123.7664); Squaw Creek (45.1169, −123.8938); Stillwell Creek (45.0919, −123.8141); Unnamed (45.1169, −123.7974).

(ii) Nestucca River Watershed 1710020302. Outlet(s) = Nestucca Bay (Lat 45.1607, Long −123.9678) upstream to endpoint(s) in: Alder Creek (45.1436, −123.7998); Alder Creek (45.2436, −123.7364); Bays Creek (45.3197, −123.7240); Bear Creek (45.3188, −123.6022); Bear Creek (45.3345, −123.7898); Beulah Creek (45.2074, −123.6747); Bible Creek (45.2331, −123.5868); Boulder Creek (45.2530, −123.7525); Buck Creek (45.1455, −123.7734); Cedar Creek (45.3288, −123.4531); Clarence Creek (45.2649, −123.6395); Clear Creek (45.1725, −123.8660); Crazy Creek (45.1636, −123.7595); Dahl Fork (45.2306, −123.7076); East Beaver Creek (45.3579, −123.6877); East Creek (45.3134, −123.6348); Elk Creek (45.3355, −123.5819); Elk Creek, Trib A (45.2926, −123.5381); Elk Creek, Trib B (45.2981, −123.5471); Fan Creek (45.2975, −123.4994); Farmer Creek (45.2593, −123.9074); Foland Creek (45.2508, −123.7890); Foland Creek, West Fork (45.2519, −123.8025); George Creek (45.2329, −123.8291); Ginger Creek (45.3283, −123.4680); Hartney Creek (45.2192, −123.8632); Horn Creek (45.2556, −123.9212); Lawrence Creek (45.1861, −123.7852); Limestone Creek (45.2472, −123.7169); Mina Creek (45.2444, −123.6197); Moon Creek (45.3293, −123.6762); North Beaver Creek (45.3497, −123.8961); Nestucca River (45.3231, −123.4447); Niagara Creek (45.1898, −123.6637); Pheasant Creek (45.2121, −123.6366); Pollard Creek (45.1951, −123.7958); Powder Creek (45.2305, −123.6974); Saling Creek (45.2691, −123.8474); Sanders Creek (45.2254, −123.8959); Slick Rock Creek (45.2683, −123.6106); Swab Creek (45.2889, −123.7656); Testament Creek (45.2513, −123.5488); Three Rivers (45.1785, −123.7557); Tiger Creek (45.3405, −123.8029); Tiger

Creek, Trib A (45.3346, −123.8547); Tony Creek (45.2575, −123.7735); Turpy Creek (45.2537, −123.7620); Unnamed (45.1924, −123.8202); Unnamed (45.2290, −123.9398); Unnamed (45.3018, −123.4636); Unnamed (45.3102, −123.6628); Unnamed (45.3148, −123.6616); Unnamed (45.3158, −123.8679); Unnamed (45.3292, −123.8872); West Beaver Creek (45.3109, −123.8840); West Creek (45.2899, −123.8514); Wildcat Creek (45.3164, −123.8187); Wolfe Creek (45.3113, −123.7658); Woods Creek (45.1691, −123.8070).

(iii) Tillamook River Watershed 1710020303. Outlet(s) = Tillamook River (Lat 45.4682, Long −123.8802) upstream to endpoint(s) in: Bear Creek (45.4213, −123.8885); Beaver Creek (45.4032, −123.8861); Bewley Creek (45.3637, −123.8965); Esther Creek (45.4464, −123.9017); Fawcett Creek (45.3824, −123.7210); Joe Creek (45.3754, −123.8257); Killam Creek (45.4087, −123.7276); Mills Creek (45.3461, −123.7915); Munson Creek (45.3626, −123.7681); Simmons Creek (45.3605, −123.7364); Sutton Creek (45.4049, −123.8568); Tillamook River (45.3595, −123.9115); Tomlinson Creek (45.4587, −123.8868); Unnamed (45.3660, −123.8313); Unnamed (45.3602, −123.8466); Unnamed (45.3654, −123.9050); Unnamed (45.3987, −123.7105); Unnamed (45.4083, −123.8160); Unnamed (45.4478, −123.8670); Unnamed (45.3950, −123.7348).

(iv) Trask River Watershed 1710020304. Outlet(s) = Trask River (Lat 45.4682, Long −123.8802) upstream to endpoint(s) in: Bales Creek (45.3712, −123.5786); Bark Shanty Creek (45.4232, −123.5550); Bear Creek (45.4192, −123.7408); Bill Creek (45.3713, −123.6386); Blue Bus Creek (45.4148, −123.5949); Boundry Creek (45.3493, −123.5470); Clear Creek #1 (45.4638, −123.5571); Clear Creek #2 (45.5025, −123.4683); Cruiser Creek (45.4201, −123.4753); Dougherty Slough (45.4684, −123.7888); East Fork of South Fork Trask River (45.3563, −123.4752); Edwards Creek (45.3832, −123.6676); Elkhorn Creek, Trib C (45.4080, −123.4440); Elkhorn Creek (45.3928, −123.4709); Gold Creek (45.4326, −123.7218); Green Creek (45.4510, −123.7361); Hatchery Creek (45.4485, −123.6623); Headquarters Camp Creek (45.3317, −123.5072); Hoquarten Slough (45.4597, −123.8480); Joyce Creek (45.3881, −123.6386); Michael Creek (45.4799, −123.5119); Mill Creek (45.4100, −123.7450); Miller Creek (45.3582, −123.5666); Pigeon Creek (45.3910, −123.5656); Rawe Creek (45.4395, −123.6351); Rock Creek (45.3515, −123.5074); Samson Creek (45.4662, −123.6439); Scotch Creek (45.4015, −123.5873); Steampot Creek (45.3875, −123.5425); Stretch Creek (45.3483, −123.5382); Summit Creek (45.3481, −123.6054); Summit Creek, South Fork (45.3473, −123.6145); Trask River, North Fork, Middle Fork (45.4472, −123.3945); Trask River, North Fork, North Fork (45.5275, −123.4177); Trask River, South Fork (45.3538, −123.6445); Trib A (45.3766, −123.5191); Trib B (45.3776, −123.4988); Unnamed (45.3639, −123.6054); Unnamed (45.4105, −123.7741); Unnamed (45.4201, −123.6320); Unnamed (45.4220, −123.7654).

(v) Wilson River Watershed 1710020305. Outlet(s) = Wilson River (Lat 45.4816, Long −123.8708) upstream to endpoint(s) in: Beaver Creek (45.4894, −123.7933); Ben Smith Creek (45.5772, −123.5072); Cedar Creek (45.5869, −123.6228); Cedar Creek, North Fork (45.6066, −123.6151); Deo Creek (45.6000, −123.3716); Drift Creek (45.6466, −123.3944); Elk Creek (45.6550, −123.4620); Elk Creek, West Fork (45.6208, −123.4717); Elliott Creek (45.5997, −123.3925); Fall Creek (45.4936, −123.5616); Fox Creek (45.5102, −123.5869); Hatchery Creek (45.4835, −123.7074); Hughey Creek (45.4540, −123.7526); Idiot Creek (45.6252, −123.4296); Jones Creek (45.6028, −123.5702); Jordan Creek (45.5610, −123.4557); Jordan Creek, South Fork (45.5099, −123.5279); Kansas Creek (45.4861, −123.6434); Morris Creek (45.6457, −123.5409); Tuffy Creek (45.5787, −123.4702); Unnamed (45.4809, −123.8362); Unnamed (45.5758, −123.5226); Unnamed (45.5942, −123.4259); Unnamed (45.6002, −123.5939); Unnamed (45.6151, −123.4385); White Creek (45.5181, −123.7223); Wilson River, Devil's Lake Fork (45.6008, −123.3301); Wilson River, North Fork (45.6679, −123.5138); Wilson River, North Fork, Little (45.5283, −123.6771); Wilson River, North Fork, West Fork (45.6330, −123.5879); Wilson River, North Fork, West Fork, North Fork (45.6495, −123.5779); Wilson River, South Fork (45.5567, −123.3965); Wolf Creek (45.5683, −123.6129).

(vi) Kilchis River Watershed 1710020306. Outlet(s) = Kilchis River (Lat 45.4927, Long −123.8615) upstream to endpoint(s) in: Clear Creek (45.5000, −123.7647); Coal Creek (45.5004, −123.8085); Company Creek (45.5892, −123.7370); French Creek (45.6318, −123.6926); Kilchis River, Little South Fork (45.5668, −123.7178); Kilchis River, North Fork (45.6044, −123.6504); Kilchis River, South Fork (45.5875, −123.6944); Mapes Creek (45.5229, −123.8382); Murphy Creek (45.5320, −123.8341); Myrtle Creek (45.5296, −123.8156); Sam Downs Creek (45.5533, −123.7144); Schroeder Creek (45.6469, −123.7064); Unnamed (45.5625, −123.7593).

(vii) Miami River Watershed 1710020307. Outlet(s) = Miami River (Lat 45.5597, Long −123.8904) upstream to endpoint(s) in: Diamond Creek (45.6158, −123.8184); Hobson Creek (45.5738, −123.8970); Illingsworth Creek (45.5547, −123.8693); Miami River (45.6362, −123.7533); Miami River, Trib S (45.6182, −123.8004); Miami River, Trib T (45.6546, −123.7463); Minich Creek (45.5869, −123.8936); Moss Creek (45.5628, −123.8319); Peterson Creek (45.6123, −123.8996); Prouty Creek (45.6304, −123.8435); Stuart Creek (45.6042, −123.8442); Unnamed (45.6317, −123.7906); Unnamed (45.6341, −123.7900); Waldron Creek (45.5856, −123.8483).

(viii) Tillamook Bay Watershed 1710020308. Outlet(s) = Tillamook Bay (Lat 45.5600, Long −123.9366) upstream to endpoint(s) in: Douthy Creek (45.5277, −123.8570); Electric Creek (45.5579, −123.8925); Hall Slough (45.4736, −123.8637); Jacoby Creek (45.5297, −123.8665); Kilchis River (45.4927, −123.8615); Larson Creek (45.5366, −123.8849); Miami River (45.5597, −123.8904); Patterson Creek (45.5359, −123.8732); Tillamook Bay (45.4682, −123.8802); Vaughn Creek (45.5170, −123.8516); Wilson River (45.4816, −123.8708).

(ix) Spring Creek/Sand Lake/Neskowin Creek Frontal Watershed 1710020309. Outlet(s) = Crescent Lake (45.6360, −123.9405); Neskowin Creek (45.1001, −123.9859); Netarts Bay (45.4339, −123.9512); Rover Creek (45.3290, −123.9670); Sand Creek (45.2748, −123.9589); Watesco Creek (45.5892, −123.9477) upstream to endpoint(s) in: Andy Creek (45.2905, −123.8744); Butte Creek (45.1159, −123.9360); Crescent Lake (45.6320, −123.9376); Davis Creek (45.3220, −123.9254); Fall Creek (45.0669, −123.9679); Hawk Creek (45.1104, −123.9436); Jackson Creek (45.3568, −123.9611); Jewel Creek (45.2865, −123.8905); Jim Creek (45.0896, −123.9224); Lewis Creek (45.0835, −123.8979); Meadow Creek (45.0823, −123.9824); Neskowin Creek (45.0574, −123.8812); Prospect Creek (45.0858, −123.9321); Reneke Creek (45.2594, −123.9434); Rover Creek (45.3284, −123.9438); Sand Creek (45.3448, −123.9156); Sloan Creek (45.0718, −123.8998); Watesco Creek (45.5909,

−123.9353); Whiskey Creek (45.3839, −123.9193).

(4) Unit 4. Siletz/Yaquina Subbasin 17100204—*(i) Upper Yaquina River Watershed 1710020401.* Outlet(s) = Yaquina River (Lat 44.6219, Long −123.8741) upstream to endpoint(s) in: Bales Creek (44.6893, −123.7503); Bales Creek, East Fork (44.6927, −123.7363); Bales Creek, East Fork, Trib A (44.6827, −123.7257); Bales Creek (44.6610, −123.8749); Bones Creek (44.6647, −123.6762); Bryant Creek (44.6746, −123.7139); Buckhorn Creek (44.6676, −123.6677); Buttermilk Creek (44.6338, −123.6827); Buttermilk Creek, Trib A (44.6518, −123.7173); Carlisle Creek (44.6451, −123.8847); Cline Creek (44.6084, −123.6844); Cook Creek (44.6909, −123.8583); Crystal Creek (44.6500, −123.8132); Davis Creek (44.6500, −123.6587); Eddy Creek (44.6388, −123.7951); Felton Creek (44.6626, −123.6502); Haxel Creek (44.6781, −123.8046); Hayes Creek (44.6749, −123.7749); Humphrey Creek (44.6697, −123.6329); Klamath Creek (44.6927, −123.8431); Little Elk Creek (44.6234, −123.6628); Little Elk Creek,Trib A (44.6196, −123.7583); Little Yaquina River (44.6822, −123.6123); Lytle Creek (44.6440, −123.5979); Miller Creek (44.6055, −123.7030); Oglesby Creek (44.6421, −123.7271); Oglesby Creek, Trib A (44.6368, −123.7100); Peterson Creek (44.6559, −123.7868); Randall Creek (44.6721, −123.6570); Salmon Creek (44.6087, −123.7379); Simpson Creek (44.6775, −123.8780); Sloop Creek (44.6654, −123.8595); Spilde Creek (44.6636, −123.5856); Stony Creek (44.6753, −123.7020); Thornton Creek (44.6923, −123.8208); Trapp Creek (44.6455, −123.8307); Twentythree Creek (44.6887, −123.8751); Unnamed (44.6074, −123.6738); Unnamed (44.6076, −123.7067); Unnamed (44.6077, −123.6633); Unnamed (44.6123, −123.6646); Unnamed (44.6188, −123.7237); Unnamed (44.6202, −123.7201); Unnamed (44.6367, −123.7444); Unnamed (44.6415, −123.6237); Unnamed (44.6472, −123.7793); Unnamed (44.6493, −123.6789); Unnamed (44.6707, −123.7908); Unnamed (44.6715, −123.6907); Unnamed (44.6881, −123.6089); Unnamed (44.6908, −123.7298); Wakefield Creek (44.6336, −123.6963); Yaquina River (44.6894, −123.5907); Young Creek (44.6372, −123.6027).

(ii) Big Elk Creek Watershed 1710020402. Outlet(s) = Elk Creek (Lat 44.6219, Long −123.8741) upstream to endpoint(s) in: Adams Creek (44.5206, −123.6349); Baker Creek (44.5230, −123.6346); Bear Creek (44.5966, −123.8299); Beaver Creek (44.6040, −123.7999); Beaverdam Creek (44.5083, −123.6337); Bevens Creek (44.5635, −123.7371); Bull Creek (44.5408, −123.8162); Bull Creek (44.5431, −123.8142); Bull Creek, Trib A (44.5359, −123.8276); Cougar Creek (44.5070, −123.6482); Cougar Creek (44.5861, −123.7563); Deer Creek (44.6020, −123.7667); Devils Well Creek (44.6324, −123.8438); Dixon Creek (44.6041, −123.8659); Elk Creek (44.5075, −123.6022); Feagles Creek (44.4880, −123.7180); Feagles Creek, Trib B (44.5079, −123.6909); Feagles Creek, West Fork (44.5083, −123.7117); Grant Creek (44.5010, −123.7363); Harve Creek (44.5725, −123.8025); Jackass Creek (44.5443, −123.7790); Johnson Creek (44.5466, −123.6336); Lake Creek (44.5587, −123.6826); Leverage Creek (44.5536, −123.6343); Little Creek (44.5548, −123.6980); Little Wolf Creek (44.5590, −123.7165); Peterson Creek (44.5576, −123.6450); Rail Creek (44.5135, −123.6639); Spout Creek (44.5824, −123.6561); Sugarbowl Creek (44.5301, −123.5995); Unnamed (44.5048, −123.7566); Unnamed (44.5085, −123.6309); Unnamed (44.5108, −123.6249); Unnamed (44.5144, −123.6554); Unnamed (44.5204, −123.6148); Unnamed (44.5231, −123.6714); Unnamed (44.5256, −123.6804); Unnamed (44.5325, −123.7244); Unnamed (44.5332, −123.7211); Unnamed (44.5361, −123.7139); Unnamed (44.5370, −123.7643); Unnamed (44.5376, −123.6176); Unnamed (44.5410, −123.8213); Unnamed (44.5504, −123.8290); Unnamed (44.5530, −123.8282); Unnamed (44.5618, −123.8431); Unnamed (44.5687, −123.8563); Unnamed (44.5718, −123.7256); Unnamed (44.5734, −123.6696); Unnamed (44.5737, −123.6566); Unnamed (44.5771, −123.7027); Unnamed (44.5821, −123.8123); Unnamed (44.5840, −123.6678); Unnamed (44.5906, −123.7871); Unnamed (44.5990, −123.7808); Unnamed (44.5865, −123.8521); Wolf Creek (44.5873, −123.6939); Wolf Creek, Trib A (44.5862, −123.7188); Wolf Creek, Trib B (44.5847, −123.7062).

(iii) Lower Yaquina River Watershed 1710020403. Outlet(s) = Yaquina River (Lat 44.6098, Long −124.0818) upstream to endpoint(s) in: Abbey Creek (44.6330, −123.8881); Babcock Creek (44.5873, −123.9221); Beaver Creek (44.6717, −123.9799); Blue Creek (44.6141, −123.9936); Boone Slough, Trib A (44.6134, −123.9769); Depot Creek, Little (44.6935, −123.9482); Depot Creek, Trib A (44.6837, −123.9420); Drake Creek (44.6974, −123.9690); East Fork Mill Creek (44.5691, −123.8834); Flesher Slough (44.5668, −123.9803); King Slough (44.5944, −124.0323); Little Beaver Creek (44.6531, −123.9728); McCaffery Slough (44.5659, −124.0180); Mill Creek (44.5550, −123.9064); Mill Creek, Trib A (44.5828, −123.8750); Montgomery Creek (44.5796, −123.9286); Nute Slough (44.6075, −123.9660); Olalla Creek (44.6810, −123.8972); Olalla Creek, Trib A (44.6511, −123.9034); Parker Slough (44.5889, −124.0119); Unnamed (44.5471, −123.9557); Unnamed (44.5485, −123.9308); Unnamed (44.5520, −123.9433); Unnamed (44.5528, −123.9695); Unnamed (44.5552, −123.9294); Unnamed (44.5619, −123.9348); Unnamed (44.5662, −123.8905); Unnamed (44.5827, −123.9456); Unnamed (44.5877, −123.8850); Unnamed (44.6444, −123.9059); Unnamed (44.6457, −123.9996); Unnamed (44.6530, −123.9914); Unnamed (44.6581, −123.8947); Unnamed (44.6727–123.8942); Unnamed (44.6831, −123.9940); West Olalla Creek (44.6812, −123.9299); West Olalla Creek, Trib A (44.6649, −123.9204); Wessel Creek (44.6988, −123.9863); Wright Creek (44.5506, −123.9250); Wright Creek, Trib A (44.5658, −123.9422); Yaquina River (44.6219, −123.8741).

(iv) Middle Siletz River Watershed 1710020405. Outlet(s) = Siletz River (Lat 44.7375, Long −123.7917) upstream to endpoint(s) in: Buck Creek, East Fork (44.8410, −123.7970); Buck Creek, South Fork (44.8233, −123.8095); Buck Creek, West Fork (44.8352, −123.8084); Cerine Creek (44.7478, −123.7198); Deer Creek (44.8245, −123.7268); Deer Creek, Trib A (44.8178, −123.7397); Elk Creek (44.8704, −123.7668); Fourth of July Creek (44.8203, −123.6810); Gunn Creek (44.7816, −123.7679); Holman River (44.8412, −123.7707); Mill Creek, North Fork (44.7769, −123.7361); Mill Creek, South Fork (44.7554, −123.7276); Palmer Creek (44.7936, −123.8344); Siletz River (44.8629, −123.7323); Sunshine Creek (44.7977, −123.6963); Unnamed (44.7691, −123.7851); Unnamed (44.7747, −123.7740); Unnamed (44.7749, −123.7662); Unnamed (44.8118, −123.6926); Unnamed (44.8188, −123.6995); Unnamed (44.8312, −123.6983); Unnamed (44.8583, −123.7573); Whiskey Creek (44.8123, −123.6937).

(v) Rock Creek/Siletz River Watershed 1710020406. Outlet(s) = Rock Creek (Lat 44.7375, Long −123.7917) upstream to endpoint(s) in: Beaver Creek (44.7288,

−123.6773); Big Rock Creek (44.7636, −123.6969); Brush Creek (44.6829, −123.6582); Cedar Creek (44.7366, −123.6586); Fisher Creek (44.7149, −123.6359); Little Rock Creek (44.7164, −123.6155); Little Steere Creek (44.7219, −123.6368); Rock Creek, Trib A (44.7414, −123.7508); Steere Creek (44.7336, −123.6313); Unnamed (44.7175, −123.6496); William Creek (44.7391, −123.7277).

(vi) Lower Siletz River Watershed 1710020407. Outlet(s) = Siletz Bay (Lat 44.9269, Long −124.0218) upstream to endpoint(s) in: Anderson Creek (44.9311, −123.9508); Bear Creek (44.8682, −123.8891); Bentilla Creek (44.7745, −123.8555); Butterfield Creek (44.8587, −123.9993); Cedar Creek (44.8653, −123.8488); Cedar Creek, Trib D (44.8606, −123.8696); Coon Creek (44.7959, −123.8468); Dewey Creek (44.7255, −123.9724); Drift Creek (44.9385, −123.8211); Erickson Creek (44.9629, −123.9490); Euchre Creek (44.8023, −123.8687); Fowler Creek (44.9271, −123.8440); Gordey Creek (44.9114, −123.9724); Hough Creek (44.8052, −123.8991); Jaybird Creek (44.7640, −123.9733); Long Prairie Creek (44.6970, −123.7499); Long Tom Creek (44.7037, −123.8533); Mann Creek (44.6987, −123.8025); Mill Creek (44.6949, −123.8967); Miller Creek (44.7487, −123.9733); North Creek (44.9279, −123.8908); North Roy Creek (44.7916, −123.9897); Ojalla Creek (44.7489, −123.9427); Quarry Creek (44.8989, −123.9360); Reed Creek (44.8020, −123.8835); Reed Creek (44.8475, −123.9267); Roots Creek (44.8300, −123.9351); South Roy Creek (44.7773, −123.9847); Sam Creek (44.7086, −123.7312); Sampson Creek (44.9089, −123.8173); Savage Creek (44.8021, −123.8608); Scare Creek (44.8246, −123.9954); Schooner Creek, North Fork (44.9661, −123.8793); Schooner Creek, South Fork (44.9401, −123.8689); Scott Creek (44.7414, −123.8268); Sijota Creek (44.8883, −124.0257); Siletz River (44.7375, −123.7917); Skunk Creek (44.8780, −123.9073); Smith Creek (44.9294, −123.8056); Stemple Creek (44.8405, −123.9492); Tangerman Creek (44.7278, −123.8944); Thayer Creek (44.7023, −123.8256); Thompson Creek (44.7520, −123.8893); Unnamed (44.7003, −123.7669); Unnamed (44.8904, −123.8034); Unnamed (44.8927, −123.8400); Unnamed (44.7034, −123.7754); Unnamed (44.7145, −123.8423); Unnamed (44.7410, −123.8800); Unnamed (44.7925, −123.9212); Unnamed (44.8396, −123.8896); Unnamed (44.9035, −123.8635); Unnamed (44.9240, −123.7913); West Fork Mill Creek (44.7119, −123.9703); Wildcat Creek (44.8915, −123.8842).

(vii) Salmon River/Siletz/Yaquina Bay Watershed 1710020408. Outlet(s) = Salmon River (Lat 45.0474, Long −124.0031) upstream to endpoint(s) in: Alder Brook (45.0318, −123.8428); Bear Creek (44.9785, −123.8580); Boulder Creek (45.0428, −123.7817); Calkins Creek (45.0508, −123.9615); Crowley Creek (45.0540, −123.9819); Curl Creek (45.0150, −123.9198); Deer Creek (45.0196, −123.8091); Frazer Creek (45.0096, −123.9576); Gardner Creek (45.0352, −123.9024); Indian Creek (45.0495, −123.8010); Little Salmon River (45.0546, −123.7473); McMullen Creek (44.9829, −123.8682); Panther Creek (45.0208, −123.8878); Panther Creek, North Fork (45.0305, −123.8910); Prairie Creek (45.0535, −123.8129); Rowdy Creek (45.0182, −123.9751); Salmon River (45.0269, −123.7224); Slick Rock Creek (44.9903, −123.8158); Sulphur Creek (45.0403, −123.8216); Telephone Creek (45.0467, −123.9348); Toketa Creek (45.0482, −123.9088); Trout Creek (44.9693, −123.8337); Unnamed (44.9912, −123.8789); Unnamed (45.0370, −123.7333); Unnamed (45.0433, −123.7650); Widow Creek (45.0373, −123.8530); Widow Creek, West Fork (45.0320, −123.8643); Willis Creek (45.0059, −123.9391).

(viii) Devils Lake/Moolack Frontral Watershed 1710020409. Outlet(s) = Big Creek (Lat 44.6590, Long −124.0571); Coal Creek (44.7074, −124.0615); D River (44.9684, −124.0172); Fogarty Creek (44.8395, −124.0520); Moolack Creek (44.7033, −124.0622); North Depoe Bay Creek (44.8098, −124.0617); Schoolhouse Creek (44.8734, −124.0401); Spencer Creek (44.7292, −124.0582); Wade Creek (44.7159, −124.0600) upstream to endpoint(s) in: Big Creek (44.6558, −124.0427); Coal Creek (44.7047, −124.0099); Devils Lake (44.9997, −123.9773); Fogarty Creek (44.8563, −124.0153); Jeffries Creek (44.6425, −124.0315); Moolack Creek (44.6931, −124.0150); North Depoe Bay Creek (44.8157, −124.0510); Rock Creek (44.9869, −123.9317); South Depoe Bay Creek (44.7939, −124.0126); Salmon Creek (44.8460, −124.0164); Schoolhouse Creek (44.8634, −124.0151); South Fork Spencer Creek (44.7323, −123.9974); Spencer Creek, North Fork (44.7453, −124.0276); Unnamed (44.8290, −124.0318); Unnamed (44.9544, −123.9867); Unnamed (44.9666, −123.9731); Unnamed (44.9774, −123.9706); Wade Creek (44.7166, −124.0057).

(5) Unit 5. Alsea Subbasin 17100205—*(i) Upper Alsea River Watershed 1710020501.* Outlet(s) = Alsea River, South Fork (Lat 44.3767, Long −123.6024) upstream to endpoint(s) in: Alder Creek (44.4573, −123.5188); Alsea River, South Fork (44.3261, −123.4891); Baker Creek (44.4329, −123.5522); Banton Creek (44.3317, −123.6020); Brown Creek (44.3151, −123.6250); Bummer Creek (44.3020, −123.5765); Cabin Creek (44.4431, −123.5328); Crooked Creek (44.4579, −123.5099); Dubuque Creek (44.3436, −123.5527); Ernest Creek (44.4234, −123.5275); Hayden Creek (44.4062, −123.5815); Honey Grove Creek (44.3874, −123.5078); North Fork Alsea River (44.4527, −123.6102); Parker Creek (44.4702, −123.5978); Peak Creek (44.3358, −123.4933); Record Creek (44.3254, −123.6331); Seeley Creek (44.4051, −123.5177); Swamp Creek (44.3007, −123.6108); Tobe Creek (44.3273, −123.5719); Trout Creek (44.3684, −123.5163); Unnamed (44.3108, −123.6225); Unnamed (44.3698, −123.5670); Unnamed (44.4574, −123.5001); Unnamed (44.3708, −123.5740); Unnamed (44.3713, −123.5656); Unnamed (44.3788, −123.5528); Unnamed (44.4270, −123.5492); Unnamed (44.4518, −123.6236); Yew Creek (44.4581, −123.5373); Zahn Creek (44.4381, −123.5425).

(ii) Five Rivers/Lobster Creek Watershed 1710020502. Outlet(s) = Five Rivers (Lat 44.3584, Long −123.8279) upstream to endpoint(s) in: Alder Creek (44.2947, −123.8105); Bear Creek (44.2824, −123.9123); Bear Creek (44.3588, −123.7930); Bear Creek (44.2589, −123.6647); Briar Creek (44.3184, −123.6602); Buck Creek (44.2428, −123.8989); Camp Creek (44.2685, −123.7552); Cascade Creek (44.3193, −123.9073); Cascade Creek, North Fork (44.3299, −123.8932); Cedar Creek (44.2732, −123.7753); Cherry Creek (44.3061, −123.8140); Coal Creek (44.2881, −123.6484); Cook Creek (44.2777, −123.6445); Cougar Creek (44.2723, −123.8678); Crab Creek (44.2458, −123.8750); Crazy Creek (44.2955, −123.7927); Crooked Creek (44.3154, −123.7986); Elk Creek (44.3432, −123.7969); Fendall Creek (44.2764, −123.7890); Five Rivers (44.2080, −123.8025); Green River (44.2286, −123.8751); Green River, East Fork (44.2255, −123.8143); Jasper Creek (44.2777, −123.7326); Little Lobster Creek (44.2961, −123.6266); Lobster Creek, East Fork (44.2552, −123.5897); Lobster Creek, South Fork (44.2326, −123.6060); Lobster Creek (44.2237, −123.6195); Lord Creek (44.2411,

−123.7631); Martha Creek (44.2822, −123.6781); Meadow Creek (44.2925, −123.6591); Phillips Creek (44.3398, −123.7613); Preacher Creek (44.2482, −123.7440); Prindel Creek (44.2346, −123.7849); Ryan Creek (44.2576, −123.7971); Summers Creek (44.2589, −123.7627); Swamp Creek (44.3274, −123.8407); Unnamed (44.2845, −123.7007); Unnamed (44.2129, −123.7919); Unnamed (44.2262, −123.7982); Unnamed (44.2290, −123.8559); Unnamed (44.2327, −123.8344); Unnamed (44.2356, −123.8178); Unnamed (44.2447, −123.6460); Unnamed (44.2500, −123.8074); Unnamed (44.2511, −123.9011); Unnamed (44.2551, −123.8733); Unnamed (44.2614, −123.8652); Unnamed (44.2625, −123.8635); Unnamed (44.2694, −123.8180); Unnamed (44.2695, −123.7429); Unnamed (44.2696, −123.8497); Unnamed (44.2752, −123.7616); Unnamed (44.2760, −123.7121); Unnamed (44.2775, −123.8895); Unnamed (44.2802, −123.7097); Unnamed (44.2802, −123.8608); Unnamed (44.2823, −123.7900); Unnamed (44.2853, −123.7537); Unnamed (44.2895, −123.9083); Unnamed (44.2940, −123.7358); Unnamed (44.2954, −123.7602); Unnamed (44.2995, −123.7760); Unnamed (44.3024, −123.9064); Unnamed (44.3066, −123.8838); Unnamed (44.3070, −123.8280); Unnamed (44.3129, −123.7763); Unnamed (44.3214, −123.8161); Unnamed (44.3237, −123.9020); Unnamed (44.3252, −123.7382); Unnamed (44.3289, −123.8354); Unnamed (44.3336, −123.7431); Unnamed (44.3346, −123.7721); Wilkinson Creek (44.3296, −123.7249); Wilson Creek (44.3085, −123.8990).

(iii) Drift Creek Watershed 1710020503. Outlet(s) = Drift Creek (Lat 44.4157, Long −124.0043) upstream to endpoint(s) in: Boulder Creek (44.4434, −123.8705); Bush Creek (44.5315, −123.8631); Cape Horn Creek (44.5153, −123.7844); Cedar Creek (44.4742, −123.9699); Cougar Creek (44.4405, −123.9144); Deer Creek (44.5514, −123.8778); Drift Creek (44.4688, −123.7859); Ellen Creek (44.4415, −123.9413); Flynn Creek (44.5498, −123.8520); Gold Creek (44.4778, −123.8802); Gopher Creek (44.5217, −123.7787); Horse Creek (44.5347, −123.9072); Lyndon Creek (44.4395, −123.9801); Needle Branch (44.5154, −123.8537); Nettle Creek (44.4940, −123.7845); Slickrock Creek (44.4757, −123.9007); Trout Creek (44.4965, −123.9113); Trout Creek, East Fork (44.4705, −123.9290); Unnamed (44.4995, −123.8488); Unnamed (44.4386, −123.9200); Unnamed (44.4409, −123.8738); Unnamed (44.4832, −123.9570); Unnamed (44.4868, −123.9340); Unnamed (44.4872, −123.9518); Unnamed (44.4875, −123.9460); Unnamed (44.4911, −123.9227); Unnamed (44.5187, −123.7996); Unnamed (44.5260, −123.7848); Unnamed (44.5263, −123.8868); Unnamed (44.5326, −123.8453); Unnamed (44.5387, −123.8440); Unnamed (44.5488, −123.8694); Unnamed (44.4624, −123.8216).

(iv) Lower Alsea River Watershed 1710020504. Outlet(s) = Alsea River (Lat 44.4165, Long −124.0829) upstream to endpoint(s) in: Alsea River (44.3767, −123.6024); Arnold Creek (44.3922, −123.9503); Barclay Creek (44.4055, −123.8659); Bear Creek (44.3729, −123.9623); Bear Creek (44.3843, −123.7704); Beaty Creek (44.4044, −123.6043); Benner Creek (44.3543, −123.7447); Brush Creek (44.3826, −123.8537); Bull Run Creek (44.4745, −123.7439); Canal Creek (44.3322, −123.9460); Canal Creek, East Fork (44.3454, −123.9161); Carns Canyon (44.4027, −123.7550); Cedar Creek (44.3875, −123.7946); Cove Creek (44.4403, −123.7107); Cow Creek (44.3620, −123.7510); Darkey Creek (44.3910, −123.9927; Digger Creek (44.3906, −123.6890); Fall Creek (44.4527, −123.6864); Fall Creek (44.4661, −123.6933); George Creek (44.3556, −123.8603); Grass Creek (44.3577, −123.8798); Hatchery Creek (44.3952, −123.7269); Hatchery Creek (44.4121, −123.8734); Hoover Creek (44.3618, −123.8583); Lake Creek (44.3345, −123.8725); Lint Creek (44.3850, −124.0490); Maltby Creek (44.3833, −123.6770); Meadow Fork (44.3764, −123.8879); Mill Creek (44.4046, −123.6436); Minotti Creek (44.3750, −123.7718); Nye Creek (44.4326, −123.7648); Oxstable Creek (44.3912, −123.9603); Phillips Creek (44.3803, −123.7780); Red Creek (44.3722, −123.9162); Risley Creek (44.4097, −123.9380); Schoolhouse Creek (44.3897, −123.6545); Scott Creek, East Fork (44.4252, −123.7897); Scott Creek, West Fork (44.4212, −123.8225); Skinner Creek (44.3585, −123.9374); Skunk Creek (44.3998, −123.6912); Slide Creek (44.3986, −123.8419); Starr Creek (44.4477, −124.0130); Sudan Creek (44.3817, −123.9717); Sulmon Creek (44.3285, −123.7008); Sulmon Creek, North Fork (44.3421, −123.6374); Sulmon Creek, South Fork (44.3339, −123.6709); Swede Fork (44.3852, −124.0295); Unnamed (44.3319, −123.9318); Unnamed (44.3356, −123.9464); Unnamed (44.3393, −123.9360); Unnamed (44.3413, −123.9294); Unnamed (44.3490, −123.9058); Unnamed (44.3548, −123.6574); Unnamed (44.3592, −123.6363); Unnamed (44.3597, −123.9042); Unnamed (44.3598, −123.6563); Unnamed (44.3598, −123.6562); Unnamed (44.3600, −123.6514); Unnamed (44.3656, −123.9085); Unnamed (44.3680, −123.9629); Unnamed (44.3794, −123.8268); Unnamed (44.3800, −123.9134); Unnamed (44.3814, −123.7650); Unnamed (44.3822, −124.0555); Unnamed (44.3823, −124.0451); Unnamed (44.3989, −123.6050); Unnamed (44.4051, −124.0527); Unnamed (44.4166, −123.8149); Unnamed (44.4537, −123.7247); Walker Creek (44.4583, −124.0271); Weist Creek (44.3967, −124.0256); West Creek (44.3588, −123.9493).

(v) Beaver Creek/Waldport Bay Watershed 1710020505. Outlet(s) = Beaver Creek (Lat 44.5233, Long −124.0734); Deer Creek (44.5076, −124.0807); Thiel Creek (44.5646, −124.0709) upstream to endpoint(s) in: Beaver Creek, North Fork, Trib G (44.5369, −123.9195); Beaver Creek, South Fork (44.4816, −123.9853); Beaver Creek, South Fork, Trib A (44.4644, −124.0332); Bowers Creek (44.5312, −124.0117); Bunnel Creek (44.5178, −124.0265); Deer Creek (44.5057, −124.0721); Elkhorn Creek (44.5013, −123.9572); Elkhorn Creek (44.4976, −123.9685); Lewis Creek (44.5326, −123.9532); North Fork Beaver Creek (44.5149, −123.8988); Oliver Creek (44.4660, −124.0471); Peterson Creek (44.5419, −123.9738); Pumphouse Creek (44.5278, −124.0569); Simpson Creek (44.5255, −124.0390); Thiel Creek (44.5408, −124.0254); Tracy Creek (44.5411, −124.0500); Unnamed (44.4956, −123.9751); Unnamed (44.5189, −124.0638); Unnamed (44.5225, −123.9313); Unnamed (44.5256, −123.9399); Unnamed (44.5435, −124.0221); Unnamed (44.5461, −124.0311); Unnamed (44.5472, −124.0591); Unnamed (44.5482, −124.0249); Unnamed (44.5519, −124.0279); Unnamed (44.5592, −124.0531); Worth Creek (44.5013, −124.0207).

(vi) Yachats River Watershed 1710020506. Outlet(s) = Yachats River (Lat 44.3081, Long −124.1070) upstream to endpoint(s) in: Axtell Creek (44.3084, −123.9915); Beamer Creek (44.3142, −124.0124); Bend Creek (44.2826, −124.0077); Carson Creek (44.3160, −124.0030); Dawson Creek

(44.2892, −124.0133); Depew Creek (44.3395, −123.9631); Earley Creek (44.3510, −123.9885); Fish Creek (44.3259, −123.9592); Glines Creek (44.3436, −123.9756); Grass Creek (44.2673, −123.9109); Helms Creek (44.2777, −123.9954); Keller Creek (44.2601, −123.9485); Little Beamer Creek (44.2993, −124.0213); Reedy Creek (44.3083, −124.0460); South Beamer Creek (44.2852, −124.0325); Stump Creek (44.2566, −123.9624); Unnamed (44.2596, −123.9279); Unnamed (44.2657, −123.9585); Unnamed (44.2660, −123.9183); Unnamed (44.2684, −123.9711); Unnamed (44.2837, −123.9268); Unnamed (44.2956, −123.9316); Unnamed (44.3005, −123.9324); Unnamed (44.3163, −123.9428); Unnamed (44.3186, −123.9568); Unnamed (44.3259, −123.9578); Unnamed (44.3431, −123.9711); West Fork Williamson Creek (44.3230, −124.0008); Williamson Creek (44.3300, −124.0026); Yachats River (44.2468, −123.9329); Yachats River, North Fork (44.3467, −123.9972); Yachats River, School Fork (44.3145, −123.9341).

(vii) Cummins Creek/Tenmile Creek/ Mercer Lake Frontal Watershed 1710020507. Outlet(s) = Berry Creek (Lat 44.0949, Long −124.1221); Big Creek (44.1767, −124.1148); Bob Creek (44.2448, −124.1118); Cape Creek (44.1336, −124.1211); Cummins Creek (44.2660, −124.1075); Rock Creek (44.1833, −124.1149); Sutton Creek (44.0605, −124.1269); Tenmile Creek (44.2245, −124.1083) upstream to endpoint(s) in: Bailey Creek (44.1037, −124.0530); Berry Creek (44.0998, −124.0885); Big Creek (44.1866, −123.9781); Big Creek, South Fork (44.1692, −123.9688); Big Creek, Trib A (44.1601, −124.0231); Bob Creek (44.2346, −124.0235); Cape Creek (44.1351, −124.0174); Cape Creek, North Fork (44.1458, −124.0489); Cummins Creek (44.2557, −124.0104); Fryingpan Creek (44.1723, −124.0401); Levage Creek (44.0745, −124.0588); Little Cummins Creek (44.2614, −124.0851); McKinney Creek (44.2187, −123.9985); Mercer Creek (44.0712, −124.0796); Mill Creek (44.2106, −124.0747); Quarry Creek (44.0881, −124.1124); Rath Creek (44.0747, −124.0901); Rock Creek (44.1882, −124.0310); Tenmile Creek (44.2143, −123.9351); Tenmile Creek, South Fork (44.2095, −123.9607); Unnamed (44.1771, −124.0908); Unnamed (44.0606, −124.0805); Unnamed (44.0624, −124.0552); Unnamed (44.0658, −124.0802); Unnamed (44.0690, −124.0490); Unnamed (44.0748, −124.0478); Unnamed (44.0814, −124.0464); Unnamed (44.0958, −124.0559); Unnamed (44.1283, −124.0242); Unnamed (44.1352, −124.0941); Unnamed (44.1712, −124.0558); Unnamed (44.1715, −124.0636); Unnamed (44.2011, −123.9634); Unnamed (44.2048, −123.9971); Unnamed (44.2146, −124.0358); Unnamed (44.2185, −124.0270); Unnamed (44.2209, −123.9368); Wapiti Creek (44.1216, −124.0448); Wildcat Creek (44.2339, −123.9632).

(viii) Big Creek / Vingie Creek Watershed 1710020508. Outlet(s) = Big Creek (Lat 44.3742, Long −124.0896) upstream to endpoint(s) in: Big Creek (44.3564, −124.0613); Dicks Fork Big Creek (44.3627, −124.0389); Reynolds Creek (44.3768, −124.0740); South Fork Big Creek (44.3388, −124.0597); Unnamed (44.3643, −124.0355); Unnamed (44.3662, −124.0573); Unnamed (44.3686, −124.0683).

(6) Unit 6. Siuslaw Subbasin 17100206—*(i) Upper Siuslaw River Watershed 1710020601.* Outlet(s) = Siuslaw River (Lat 44.0033, Long −123.6545) upstream to endpoint(s) in: Bear Creek (43.8482, −123.5172); Bear Creek, Trib A (43.8496, −123.5059); Bierce Creek (43.8750, −123.5559); Big Canyon Creek (43.9474, −123.6582); Bottle Creek (43.8791, −123.3871); Bounds Creek (43.9733, −123.7108); Buck Creek, Trib B (43.8198, −123.3913); Buck Creek, Trib E (43.8152, −123.4248); Burntwood Creek (43.9230, −123.5342); Cabin Creek (43.8970, −123.6754); Camp Creek (43.9154, −123.4904); Canyon Creek (43.9780, −123.6096); Clay Creek (43.8766, −123.5721); Collins Creek (43.8913, −123.6047); Conger Creek (43.8968, −123.4524); Doe Creek (43.8957, −123.3558); Doe Hollow Creek (43.8487, −123.4603); Dogwood Creek (43.8958, −123.3811); Douglas Creek (43.8705, −123.2836); Edris Creek (43.9224, −123.5531); Esmond Creek (43.8618, −123.5772); Esmond Creek, Trib 1 (43.9303, −123.6518); Esmond Creek, Trib A (43.8815, −123.6646); Farman Creek (43.8761, −123.2562);Fawn Creek (43.8743, −123.2992); Fawn Creek (43.9436, −123.6088); Fryingpan Creek (43.8329, −123.4241); Fryingpan Creek (43.8422, −123.4318); Gardner Creek (43.8024, −123.2582); Haight Creek (43.8406, −123.4862); Haskins Creek (43.8785, −123.5851); Hawley Creek (43.8599, −123.1558); Hawley Creek, North Fork (43.8717, −123.1751); Holland Creek (43.8775, −123.4156); Jeans Creek (43.8616, −123.4714); Johnson Creek (43.8822, −123.5332); Kelly Creek (43.8338, −123.1739); Kline Creek (43.9034, −123.6635); Leopold Creek (43.9199, −123.6890); Leopold Creek, Trib A (43.9283, −123.6630); Letz Creek, Trib B (43.7900, −123.3248); Lick Creek (43.8366, −123.2695); Little Siuslaw Creek (43.8048, −123.3412); Lucas Creek (43.8202, −123.2233); Luyne Creek (43.9155, −123.5068); Luyne Creek, Trib A (43.9179, −123.5208); Michaels Creek (43.8624, −123.5417); Mill Creek (43.9028, −123.6228); Norris Creek (43.8434, −123.2006); North Creek (43.9223, −123.5752); North Fork Siuslaw River (43.8513, −123.2302); Oxbow Creek (43.8384, −123.5433); Oxbow Creek, Trib C (43.8492, −123.5465); Pheasant Creek (43.9120, −123.4247); Pheasant Creek, Trib 2 (43.9115, −123.4411); Pugh Creek (43.9480, −123.5940); Russell Creek (43.8813, −123.3425); Russell Creek, Trib A (43.8619, −123.3498); Sandy Creek (43.7684, −123.2441); Sandy Creek, Trib B (43.7826, −123.2538); Shaw Creek (43.8817, −123.3289); Siuslaw River, East Trib (43.8723, −123.5378); Siuslaw River, North Fork, Upper Trib (43.8483, −123.2275); Smith Creek (43.8045, −123.3665); South Fork Siuslaw River (43.7831, −123.1569); Trail Creek (43.9142, −123.6241); Tucker Creek (43.8159, −123.1604); Unnamed (43.7796, −123.2019); Unnamed (43.7810, −123.2818); Unnamed (43.8278, −123.2610); Unnamed (43.8519, −123.2773); Unnamed (43.8559, −123.5520); Unnamed (43.8670, −123.6022); Unnamed (43.8876, −123.5194); Unnamed (43.8902, −123.5609); Unnamed (43.8963, −123.4171); Unnamed (43.8968, −123.4731); Unnamed (43.8992, −123.4033); Unnamed (43.9006, −123.4637); Unnamed (43.9030, −123.6434); Unnamed (43.9492, −123.6924); Unnamed (43.9519, −123.6886); Unnamed (43.9784, −123.6815); Unnamed (43.9656, −123.7145); Whittaker Creek (43.9490, −123.7004); Whittaker Creek, Trib B (43.9545, −123.7121).

(ii) Wolf Creek Watershed 1710020602. Outlet(s) = Wolf Creek (Lat 43.9548, Long −123.6205) upstream to endpoint(s) in: Bill Lewis Creek (43.9357, −123.5708); Cabin Creek (43.9226, −123.4081); Eames Creek (43.9790, −123.4352); Eames Creek, Trib C (43.9506, −123.4371); Elkhorn Creek (43.9513, −123.3934); Fish Creek (43.9238, −123.3872); Gall Creek (43.9865, −123.5187); Gall Creek, Trib 1 (43.9850, −123.5285); Grenshaw Creek (43.9676, −123.4645); Lick Creek (43.9407, −123.5796); Oat Creek, Trib A (43.9566, −123.5052); Oat Creek, Trib C (43.9618, −123.4902); Oat Creek

(43.9780, −123.4761); Panther Creek (43.9529, −123.3744); Pittenger Creek (43.9713, −123.5434); Saleratus Creek (43.9796, −123.5675); Saleratus Creek, Trib A (43.9776, −123.5797); Swamp Creek (43.9777, −123.4197); Swing Log Creek (43.9351, −123.3339); Unnamed (43.9035, −123.3358); Unnamed (43.9343, −123.3648); Unnamed (43.9617, −123.4507); Unnamed (43.9668, −123.6041); Unnamed (43.9693, −123.4846); Van Curen Creek (43.9364, −123.5520); Wolf Creek (43.9101, −123.3234).

(iii) Wildcat Creek Watershed 1710020603. Outlet(s) = Wildcat Creek (Lat 44.0033, Long −123.6545) upstream to endpoint(s) in: Bulmer Creek (44.0099, −123.5206); Cattle Creek (44.0099, −123.5475); Fish Creek (44.0470, −123.5383); Fowler Creek (43.9877, −123.5918); Haynes Creek (44.1000, −123.5578); Kirk Creek (44.0282, −123.6270); Knapp Creek (44.1006, −123.5801); Miller Creek (44.0767, −123.6034); Pataha Creek (43.9914, −123.5361); Potato Patch Creek (43.9936, −123.5812); Salt Creek (44.0386, −123.5021); Shady Creek (44.0647, −123.5838); Shultz Creek (44.0220, −123.6320); Unnamed (43.9890, −123.5468); Unnamed (44.0210, −123.4805); Unnamed (44.0233, −123.4996); Unnamed (44.0242, −123.4796); Unnamed (44.0253, −123.4963); Unnamed (44.0283, −123.5311); Unnamed (44.0305, −123.5275); Unnamed (44.0479, −123.6199); Unnamed (44.0604, −123.5624); Unnamed (44.0674, −123.6075); Unnamed (44.0720, −123.5590); Unnamed (44.0839, −123.5777); Unnamed (44.0858, −123.5787); Unnamed (44.0860, −123.5741); Unnamed (44.0865, −123.5935); Unnamed (44.0945, −123.5838); Unnamed (44.0959, −123.5902); Walker Creek (44.0469, −123.6312); Walker Creek, Trib C (44.0418, −123.6048); Wildcat Creek (43.9892, −123.4308); Wildcat Creek, Trib ZH (43.9924, −123.4975); Wildcat Creek, Trib ZI (44.0055, −123.4681).

(iv) Lake Creek Watershed 1710020604. Outlet(s) = Lake Creek (Lat 44.0556, Long −123.7968) upstream to endpoint(s) in: Chappell Creek (44.1158, −123.6921); Conrad Creek (44.1883, −123.4918); Druggs Creek (44.1996, −123.5926); Fish Creek (44.1679, −123.5149); Green Creek (44.1389, −123.7930); Greenleaf Creek (44.1766, −123.6391); Hula Creek (44.1202, −123.7087); Johnson Creek (44.1037, −123.7327); Lake Creek (44.2618, −123.5148); Lamb Creek (44.1401, −123.5991); Leaver Creek (44.0754, −123.6285); Leibo Canyon (44.2439, −123.4648); Little Lake Creek (44.1655, −123.6004); McVey Creek (44.0889, −123.6875); Nelson Creek (44.1229, −123.5558); North Fork Fish Creek (44.1535, −123.5437); Pontius Creek (44.1911, −123.5909); Pope Creek (44.2118, −123.5319); Post Creek (44.1828, −123.5259); Stakely Canyon (44.2153, −123.4690); Steinhauer Creek (44.1276, −123.6594); Swamp Creek (44.2150, −123.5687); Swartz Creek (44.2304, −123.4461); Target Canyon (44.2318, −123.4557); Unnamed (44.1048, −123.6540); Unnamed (44.1176, −123.5846); Unnamed (44.1355, −123.5473); Unnamed (44.1355, −123.6125); Unnamed (44.1382, −123.5539); Unnamed (44.1464, −123.5843); Unnamed (44.1659, −123.5658); Unnamed (44.1725, −123.5981); Unnamed (44.1750, −123.5914); Unnamed (44.1770, −123.5697); Unnamed (44.1782, −123.5419); Unnamed (44.1798, −123.5834); Unnamed (44.1847, −123.5862); Unnamed (44.2042, −123.5700); Unnamed (44.2143, −123.5873); Unnamed (44.2258, −123.4493); Unnamed (44.2269, −123.5478); Unnamed (44.2328, −123.5285); Unnamed (44.2403, −123.5358); Unnamed (44.2431, −123.5105); Unnamed (44.2437, −123.5739); Unnamed (44.2461, −123.5180); Unnamed (44.2484, −123.5501); Unnamed (44.2500, −123.5691); Unnamed (44.2573, −123.4736); Unnamed (44.2670, −123.4840); Wheeler Creek (44.1232, −123.6778).

(v) Deadwood Creek Watershed 1710020605. Outlet(s) = Deadwood Creek (Lat 44.0949, Long −123.7594) upstream to endpoint(s) in: Alpha Creek (44.1679, −123.6951); Bear Creek (44.1685, −123.6627); Bear Creek, South Fork (44.1467, −123.6743); Buck Creek (44.2003, −123.6683); Deadwood Creek (44.2580, −123.6885); Deadwood Creek, West Fork (44.1946, −123.8023); Deer Creek (44.1655, −123.7229); Failor Creek (44.1597, −123.8003); Fawn Creek (44.2356, −123.7244); Karlstrom Creek (44.1776, −123.7133); Misery Creek (44.1758, −123.7950); North Fork Panther Creek (44.2346, −123.7362); Panther Creek (44.2273, −123.7558); Raleigh Creek (44.1354, −123.6926); Rock Creek (44.1812, −123.6683); Schwartz Creek (44.1306, −123.7258); Unnamed (44.2011, −123.7273); Unnamed (44.1806, −123.7693); Unnamed (44.1845, −123.6824); Unnamed (44.1918, −123.7521); Unnamed (44.1968, −123.7664); Unnamed (44.2094, −123.6674); Unnamed (44.2149, −123.7639); Unnamed (44.2451, −123.6705); Unnamed (44.2487, −123.7137); Unnamed (44.2500, −123.6933).

(vi) Indian Creek/Lake Creek Watershed 1710020606. Outlet(s) = Indian Creek (Lat 44.0808, Long −123.7891) upstream to endpoint(s) in: Cremo Creek (44.1424, −123.8144); Elk Creek (44.1253, −123.8821); Gibson Creek (44.1548, −123.8132); Herman Creek (44.2089, −123.8220); Indian Creek (44.2086, −123.9171); Indian Creek, North Fork (44.2204, −123.9016); Indian Creek, West Fork (44.2014, −123.9075); Long Creek (44.1395, −123.8800); Maria Creek (44.1954, −123.9219); Pyle Creek (44.1792, −123.8623); Rogers Creek (44.1851, −123.9397); Smoot Creek (44.1562, −123.8449); Taylor Creek (44.1864, −123.8115); Unnamed (44.1643, −123.8993); Unnamed (44.1727, −123.8154); Unnamed (44.1795, −123.9180); Unnamed (44.1868, −123.9002); Unnamed (44.1905, −123.8633); Unnamed (44.1967, −123.8872); Unnamed (44.2088, −123.8381); Unnamed (44.2146, −123.8528); Unnamed (44.2176, −123.8462); Unnamed (44.2267, −123.8912); Velvet Creek (44.1295, −123.8087).

(vii) North Fork Siuslaw River Watershed 1710020607. Outlet(s) = North Fork Siuslaw River (Lat 43.9719, Long −124.0783) upstream to endpoint(s) in: Billie Creek (44.0971, −124.0362); Cataract Creek (44.0854, −123.9497); Cedar Creek (44.1534, −123.9045); Condon Creek (44.1138, −123.9984); Coon Creek (44.0864, −124.0318); Deer Creek (44.1297, −123.9475); Drew Creek (44.1239, −123.9801); Drew Creek (44.1113, −123.9854); Elma Creek (44.1803, −123.9434); Hanson Creek (44.0776, −123.9328); Haring Creek (44.0307, −124.0462); Lawrence Creek (44.1710, −123.9504); Lindsley Creek (44.0389, −124.0591); McLeod Creek (44.1050, −123.8805); Morris Creek (44.0711, −124.0308); Porter Creek (44.1490, −123.9641); Russell Creek (44.0680, −123.9848); Sam Creek (44.1751, −123.9527); Slover Creek (44.0213, −124.0531); South Russell Creek (44.0515, −123.9840); Taylor Creek (44.1279, −123.9052); Uncle Creek (44.1080, −124.0174); Unnamed (43.9900, −124.0784); Unnamed (43.9907, −124.0759); Unnamed (43.9953, −124.0514); Unnamed (43.9958, −124.0623); Unnamed (43.9999, −124.0694); Unnamed (44.0018, −124.0596); Unnamed (44.0050, −124.0556); Unnamed (44.0106, −124.0650); Unnamed (44.0135, −124.0609); Unnamed (44.0166, −124.0371); Unnamed (44.0194, −124.0631); Unnamed

(44.0211, −124.0663); Unnamed (44.0258, −124.0594); Unnamed (44.0304, −124.0129); Unnamed (44.0327, −124.0670); Unnamed (44.0337, −124.0070); Unnamed (44.0342, −124.0056); Unnamed (44.0370, −124.0391); Unnamed (44.0419, −124.0013); Unnamed (44.0441, −124.0321); Unnamed (44.0579, −124.0077); Unnamed (44.0886, −124.0192); Unnamed (44.0892, −123.9925); Unnamed (44.0941, −123.9131); Unnamed (44.0976, −124.0033); Unnamed (44.1046, −123.9032); Unnamed (44.1476, −123.8959); Unnamed (44.1586, −123.9150); West Branch North Fork Siuslaw River (44.1616, −123.9616); Wilhelm Creek (44.1408, −123.9774).

(viii) Lower Siuslaw River Watershed 1710020608. Outlet(s) = Siuslaw River (Lat 44.0160, Long −124.1327) upstream to endpoint(s) in: Barber Creek (44.0294, −123.7598); Beech Creek (44.0588, −123.6980); Berkshire Creek (44.0508, −123.8890); Bernhardt Creek (43.9655, −123.9532); Brush Creek (44.0432, −123.7798); Brush Creek, East Fork (44.0414, −123.7782); Cedar Creek (43.9696, −123.9304); Clevelan Creek (44.0773, −123.8343); Demming Creek (43.9643, −124.0313); Dinner Creek (44.0108, −123.8069); Divide Creek (44.0516, −123.9421); Duncan Inlet (44.0081, −123.9921); Hadsall Creek (43.9846, −123.8221); Hadsall Creek, Trib D (43.9868, −123.8500); Hadsall Creek, Trib E (43.9812, −123.8359); Hanson Creek (44.0364, −123.9628); Hoffman Creek (43.9808, −123.9412); Hollenbeck Creek (44.0321, −123.8672); Hood Creek (43.9996, −123.7995); Karnowsky Creek (43.9847, −123.9658); Knowles Creek (43.9492, −123.7315); Knowles Creek, Trib L (43.9717, −123.7830); Lawson Creek, TRIB B (43.9612, −123.9659); Meadow Creek (44.0311, −123.6490); Munsel Creek (44.0277, −124.0788); Old Man Creek (44.0543, −123.8022); Pat Creek (44.0659, −123.7245); Patterson Creek (43.9984, −124.0234); Rice Creek (44.0075, −123.8519); Rock Creek (44.0169, −123.6512); South Fork Waite Creek (43.9929, −123.7105); San Aantone Creek (44.0564, −123.6515); Shoemaker Creek (44.0669, −123.8977); Shutte Creek (43.9939, −124.0339); Siuslaw River (44.0033, −123.6545); Skunk Hollow (43.9830, −124.0626); Smith Creek (44.0393, −123.6674); Spencer Creek (44.0676, −123.8809); Sulphur Creek (43.9822, −123.8015); Sweet Creek (43.9463, −123.9016); Sweet Creek, Trib A (44.0047, −123.8907); Sweet Creek, Trib D (43.9860, −123.8811); Thompson Creek (44.0974, −123.8615); Turner Creek (44.0096, −123.7607); Unnamed (43.9301, −124.0434); Unnamed (43.9596, −124.0337); Unnamed (43.9303, −124.0487); Unnamed (43.9340, −124.0529); Unnamed (43.9367, −124.0632); Unnamed (43.9374, −124.0442); Unnamed (43.9481, −124.0530); Unnamed (43.9501, −124.0622); Unnamed (43.9507, −124.0533); Unnamed (43.9571, −124.0658); Unnamed (43.9576, −124.0491); Unnamed (43.9587, −124.0988); Unnamed (43.9601, −124.0927); Unnamed (43.9615, −124.0527); Unnamed (43.9618, −124.0875); Unnamed (43.9624, −123.7499); Unnamed (43.9662, −123.7639); Unnamed (43.9664, −123.9252); Unnamed (43.9718, −124.0389); Unnamed (43.9720, −124.0075); Unnamed (43.9751, −124.0090); Unnamed (43.9784, −124.0191); Unnamed (43.9796, −123.9150); Unnamed (43.9852, −123.9802); Unnamed (43.9878, −123.9845); Unnamed (43.9915, −123.9732); Unnamed (43.9938, −123.9930); Unnamed (43.9942, −123.8547); Unnamed (43.9943, −123.9891); Unnamed (43.9954, −124.1185); Unnamed (43.9956, −123.7074); Unnamed (43.9995, −123.9825); Unnamed (44.0023, −123.7317); Unnamed (44.0210, −123.7874); Unnamed (44.0240, −123.8989); Unnamed (44.0366, −123.7363); Unnamed (44.0506, −123.9068); Waite Creek (43.9886, −123.7220); Walker Creek (44.0566, −123.9129); Wilson Creek (44.0716, −123.8792).

(7) Unit 7. Siltcoos Subbasin 17100207—*Waohink River/Siltcoos River/Tahkenitch Lake Frontal Watershed 1710020701.* Outlet(s) = Siltcoos River (Lat 43.8766, Long −124.1548); Tahkenitch Creek (43.8013, −124.1689) upstream to endpoint(s) in: Alder Creek (43.8967, −124.0114); Bear Creek (43.9198, −123.9293); Bear Creek Trib (43.9030, −123.9881); Bear Creek, South Fork (43.9017, −123.9555); Bell Creek (43.8541, −123.9718); Billy Moore Creek (43.8876, −123.9604); Carle Creek (43.9015, −124.0210); Carter Creek (43.9457, −124.0123); Dismal Swamp (43.8098, −124.0871); Elbow Lake Creek (43.7886, −124.1490); Fiddle Creek (43.9132, −123.9164); Fivemile Creek (43.8297, −123.9776); Grant Creek (43.9373, −124.0278); Harry Creek (43.8544, −124.0220); Henderson Canyon (43.8648, −123.9654); Henderson Creek (43.9427, −123.9704); John Sims Creek (43.8262, −124.0792); King Creek (43.8804, −124.0300); Lane Creek (43.8437, −124.0765); Leitel Creek (43.8181, −124.0200); Mallard Creek (43.7775, −124.0852); Maple Creek (43.9314, −123.9316); Maple Creek, North Prong (43.9483, −123.9510); Miles Canyon (43.8643, −124.0097); Miller Creek (43.9265, −124.0663); Mills Creek (43.8966, −124.0397); Morris Creek (43.8625, −123.9541); Perkins Creek (43.8257, −124.0448); Rider Creek (43.9210, −123.9700); Roache Creek (43.9087, −124.0049); Schrum Creek (43.9194, −124.0492); Schultz Creek (43.9245, −123.9371); Stokes Creek (43.9161, −123.9984); Tenmile Creek (43.9419, −123.9447); Unnamed (43.8928, −124.0461); Unnamed (43.7726, −124.1021); Unnamed (43.7741, −124.1313); Unnamed (43.7756, −124.1363); Unnamed (43.7824, −124.1342); Unnamed (43.7829, −124.0852); Unnamed (43.7837, −124.0812); Unnamed (43.7849, −124.0734); Unnamed (43.7862, −124.0711); Unnamed (43.7865, −124.1107); Unnamed (43.7892, −124.1163); Unnamed (43.7897, −124.0608); Unnamed (43.7946, −124.0477); Unnamed (43.7964, −124.0643); Unnamed (43.8015, −124.0450); Unnamed (43.8078, −124.0340); Unnamed (43.8095, −124.1362); Unnamed (43.8112, −124.0608); Unnamed (43.8152, −124.0981); Unnamed (43.8153, −124.1314); Unnamed (43.8172, −124.0752); Unnamed (43.8231, −124.0853); Unnamed (43.8321, −124.0128); Unnamed (43.8322, −124.0069); Unnamed (43.8323, −124.1016); Unnamed (43.8330, −124.0217); Unnamed (43.8361, −124.1209); Unnamed (43.8400, −123.9802); Unnamed (43.8407, −124.1051); Unnamed (43.8489, −124.0634); Unnamed (43.8500, −123.9852); Unnamed (43.8504, −124.1248); Unnamed (43.8504, −124.0024); Unnamed (43.8507, −124.0511); Unnamed (43.8589, −124.1231); Unnamed (43.8596, −124.0438); Unnamed (43.8605, −124.1211); Unnamed (43.8669, −124.0717); Unnamed (43.8670, −124.0327); Unnamed (43.8707, −124.0689); Unnamed (43.8802, −124.0605); Unnamed (43.8862, −124.0570); Unnamed (43.8913, −123.9380); Unnamed (43.8919, −124.0771); Unnamed (43.8976, −124.0725); Unnamed (43.9032, −124.0651); Unnamed (43.9045, −124.0548); Unnamed (43.9057, −124.0606); Unnamed (43.9065, −124.0656); Unnamed (43.9105, −124.0453); Unnamed (43.9106, −124.0203); Unnamed (43.9202, −124.0786);

Unnamed (43.9209, −124.0734); Unnamed (43.9237, −124.0155); Unnamed (43.9249, −124.0074); Unnamed (43.9274, −124.0759); Unnamed (43.9275, −124.0308); Unnamed (43.9360, −124.0892); Unnamed (43.9365, −124.0297); Unnamed (43.9424, −124.0981); Unnamed (43.9438, −124.0929); Unnamed (43.9453, −124.0752); Unnamed (43.9518, −123.9953).

(8) Unit 8. North Fork Umpqua Subbasin 17100301—*(i) Middle North Umpqua Watershed 1710030107.* Outlet(s) = North Umpqua River (Lat 43.3322, Long −123.0025) upstream to endpoint(s) in: Calf Creek (43.2852, −122.6229); Copeland Creek (43.2853, −122.5325); Deception Creek (43.2766, −122.5850); Dry Creek (43.2967, −122.6016); Honey Creek (43.3181, −122.9414); Limpy Creek (43.3020, −122.6795); North Umpqua River (43.3027, −122.4938); Panther Creek (43.3019, −122.6801); Steamboat Creek (43.3491, −122.7281); Susan Creek (43.3044, −122.9058); Williams Creek (43.3431, −122.7724).

(ii) Rock Creek/North Umpqua River Watershed 1710030110. Outlet(s) = Rock Creek (Lat 43.3322, Long −123.0025) upstream to endpoint(s) in: Conley Creek (43.3630, −122.9673); Harrington Creek (43.4151, −122.9550); Kelly Creek (43.3592, −122.9912); McComas Creek (43.3536, −122.9923); Rock Creek (43.4247, −122.9055); Rock Creek, East Fork (43.3807, −122.8270); Rock Creek, East Fork, North Fork (43.4147, −122.8512); Shoup Creek (43.3882, −122.9674).

(iii) Little River Watershed 1710030111. Outlet(s) = Little River (Lat 43.2978, Long −123.1012) upstream to endpoint(s) in: Buck Peak Creek (43.1762, −123.0479); Buckhorn Creek (43.2592, −123.1072); Cavitt Creek (43.1464, −122.9758); Copperhead Creek (43.1626, −123.0595); Emile Creek (43.2544, −122.8849); Evarts Creek (43.2087, −123.0133); Jim Creek (43.2257, −123.0592); Little River (43.2065, −122.8231); McKay Creek (43.2092, −123.0356); Tuttle Creek (43.1440, −122.9813); White Rock Creek (43.1540, −123.0379); Wolf Creek (43.2179, −122.9461).

(iv) Lower North Umpqua River Watershed 1710030112. Outlet(s) = North Umpqua River (Lat 43.2682, Long −123.4448) upstream to endpoint(s) in: Bradley Creek (43.3350, −123.1025); Clover Creek (43.2490, −123.2604); Cooper Creek (43.3420, −123.1650); Cooper Creek (43.3797, −123.2807); Dixon Creek (43.2770, −123.2911); French Creek (43.3349, −123.0801); Huntley Creek (43.3363, −123.1340); North Umpqua River (43.3322, −123.0025); Oak Creek (43.2839, −123.2063); Short Creek (43.3204, −123.3315); Sutherlin Creek (43.3677, −123.2114); Unnamed (43.3285, −123.2016).

(9) Unit 9. South Fork Umpqua Subbasin 17100302—*(i) Middle South Umpqua River Watershed 1710030203.* Outlet(s) = South Umpqua River (Lat 42.9272, Long −122.9504) upstream to endpoint(s) in: Boulder Creek (43.1056, −122.7379); Budd Creek (43.0506, −122.8185); Deadman Creek (43.0049, −122.8967); Dompier Creek (42.9553, −122.9166); Dumont Creek (43.0719, −122.8224); Francis Creek (43.0202, −122.8231); South Umpqua River (43.0481, −122.6998); Sam Creek (43.0037, −122.8412); Slick Creek (43.0986, −122.7867).

(ii) South Umpqua River Watershed 1710030205. Outlet(s) = South Umpqua River (Lat 42.9476, Long −123.3368) upstream to endpoint(s) in: Alder Creek (42.9109, −123.2991); Canyon Creek (42.8798, −123.2410); Canyon Creek, West Fork (42.8757, −123.2734); Canyon Creek, West Fork, Trib A (42.8834, −123.2947); Coffee Creek (42.9416, −122.9993); Comer Brook (42.9082, −123.2908); Days Creek (43.0539, −123.0012); Days Creek, Trib 1 (43.0351, −123.0532); Doe Hollow (42.9805, −123.0812); Fate Creek (42.9943, −123.1028); Green Gulch (43.0040, −123.1276); Hatchet Creek (42.9251, −122.9757); Jordan Creek (42.9224, −123.3086); Lavadoure Creek (42.9594, −123.0930); Lick Creek (42.9213, −123.0261); May Creek (43.0153, −123.0725); Morgan Creek (42.9635, −123.2409); O'Shea Creek (42.9256, −123.2486); Perdue Creek (43.0038, −123.1192); Poole Creek (42.9321, −123.1106); Poole Creek, East Fork (42.8983, −123.0993); South Umpqua River (42.9272, −122.9504); Shively Creek (42.8888, −123.1635); Shively Creek, East Fork (42.8793, −123.1194); Small Creek (42.9631, −123.2519); St. John Creek (42.9598, −123.0514); Stinger Gulch Creek (42.9950, −123.1851); Stouts Creek, East Fork (42.9090, −123.0424); Stouts Creek, West Fork (42.8531, −123.0167); Sweat Creek (42.9293, −123.1899); Wood Creek (43.0048, −123.1486).

(iii) Middle Cow Creek Watershed 1710030207. Outlet(s) = Cow Creek (Lat 42.8114, Long −123.5947) upstream to endpoint(s) in: Bear Creek (42.8045, −123.3635); Booth Gulch (42.7804, −123.2282); Bull Run Creek (42.7555, −123.2366); Clear Creek (42.8218, −123.2610); Cow Creek (42.8487, −123.1780); Dads Creek (42.7650, −123.5401); East Fork Whitehorse Creek (42.7925, −123.1448); Fortune Branch (42.8051, −123.2971); Hogum Creek (42.7574, −123.1853); Lawson Creek (42.7896, −123.3752); Little Bull Run Creek (42.7532, −123.2479); McCullough Creek (42.7951, −123.4421); Mynatt Creek (42.8034, −123.2828); Panther Creek (42.7409, −123.4990); Perkins Creek (42.7331, −123.4997); Quines Creek (42.7278, −123.2396); Rattlesnake Creek (42.7106, −123.4774); Riffle Creek (42.7575, −123.6260); Section Creek (42.7300, −123.4373); Skull Creek (42.7527, −123.5779); Starveout Creek (42.7541, −123.1953); Stevens Creek (42.7255, −123.4835); Susan Creek (42.8035, −123.5762); Swamp Creek (42.7616, −123.3518); Tennessee Gulch (42.7265, −123.2591); Totten Creek (42.7448, −123.4610); Unnamed (42.7964, −123.4200); Unnamed (42.8101, −123.3150); Whitehorse Creek (42.7772, −123.1532); Wildcat Creek (42.7738, −123.2378); Windy Creek (42.8221, −123.3296); Wood Creek (42.8141, −123.4111); Woodford Creek (42.7458, −123.3180).

(iv) West Fork Cow Creek Watershed 1710030208. Outlet(s) = West Fork Cow Creek (Lat 42.8118, Long −123.6006) upstream to endpoint(s) in: Bear Creek (42.7662, −123.6741); Bobby Creek (42.8199, −123.7196); Elk Valley Creek (42.8681, −123.7133); Elk Valley Creek, East Fork (42.8698, −123.6812); Goat Trail Creek (42.8002, −123.6828); Gold Mountain Creek (42.8639, −123.7787); No Sweat Creek (42.8024, −123.7081); Panther Creek (42.8596, −123.7506); Slaughter Pen Creek (42.8224, −123.6565); Sweat Creek (42.8018, −123.6995); Walker Creek (42.8228, −123.7614); Wallace Creek (42.8311, −123.7696); West Fork Cow Creek (42.8329, −123.7733).

(v) Lower Cow Creek Watershed 1710030209. Outlet(s) = Cow Creek (Lat 42.9476, Long −123.3368) upstream to endpoint(s) in: Ash Creek (42.9052, −123.3385); Boulder Creek (42.8607, −123.5494); Brush Creek (42.8526, −123.4369); Buck Creek (42.8093, −123.4979); Buck Creek (42.9691, −123.5289); Cattle Creek (42.8751, −123.5374); Cedar Gulch (42.8457, −123.5038); Council Creek (42.8929, −123.4366); Cow Creek (42.8114, −123.5947); Darby Creek (42.8553, −123.6123); Doe Creek (42.9333, −123.5057); Gravel Creek (42.8596, −123.4598); Iron Mountain Creek (42.9035, −123.5175); Island Creek (42.8957, −123.4749); Jerry Creek (42.9517, −123.4009); Little Dads Creek (42.8902, −123.5655); Martin Creek (42.8080, −123.4763); Middle Creek, South Fork (42.8298, −123.3870); Panther Creek (42.8417, −123.4492); Peavine Creek (42.8275, −123.4610); Russell Creek (42.9094, −123.3797);

Salt Creek (42.9462, −123.4830); Shoestrin Creek (42.9221, −123.3613); Smith Creek (42.8489, −123.4765); Smith Creek (42.9236, −123.5482); Table Creek (42.9114, −123.5695); Union Creek (42.8769, −123.5853); Unnamed (42.8891, −123.4080).

(vi) Middle South Umpqua River Watershed 1710030210. Outlet(s) = South Umpqua River (Lat 43.1172, Long −123.4273) upstream to endpoint(s) in: Adams Creek (43.0724, −123.4776); Barrett Creek (43.0145, −123.4451); Clark Brook (43.0980, −123.2897); East Willis Creek (43.0151, −123.3845); Judd Creek (42.9852, −123.4060); Kent Creek (43.0490, −123.4792); Lane Creek (42.9704, −123.4001); Porter Creek (43.0444, −123.4597); Rice Creek (43.0181, −123.4779); Richardson Creek (43.0766, −123.2881); South Umpqua River (42.9476, −123.3368); Squaw Creek (43.0815, −123.4688); Van Dine Creek (43.0326, −123.3473); West Willis Creek (43.0172, −123.4355).

(vii) Myrtle Creek Watershed 1710030211. Outlet(s) = North Myrtle Creek (Lat 43.0231, Long −123.2951) upstream to endpoint(s) in: Ben Branch Creek (43.0544, −123.1618); Big Lick (43.0778, −123.2175); Bilger Creek (43.1118, −123.2372); Buck Fork Creek (43.1415, −123.0831); Cedar Hollow (43.0096, −123.2297); Frozen Creek (43.1089, −123.1929); Frozen Creek, Left Fork (43.1157, −123.2306); Harrison Young Brook (43.0610, −123.2850); Lally Creek (43.0890, −123.0597); Lee Creek (43.1333, −123.1477); Letitia Creek (43.0710, −123.0907); Little Lick (43.0492, −123.2234); Long Wiley Creek (43.0584, −123.1067); Louis Creek (43.1165, −123.0783); North Myrtle Creek (43.1486, −123.1219); Riser Creek (43.1276, −123.0703); Rock Creek (43.0729, −123.2620); South Myrtle Creek (43.0850, −123.0103); School Hollow (43.0563, −123.1753); Short Wiley Creek (43.0589, −123.1158); Slide Creek (43.1110, −123.1078); Unnamed (43.1138, −123.1721); Weaver Creek (43.1102, −123.0576).

(viii) Ollala Creek/Lookingglass Watershed 1710030212. Outlet(s) = Lookingglass Creek (Lat 43.1172, Long −123.4273) upstream to endpoint(s) in: Archambeau Creek (43.2070, −123.5329); Bear Creek (43.1233, −123.6382); Berry Creek (43.0404, −123.5543); Bushnell Creek (43.0183, −123.5289); Byron Creek, East Fork (43.0192, −123.4939); Byron Creek, North Fork (43.0326, −123.4792); Coarse Gold Creek (43.0291, −123.5742); Flournoy Creek (43.2227, −123.5560); Little Muley Creek (43.0950, −123.6247); Lookingglass Creek (43.1597, −123.6015); McNabb Creek (43.0545, −123.4984); Muns Creek (43.0880, −123.6333); Olalla Creek (42.9695, −123.5914); Perron Creek (43.0960, −123.4904); Porter Creek (43.1381, −123.5569); Sheilds Creek (43.0640, −123.6189); Tenmile Creek (43.1482, −123.6537); Tenmile Creek, North Fork (43.1260, −123.6069); Thompson Creek (42.9860, −123.5140); Willingham Creek (42.9600, −123.5814).

(ix) Lower South Umpqua River Watershed 1710030213. Outlet(s) = South Umpqua River (Lat 43.2682, Long −123.4448) upstream to endpoint(s) in: Callahan Creek (43.2291, −123.5355); Damotta Brook (43.2030, −123.2987); Deer Creek, North Fork (43.2166, −123.1437); Deer Creek, South Fork (43.1875, −123.1722); Deer Creek, South Fork, Trib 1 (43.1576, −123.2393); Deer Creek, South Fork, Middle Fork (43.1625, −123.1413); Doerner Creek (43.2370, −123.5153); Elgarose Creek (43.2747, −123.5105); Marsters Creek (43.1584, −123.4489); Melton Creek (43.1294, −123.2173); Roberts Creek (43.1124, −123.2831); South Umpqua River (43.1172, −123.4273); Stockel Creek (43.2205, −123.4392); Tucker Creek (43.1238, −123.2378); Unnamed (43.2184, −123.1709); Willow Creek (43.2543, −123.5143).

(10) Unit 10. Umpqua Subbasin 17100303—*(i) Upper Umpqua River Watershed 1710030301.* Outlet(s) = Umpqua River (Lat 43.6329, Long −123.5662) upstream to endpoint(s) in: Bear Creek (43.3202, −123.6118); Bear Creek (43.5436, −123.4481); Bottle Creek (43.4088, −123.4843); Brads Creek (43.5852, −123.4651); Camp Creek (43.2969, −123.5361); Case Knife Creek (43.4288, −123.6665); Cedar Creek (43.5360, −123.5969); Cougar Creek (43.3524, −123.6166); Doe Creek (43.5311, −123.4259); Fitzpatrick Creek (43.5819, −123.6308); Galagher Canyon (43.4708, −123.4394); Heddin Creek (43.5909, −123.6466); Hubbard Creek (43.2526, −123.5544); Leonard Creek (43.4448, −123.5402); Little Canyon Creek (43.4554, −123.4560); Little Wolf Creek (43.4232, −123.6633); Little Wolf Creek, Trib D (43.4052, −123.6477); Lost Creek (43.4355, −123.4902); Martin Creek (43.5539, −123.4633); McGee Creek (43.5125, −123.5632); Mehl Creek (43.5491, −123.6541); Mill Creek (43.3178, −123.5095); Miner Creek (43.4518, −123.6764); Panther Canyon (43.5541, −123.3484); Porter Creek (43.4245, −123.5439); Rader Creek (43.5203, −123.6517); Rader Creek, Trib A (43.4912, −123.5726); Umpqua River (43.2682, −123.4448); Unnamed (43.5781, −123.6170); Unnamed (43.5630, −123.6080); Unnamed (43.4011, −123.6474); Unnamed (43.4119, −123.6172); Unnamed (43.4212, −123.6398); Unnamed (43.4640, −123.6734); Unnamed (43.4940, −123.6166); Unnamed (43.5765, −123.4710); Waggoner Creek (43.5282, −123.6072); Whiskey Camp Creek (43.4587, −123.6755); Williams Creek (43.5952, −123.5222); Wolf Creek (43.4707, −123.6655).

(ii) Calapooya Creek Watershed 1710030302. Outlet(s) = Calapooya Creek (Lat 43.3658, Long −123.4674) upstream to endpoint(s) in: Bachelor Creek (43.5480, −123.2062); Banks Creek (43.3631, −123.1755); Beaty Creek (43.4406, −123.0392); Boyd Creek (43.4957, −123.1573); Brome Creek (43.4016, −123.0490); Burke Creek (43.3987, −123.4463); Buzzard Roost Creek (43.4584, −123.0990); Cabin Creek (43.5421, −123.3294); Calapooya Creek, North Fork (43.4867, −123.0280); Coon Creek (43.4218, −123.4349); Coon Creek (43.5245, −123.0429); Dodge Canyon Creek (43.4362, −123.4420); Driver Valley Creek (43.4327, −123.1960); Field Creek (43.4043, −123.0917); Gassy Creek (43.3862, −123.1133); Gilbreath Creek (43.4218, −123.0931); Gossett Creek (43.4970, −123.1045); Haney Creek (43.4763, −123.1086); Hinkle Creek (43.4230, −123.0382); Hog Creek (43.4767, −123.2516); Jeffers Creek (43.4522, −123.1047); Long Valley Creek (43.4474, −123.1460); Middle Fork South Fork Calapooya Creek (43.4772, −122.9952); Markam Creek (43.3751, −123.1479); Marsh Creek (43.5223, −123.3348); Mill Creek (43.4927, −123.1315); Norton Creek (43.5046, −123.3736); Pine Tree Creek (43.4179, −123.0688); Pollock Creek (43.5326, −123.2685); Salt Creek (43.5161, −123.2504); Salt Lick Creek (43.4510, −123.1168); Slide Creek (43.3926, −123.0919); Timothy Creek (43.4862, −123.0896); Unnamed (43.4469, −123.4268); Unnamed (43.4481, −123.4283); Unnamed (43.4483, −123.4134); Unnamed (43.4658, −122.9899); Unnamed (43.4707, −122.9896); Unnamed (43.4908, −123.0703); Unnamed (43.5173, −123.0564); Wheeler Canyon (43.4840, −123.3631); White Creek (43.4637, −123.0451); Williams Creek (43.4703, −123.4096).

(iii) Elk Creek Watershed 1710030303. Outlet(s) = Elk Creek (Lat 43.6329, Long −123.5662) upstream to endpoint(s) in: Adams Creek (43.5860, −123.2202); Allen Creek (43.6375, −123.3731); Andrews Creek (43.5837, −123.3920); Asker Creek (43.6290, −123.2668); Bear Creek (43.6195, −123.3703); Bear Creek (43.7119, −123.1757); Bennet Creek

(43.6158, −123.1558); Big Tom Folley Creek (43.7293, −123.4053); Big Tom Folley Creek, North Fork (43.7393, −123.4917); Big Tom Folley Creek, Trib A (43.7231, −123.4465); Billy Creek, East Fork (43.5880, −123.3263); Billy Creek, South Fork (43.5725, −123.3603); Blue Hole Creek (43.5610, −123.4378); Brush Creek (43.5600, −123.4205); Buck Creek (43.6981, −123.1818); Cowan Creek (43.5915, −123.2615); Cox Creek (43.6356, −123.1794); Curtis Creek (43.6839, −123.1734); Dodge Canyon (43.6225, −123.2509); Elk Creek (43.5097, −123.1620); Ellenburg Creek (43.7378, −123.3296); Fitch Creek (43.6986, −123.3152); Five Point Canyon (43.5707, −123.3526); Flagler Creek (43.5729, −123.3382); Green Creek (43.6851, −123.4688); Green Ridge Creek (43.5920, −123.3958); Halo Creek (43.5990, −123.2658); Hancock Creek (43.6314, −123.5188); Hanlon Creek (43.6190, −123.2785); Hardscrabble Creek (43.7111, −123.3517); Huntington Creek (43.5882, −123.2808); Jack Creek (43.7071, −123.3819); Johnny Creek (43.7083, −123.3972); Johnson Creek (43.6830, −123.2715); Lancaster Creek (43.6442, −123.4361); Lane Creek (43.5483, −123.1221); Lees Creek (43.6610, −123.1888); Little Sand Creek (43.7655, −123.2778); Little Tom Folley Creek (43.6959, −123.5393); McClintock Creek (43.6664, −123.2703); Parker Creek (43.6823, −123.4178); Pass Creek (43.7527, −123.1528); Pheasant Creek (43.7758, −123.2099); Rock Creek (43.7759, −123.2730); Saddle Butte Creek (43.7214, −123.5219); Salt Creek (43.6796, −123.2213); Sand Creek (43.7709, −123.2912); Shingle Mill Creek (43.5314, −123.1308); Simpson Creek (43.6629, −123.2553); Smith Creek (43.6851, −123.3179); Squaw Creek (43.6010, −123.4284); Taylor Creek (43.7642, −123.2712); Thief Creek (43.6527, −123.1459); Thistleburn Creek (43.6313, −123.4332); Unnamed (43.5851, −123.3101); Walker Creek (43.5922, −123.1707); Ward Creek (43.7486, −123.2023); Wehmeyer Creek (43.6823, −123.2404); Wilson Creek (43.5699, −123.2681); Wise Creek (43.6679, −123.2772); Yoncalla Creek (43.5563, −123.2833).

(iv) Middle Umpqua River Watershed 1710030304. Outlet(s) = Umpqua River (Lat 43.6556, Long −123.8752) upstream to endpoint(s) in: Burchard Creek (43.6680, −123.7520); Butler Creek (43.6325, −123.6867); Cedar Creek (43.7027, −123.6451); House Creek (43.7107, −123.6378); Little Mill Creek (43.6933, −123.8248); Little Paradise Creek (43.6981, −123.5630); Paradise Creek (43.7301, −123.5738); Patterson Creek (43.7076, −123.6977); Purdy Creek (43.6895, −123.7712); Sawyer Creek (43.6027, −123.6717); Scott Creek (43.6885, −123.6966); Umpqua River (43.6329, −123.5662); Unnamed (43.6011, −123.7084); Unnamed (43.5998, −123.6803); Unnamed (43.6143, −123.6674); Unnamed (43.6453, −123.7619); Unnamed (43.6461, −123.8064); Unnamed (43.6923, −123.7534); Unnamed (43.7068, −123.6109); Unnamed (43.7084, −123.7156); Unnamed (43.7098, −123.6300); Unnamed (43.7274, −123.6026); Weatherly Creek (43.7205, −123.6680); Wells Creek (43.6859, −123.7946).

(v) Upper Smith River Watershed 1710030306. Outlet(s) = Smith River (Lat 43.7968, Long −123.7565) upstream to endpoint(s) in: Amberson Creek (43.7787, −123.4944); Argue Creek (43.7656, −123.6959); Beaver Creek (43.7865, −123.6949); Beaver Creek (43.8081, −123.4041); Big Creek (43.7372, −123.7112); Blackwell Creek (43.8145, −123.7460); Blind Creek (43.7518, −123.6551); Bum Creek (43.8044, −123.5802); Carpenter Creek (43.7947, −123.7258); Clabber Creek (43.7919, −123.5878); Clearwater Creek (43.8138, −123.7375); Cleghorn Creek (43.7508, −123.4997); Clevenger Creek (43.7826, −123.4087); Coldwater Creek (43.8316, −123.7232); Deer Creek (43.8109, −123.5362); Devils Club Creek (43.7916, −123.6148); Elk Creek (43.8004, −123.4347); Halfway Creek (43.7412, −123.5112); Hall Creek (43.7732, −123.3836); Haney Creek (43.8355, −123.5006); Hardenbrook Creek (43.7943, −123.5660); Hefty Creek (43.7881, −123.3954); Herb Creek (43.8661, −123.6782); Jeff Creek (43.8079, −123.6033); Marsh Creek (43.7831, −123.6185); Mosetown Creek (43.7326, −123.6613); Mosetown Creek, East Fork (43.7185, −123.6433); North Sister Creek (43.8492, −123.5771); Panther Creek (43.8295, −123.4464); Pearl Creek (43.8263, −123.5350); Peterson Creek (43.7575, −123.3947); Plank Creek (43.7635, −123.3980); Redford Creek (43.7878, −123.3520); Rock Creek (43.7733, −123.6222); Russell Creek (43.8538, −123.6971); South Sister Creek (43.8366, −123.5611); Salmonberry Creek (43.8085, −123.4482); Scare Creek (43.7631, −123.7260); Sleezer Creek (43.7535, −123.3711); Slideout Creek (43.7831, −123.5685); Smith River, Little South Fork (43.7392, −123.4583); Smith River, South Fork (43.7345, −123.3843); Smith River (43.7529, −123.3310); Spring Creek (43.7570, −123.3276); Summit Creek (43.7985, −123.3487); Sweden Creek (43.8618, −123.6468); Tip Davis Creek (43.7739, −123.3301); Twin Sister Creek (43.8348, −123.7168); Unnamed (43.7234, −123.6308); Unnamed (43.7397, −123.6984); Unnamed (43.7433, −123.4673); Unnamed (43.7492, −123.6911); Unnamed (43.7495, −123.5832); Unnamed (43.7527, −123.5210); Unnamed (43.7533, −123.7046); Unnamed (43.7541, −123.4805); Unnamed (43.7708, −123.4819); Unnamed (43.7726, −123.5039); Unnamed (43.7748, −123.6044); Unnamed (43.7775, −123.6927); Unnamed (43.7830, −123.5900); Unnamed (43.7921, −123.6335); Unnamed (43.7955, −123.7013); Unnamed (43.7993, −123.6171); Unnamed (43.8020, −123.6739); Unnamed (43.8034, −123.6959); Unnamed (43.8133, −123.5893); Unnamed (43.8197, −123.4827); Unnamed (43.8263, −123.5810); Unnamed (43.8360, −123.6951); Unnamed (43.8519, −123.5910); Unnamed (43.8535, −123.6357); Unnamed (43.8541, −123.6155); Unnamed (43.8585, −123.6867); Upper Johnson Creek (43.7509, −123.5426); West Fork Halfway Creek (43.7421, −123.6119); Yellow Creek (43.8193, −123.5545).

(vi) Lower Smith River Watershed 1710030307. Outlet(s) = Smith River (Lat 43.7115, Long −124.0807) upstream to endpoint(s) in: Bear Creek (43.8087, −123.8202); Beaver Creek (43.8983, −123.7559); Black Creek (43.7544, −123.9967); Brainard Creek (43.7448, −124.0105); Buck Creek (43.7719, −123.7823); Cassady Creek (43.7578, −123.9744); Cedar Creek (43.8541, −123.8562); Chapman Creek (43.8181, −123.9380); Coon Creek (43.8495, −123.7857); Crane Creek (43.8592, −123.7739); Edmonds Creek (43.8257, −123.9000); Eslick Creek (43.8153, −123.9894); Eslick Creek, East Fork (43.8082, −123.9583); Frantz Creek (43.7542, −124.1006); Frarey Creek (43.7683, −124.0615); Georgia Creek (43.8373, −123.8911); Gold Creek (43.9002, −123.7470); Harlan Creek (43.8635, −123.9319); Holden Creek (43.7901, −124.0178); Hudson Slough (43.7725, −124.0736); Johnson Creek (43.8291, −123.9582); Johnson Creek (43.8480, −123.8209); Joyce Creek (43.7892, −124.0356); Joyce Creek, West Fork (43.7708, −124.0457); Kentucky Creek (43.9313, −123.8153); Middle Fork of North Fork Smith River (43.8780, −123.7687); Moore Creek (43.8523, −123.8931); Moore Creek (43.8661, −123.7558); Murphy Creek (43.7449, −123.9527); Noel Creek

(43.7989, −124.0109); Otter Creek (43.7216, −123.9626); Otter Creek, North Fork (43.7348, −123.9597); Paxton Creek (43.8847, −123.9004); Peach Creek (43.8963, −123.8599); Perkins Creek (43.7362, −123.9151); Railroad Creek (43.8086, −123.8998); Smith River, West Fork (43.9102, −123.7073); Smith River (43.7968, −123.7565); Spencer Creek (43.8429, −123.8321); Spencer Creek, West Fork (43.8321, −123.8685); Sulphur Creek (43.8512, −123.9422); Unnamed (43.7031, −123.7463); Unnamed (43.7106, −123.7666); Unnamed (43.7203, −123.7601); Unnamed (43.7267, −123.7396); Unnamed (43.7286, −123.7798); Unnamed (43.7322, −124.0585); Unnamed (43.7325, −123.7337); Unnamed (43.7470, −123.7416); Unnamed (43.7470, −123.7711); Unnamed (43.7569, −124.0844); Unnamed (43.7606, −124.0853); Unnamed (43.7623, −124.0753); Unnamed (43.7669, −124.0766); Unnamed (43.7734, −124.0674); Unnamed (43.7855, −124.0076); Unnamed (43.7877, −123.9936); Unnamed (43.8129, −123.9743); Unnamed (43.8212, −123.8777); Unnamed (43.8258, −123.8192); Unnamed (43.8375, −123.9631); Unnamed (43.8424, −123.7925); Unnamed (43.8437, −123.7989); Unnamed (43.8601, −123.7630); Unnamed (43.8603, −123.8155); Unnamed (43.8655, −123.8489); Unnamed (43.8661, −123.9136); Unnamed (43.8688, −123.7994); Unnamed (43.8831, −123.8534); Unnamed (43.8883, −123.7157); Unnamed (43.8906, −123.7759); Unnamed (43.8916, −123.8765); Unnamed (43.8922, −123.8144); Unnamed (43.8953, −123.8772); Unnamed (43.8980, −123.7865); Unnamed (43.8997, −123.7993); Unnamed (43.8998, −123.7197); Unnamed (43.9015, −123.8386); Unnamed (43.9015, −123.8949); Unnamed (43.9023, −123.8241); Unnamed (43.9048, −123.8316); Unnamed (43.9075, −123.7208); Unnamed (43.9079, −123.8263); Vincent Creek (43.7035, −123.7882); Wassen Creek (43.7419, −123.8905); West Branch North Fork Smith River (43.9113, −123.8958).

(vii) Lower Umpqua River Watershed 1710030308. Outlet(s) = Umpqua River (Lat 43.6696, Long −124.2025) upstream to endpoint(s) in: Alder Creek (43.6310, −124.0483); Bear Creek (43.7053, −123.9529); Butler Creek (43.7157, −124.0059); Charlotte Creek (43.6320, −123.9307); Dean Creek (43.6214, −123.9740); Dry Creek (43.6369, −124.0595); Franklin Creek (43.6850, −123.8659); Hakki Creek (43.6711, −124.0161); Indian Charlie Creek (43.6611, −123.9404); Johnson Creek (43.6711, −123.9760); Koepke Slough (43.6909, −124.0294); Little Franklin Creek (43.6853, −123.8863); Luder Creek (43.6423, −123.9046); Miller Creek (43.6528, −124.0140); Oar Creek (43.6620, −124.0289); Providence Creek (43.7083, −124.1289); Scholfield Creek (43.6253, −124.0112); Umpqua River (43.6556, −123.8752); Unnamed (43.6359, −123.9572); Unnamed (43.6805, −124.1146); Unnamed (43.6904, −124.0506); Unnamed (43.6940, −124.0340); Unnamed (43.7069, −123.9824); Unnamed (43.7242, −123.9369); Winchester Creek (43.6657, −124.1247); Wind Creek, South Fork (43.6346, −124.0897).

(11) Unit 11. Coos Subbasin 17100304—*(i) South Fork Coos Watershed 1710030401.* Outlet(s) = South Fork Coos (Lat 43.3905, Long −123.9634) upstream to endpoint(s) in: Beaver Slide Creek (43.2728, −123.8472); Bottom Creek (43.3751, −123.7065); Bottom Creek, North Fork (43.3896, −123.7264); Buck Creek (43.2476, −123.8023); Burnt Creek (43.2567, −123.7834); Cedar Creek (43.3388, −123.6303); Cedar Creek, Trib E (43.3423, −123.6749); Cedar Creek, Trib F (43.3330, −123.6523); Coal Creek (43.3426, −123.8685); Eight River Creek (43.2638, −123.8568); Fall Creek (43.2535, −123.7106); Fall Creek (43.4106, −123.7512); Fivemile Creek (43.2341, −123.6307); Gods Thumb Creek (43.3440, −123.7013); Gooseberry Creek (43.2452, −123.7081); Hatcher Creek (43.3021, −123.8370); Hog Ranch Creek (43.2754, −123.8125); Lake Creek (43.2971, −123.6354); Little Cow Creek (43.1886, −123.6133); Lost Creek (43.2325, −123.5769); Lost Creek, Trib A (43.2224, −123.5961); Mink Creek (43.3068, −123.8515); Panther Creek (43.2593, −123.6401); Shotgun Creek (43.2920, −123.7623); Susan Creek (43.2720, −123.7654); Tioga Creek (43.2110, −123.7786); Unnamed (43.2209, −123.7789); Unnamed (43.2305, −123.8360); Unnamed (43.2364, −123.7818); Unnamed (43.2548, −123.8569); Unnamed (43.2713, −123.8320); Unnamed (43.2902, −123.6662); Unnamed (43.3168, −123.6491); Unnamed (43.3692, −123.8320); Unnamed (43.3698, −123.8321); Unnamed (43.3806, −123.8327); Unnamed (43.3846, −123.8058); Unnamed (43.3887, −123.7927); Unnamed (43.3651, −123.7073); Wilson Creek (43.2083, −123.6691).

(ii) Millicoma River Watershed 1710030402. Outlet(s) = West Fork Millicoma River (Lat 43.4242, Long −124.0288) upstream to endpoint(s) in: Bealah Creek (43.4271, −123.8445); Buck Creek (43.5659, −123.9765); Cougar Creek (43.5983, −123.8788); Crane Creek (43.5545, −123.9287); Dagget Creek (43.4862, −124.0557); Darius Creek (43.4741, −123.9407); Deer Creek (43.6207, −123.9616); Deer Creek, Trib A (43.6100, −123.9761); Deer Creek, Trib B (43.6191, −123.9482); Devils Elbow Creek (43.4439, −124.0608); East Fork Millicoma River (43.4204, −123.8330); Elk Creek (43.5441, −123.9175); Fish Creek (43.6015, −123.8968); Fox Creek (43.4189, −123.9459); Glenn Creek (43.4799, −123.9325); Hidden Creek (43.5646, −123.9235); Hodges Creek (43.4348, −123.9889); Joes Creek (43.5838, −123.9787); Kelly Creek (43.5948, −123.9036); Knife Creek (43.6163, −123.9310); Little Matson Creek (43.4375, −123.8890); Marlow Creek (43.4779, −123.9815); Matson Creek (43.4489, −123.9191); Otter Creek (43.5935, −123.9729); Panther Creek (43.5619, −123.9038); Rainy Creek (43.4293, −124.0400); Rodine Creek (43.4434, −123.9789); Schumacher Creek (43.4842, −124.0380); Totten Creek (43.4869, −124.0457); Trout Creek (43.5398, −123.9814); Unnamed (43.4686, −124.0143); Unnamed (43.5156, −123.9366); Unnamed (43.5396, −123.9373); Unnamed (43.5450, −123.9305); West Fork Millicoma River (43.5617, −123.8788).

(iii) Lakeside Frontal Watershed 1710030403. Outlet(s) = Tenmile Creek (43.5618, −124.2308) upstream to endpoint(s) in: Adams Creek (43.5382, −124.1081); Alder Creek (43.6012, −124.0272); Alder Gulch (43.5892, −124.0665); Benson Creek (43.5813, −124.0086); Big Creek (43.6085, −124.0128); Blacks Creek (43.6365, −124.1188); Clear Creek (43.6040, −124.1871); Hatchery Creek (43.5275, −124.0761); Johnson Creek (43.5410, −124.0018); Murphy Creek (43.6243, −124.0534); Noble Creek (43.5897, −124.0347); Parker Creek (43.6471, −124.1246); Roberts Creek (43.5557, −124.0264); Saunders Creek (43.5417, −124.2136); Shutter Creek (43.5252, −124.1398); Swamp Creek (43.5550, −124.1948); Unnamed (43.5203, −124.0294); Unnamed (43.6302, −124.1460); Unnamed (43.6353, −124.1411); Unnamed (43.6369, −124.1515); Unnamed (43.6466, −124.1511); Unnamed (43.5081; −124.0382); Unnamed (43.6353, −124.16770; Wilkins Creek (43.6304, −124.0819); Winter Creek (43.6533, −124.1333).

(iv) Coos Bay Watershed 1710030404. Outlet(s) = Big Creek (Lat 43.3326, Long

−124.3739); Coos Bay (43.3544, −124.3384) upstream to endpoint(s) in: Bear Creek (43.5048, −124.1059); Bessey Creek (43.3844, −124.0253); Big Creek (43.2834, −124.3374), Big Creek (43.3980, −123.9396); Big Creek, Trib A (43.2999, −124.3711); Big Creek, Trib B (43.2854, −124.3570); Blossom Gulch (43.3598, −124.2410); Boatman Gulch (43.3445, −124.2483); Boone Creek (43.2864, −124.1762); Cardwell Creek (43.2793, −124.1277); Catching Creek (43.2513, −124.1586); Coalbank Creek (43.3154, −124.2503); Coos Bay (43.3566, −124.1592); Daniels Creek (43.3038, −124.0725); Davis Creek (43.2610, −124.2633); Day Creek (43.3129, −124.2888); Deton Creek (43.4249, −124.0771); Echo Creek (43.3797, −124.1529); Elliot Creek (43.3037, −124.2670); Farley Creek (43.3146, −124.3415); Ferry Creek (43.2628, −124.1728); Goat Creek (43.2700, −124.2109); Haywood Creek (43.3067, −124.3419); Hendrickson Creek (43.3907, −124.0594); Isthmus Slough (43.2622, −124.2049); Joe Ney Slough (43.3382, −124.2958); John B Creek (43.2607, −124.2814); Johnson Creek (43.4043, −124.1389); Kentuck Creek (43.4556, −124.0894); Larson Creek (43.4930, −124.0764); Laxstrom Gulch (43.3372, −124.1350); Lillian Creek (43.3550, −124.1330); Mart Davis Creek (43.3911, −124.0927); Matson Creek (43.3011, −124.1161); McKnight Creek (43.3841, −123.9991); Mettman Creek (43.4574, −124.1293); Millicoma River (43.4242, −124.0288); Monkey Ranch Gulch (43.3392, −124.1458); Morgan Creek (43.3460, −124.0318); North Slough (43.5032, −124.1408); Noble Creek (43.2387, −124.1665); Packard Creek (43.4058, −124.0211); Palouse Creek (43.5123, −124.0667); Panther Creek (43.2733, −124.1222); Pony Slough (43.4078, −124.2307); Rogers Creek (43.3831, −124.0370); Ross Slough (43.3027, −124.1781); Salmon Creek (43.3618, −123.9816); Seaman Creek (43.3634, −124.0111); Seelander Creek (43.2872, −124.1176); Shinglehouse Slough (43.3154, −124.2225); Smith Creek (43.3579, −124.1051); Snedden Creek (43.3372, −124.2177); Southport Slough (43.2981, −124.2194); Stock Slough (43.3277, −124.1195); Storey Creek (43.3238, −124.2969); Sullivan Creek (43.4718, −124.0872); Talbott Creek (43.2839, −124.2954); Theodore Johnson Creek (43.2756, −124.3457); Unnamed (43.5200, −124.1812); Unnamed (43.2274, −124.3236); Unnamed (43.2607, −124.2984); Unnamed (43.2772, −124.3246); Unnamed (43.2776, −124.3148); Unnamed (43.2832, −124.1532); Unnamed (43.2888, −124.1962); Unnamed (43.2893, −124.3406); Unnamed (43.2894, −124.2034); Unnamed (43.2914, −124.2917); Unnamed (43.2942, −124.1027); Unnamed (43.2984, −124.2847); Unnamed (43.3001, −124.3022); Unnamed (43.3034, −124.2001); Unnamed (43.3051, −124.2031); Unnamed (43.3062, −124.2030); Unnamed (43.3066, −124.3674); Unnamed (43.3094, −124.1947); Unnamed (43.3129, −124.1208); Unnamed (43.3149, −124.1347); Unnamed (43.3149, −124.1358); Unnamed (43.3149, −124.1358); Unnamed (43.3169, −124.0638); Unnamed (43.3224, −124.2390); Unnamed (43.3356, −124.1542); Unnamed (43.3356, −124.1526); Unnamed (43.3357, −124.1510); Unnamed (43.3357, −124.1534); Unnamed (43.3368, −124.1509); Unnamed (43.3430, −124.2352); Unnamed (43.3571, −124.2372); Unnamed (43.3643, −124.0474); Unnamed (43.3741, −124.0577); Unnamed (43.4126, −124.0599); Unnamed (43.4203, −123.9824); Unnamed (43.4314, −124.0998); Unnamed (43.4516, −124.1023); Unnamed (43.4521, −124.1110); Unnamed (43.5345, −124.1946); Vogel Creek (43.3511, −124.1206); Wasson Creek (43.2688, −124.3368); Willanch Creek (43.4233, −124.1061); Willanch Creek, Trib A (43.4032, −124.1169); Wilson Creek (43.2652, −124.1281); Winchester Creek (43.2145, −124.3116); Winchester Creek, Trib E (43.2463, −124.3067); Woodruff Creek (43.4206, −123.9746); Wren Smith Creek (43.3131, −124.0649).

(12) Unit 12. Coquille Subbasin 17100305—*(i) Middle Fork Coquille Watershed 1710030502.* Outlet(s) = Middle Fork Coquille River (Lat 43.0340, Long −124.1161) upstream to endpoint(s) in: Anderson Creek (43.0087, −123.9445); Axe Creek (43.0516, −123.9468); Bear Creek (43.0657, −123.9284); Belieu Creek (43.0293, −123.9470); Big Creek (43.0991, −123.8983); Brownson Creek (43.0879, −123.9583); Endicott Creek (43.0401, −124.0710); Fall Creek (43.0514, −123.9910); Indian Creek (43.0203, −124.0842); Little Rock Creek (42.9913, −123.8335); McMullen Creek (43.0220, −124.0366); Middle Fork Coquille River (42.9701, −123.7621); Myrtle Creek (42.9642, −124.0170); Rasler Creek (42.9518, −123.9643); Rock Creek (42.9200, −123.9073); Rock Creek (43.0029, −123.8440); Salmon Creek (43.0075, −124.0273); Sandy Creek (43.0796, −123.8517); Sandy Creek, Trib F (43.0526, −123.8736); Sheilds Creek (42.9184, −123.9219); Slater Creek (42.9358, −123.7958); Slide Creek (42.9957, −123.9040); Smith Creek (43.0566, −124.0337); Swamp Creek (43.0934, −123.9000); Unnamed (43.0016, −123.9550); Unnamed (43.0681, −123.9812); Unnamed (43.0810, −123.9892).

(ii) Middle Main Coquille Watershed 1710030503. Outlet(s) = South Fork Coquille River (Lat 43.0805, Long −124.1405) upstream to endpoint(s) in: Baker Creek (42.8913, −124.1297); Beaver Creek (42.9429, −124.0783); Catching Creek, Middle Fork (42.9913, −124.2331); Catching Creek, South Fork (42.9587, −124.2348); Coquille River, South Fork (42.8778, −124.0743); Cove Creek (43.0437, −124.2088); Dement Creek (42.9422, −124.2086); Gettys Creek (43.0028, −124.1988); Grants Creek (42.9730, −124.1041); Horse Hollow (43.0382, −124.1984); Knight Creek (43.0022, −124.2663); Koontz Creek (43.0111, −124.2505); Long Tom Creek (42.9342, −124.0992); Matheny Creek (43.0495, −124.1892); Mill Creek (42.9777, −124.1663); Rhoda Creek (43.0007, −124.1032); Roberts Creek (42.9748, −124.2385); Rowland Creek (42.9045, −124.1845); Russell Creek (42.9495, −124.1611); Unnamed (42.9684, −124.1033); Ward Creek (43.0429, −124.2358); Warner Creek (43.0196, −124.1187); Wildcat Creek (43.0277, −124.2225); Wolf Creek (43.0136, −124.2318); Woodward Creek (42.9023, −124.0658).

(iii) East Fork Coquille Watershed 1710030504. Outlet(s) = East Fork Coquille River (Lat 43.1065, Long −124.0761) upstream to endpoint(s) in: Bills Creek (43.1709, −123.9244); China Creek (43.1736, −123.9086); East Fork Coquille River (43.1476, −123.8936); Elk Creek (43.1312, −123.9621); Hantz Creek (43.1832, −123.9713); South Fork Elk Creek (43.1212, −123.9200); Steel Creek (43.1810, −123.9354); Unnamed (43.0908, −124.0361); Unnamed (43.0925, −124.0495); Unnamed (43.0976, −123.9705); Unnamed (43.1006, −124.0052); Unnamed (43.1071, −123.9163); Unnamed (43.1655, −123.9078); Unnamed (43.1725, −123.9881); Weekly Creek (43.0850, −124.0076); Yankee Run (43.1517, −124.0483); Yankee Run, Trib C (43.1626, −124.0162).

(iv) North Fork Coquille Watershed 1710030505. Outlet(s) = North Fork Coquille River (Lat 43.0805, Long −124.1405) upstream to endpoint(s) in: Alder Creek (43.2771, −123.9207); Blair Creek (43.1944, −124.1121); Cherry Creek, North Fork (43.2192, −123.9124); Cherry Creek, South Fork (43.2154, −123.9353); Coak Creek (43.2270, −124.0324); Coquille River,

Little North Fork (43.2988, −123.9410); Coquille River, North Fork (43.2974, −123.8791); Coquille River, North Fork, Trib E (43.1881, −124.0764); Coquille River, North Fork, Trib I (43.2932, −123.8920); Coquille River, North Fork, Trib Y (43.3428, −123.9678); Evans Creek (43.2868, −124.0561); Fruin Creek (43.3016, −123.9198); Garage Creek (43.1508, −124.1020); Giles Creek (43.3129, −124.0337); Honcho Creek (43.2628, −123.8954); Hudson Creek (43.2755, −123.9604); Jerusalem Creek (43.1844, −124.0539); Johns Creek (43.0760, −124.0498); Little Cherry Creek (43.2007, −123.9594); Llewellyn Creek (43.1034, −124.1063); Llewellyn Creek, Trib A (43.0969, −124.0995); Lost Creek (43.1768, −124.1047); Lost Creek (43.2451, −123.9745); Mast Creek (43.2264, −124.0207); Middle Creek (43.2332, −123.8726); Moon Creek (43.2902, −123.9493); Moon Creek, Trib A (43.2976, −123.9837); Moon Creek, Trib A–1 (43.2944, −123.9753); Neely Creek (43.2960, −124.0380); Park Creek (43.2508, −123.8661); Park Creek, Trib B (43.2702, −123.8782); Schoolhouse Creek (43.1637, −124.0949); Steele Creek (43.2203, −124.1018); Steinon Creek (43.2534, −124.1076); Unnamed (43.1305, −124.0759); Unnamed (43.2047, −124.0314); Unnamed (43.2127, −124.1101); Unnamed (43.2165, −123.9144); Unnamed (43.2439, −123.9275); Unnamed (43.2444, −124.0868); Unnamed (43.2530, −124.0848); Unnamed (43.2582, −124.0794); Unnamed (43.2584, −123.8846); Unnamed (43.2625, −124.0474); Unnamed (43.2655, −123.9269); Unnamed (43.2676, −124.0367); Vaughns Creek (43.2378, −123.9106); Whitley Creek (43.2899, −124.0115); Wimer Creek (43.1303, −124.0640); Wood Creek (43.1392, −124.1274); Wood Creek, North Fork (43.1454, −124.1211).

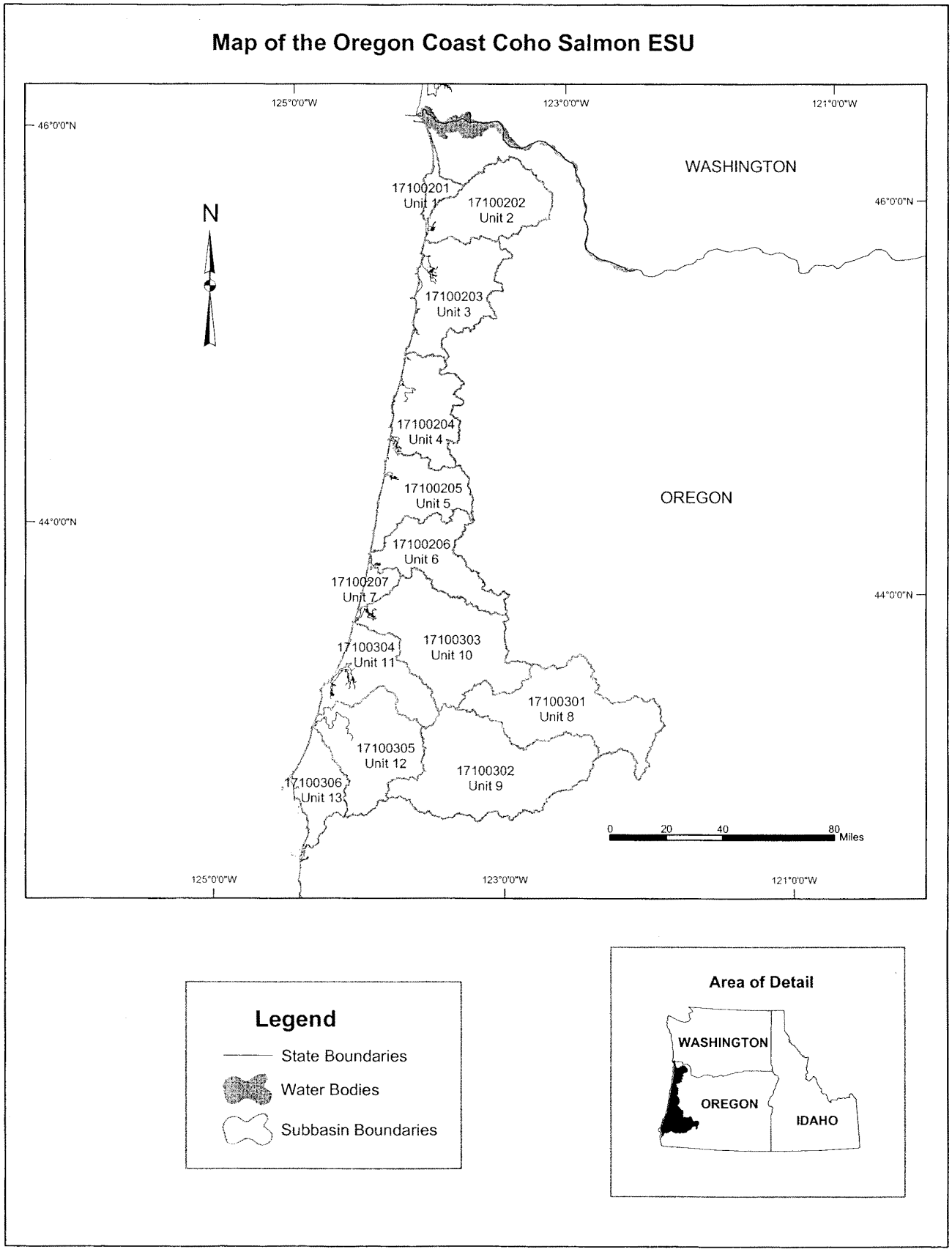
(v) Lower Coqulle Watershed 1710030506. Outlet(s) = Coquille River (Lat 43.1237, Long −124.4261) upstream to endpoint(s) in: Alder Creek (43.1385, −124.2697); Bear Creek (43.0411, −124.2893); Beaver Creek (43.2249, −124.1923); Beaver Creek (43.2525, −124.2456); Beaver Slough, Trib A (43.2154, −124.2731); Bill Creek (43.0256, −124.3126); Budd Creek (43.2011, −124.1921); Calloway Creek (43.2060, −124.1684); Cawfield Creek (43.1839, −124.1372); China Creek (43.2170, −124.2076); Cold Creek (43.2038, −124.1419); Coquille River (43.0805, −124.1405); Coquille River, Trib A (43.2032, −124.2930); Cunningham Creek (43.2349, −124.1378); Dutch John Ravine (43.1744, −124.1781); Dye Creek (43.2274, −124.1569); Fahys Creek (43.1676, −124.3861); Fat Elk Creek (43.1373, −124.2560); Ferry Creek (43.1150, −124.3831); Fishtrap Creek (43.0841, −124.2544); Glen Aiken Creek (43.1482, −124.1497); Grady Creek (43.1032, −124.1381); Gray Creek (43.1222, −124.1286); Hall Creek (43.0583, −124.2516); Hall Creek, Trib A (43.0842, −124.1745); Harlin Creek (43.1326, −124.1633); Hatchet Slough, Trib A (43.1638, −124.3065); Hatchet Slough (43.1879, −124.3003); Lampa Creek (43.0531, −124.2665); Little Bear Creek (43.0407, −124.2783); Little Fishtrap Creek (43.1201, −124.2290); Lowe Creek (43.1401, −124.3232); Mack Creek (43.0604, −124.3306); Monroe Creek (43.0705, −124.2905); Offield Creek (43.1587, −124.3273); Pulaski Creek (43.1398, −124.2184); Randleman Creek (43.0818, −124.3039); Rich Creek (43.0576, −124.2067); Rink Creek (43.1764, −124.1369); Rock Robinson Creek (43.0860, −124.2306); Rollan Creek (43.1266, −124.2563); Sevenmile Creek (43.2157, −124.3350); Sevenmile Creek, Trib A (43.1853, −124.3187); Sevenmile Creek, Trib C (43.2081, −124.3340); Unnamed (43.1084, −124.2727); Unnamed (43.1731, −124.1852); Unnamed (43.1924, −124.1378); Unnamed (43.1997, −124.3346); Unnamed (43.2281, −124.2190); Unnamed (43.2424, −124.2737); Waddington Creek (43.1105, −124.2915).

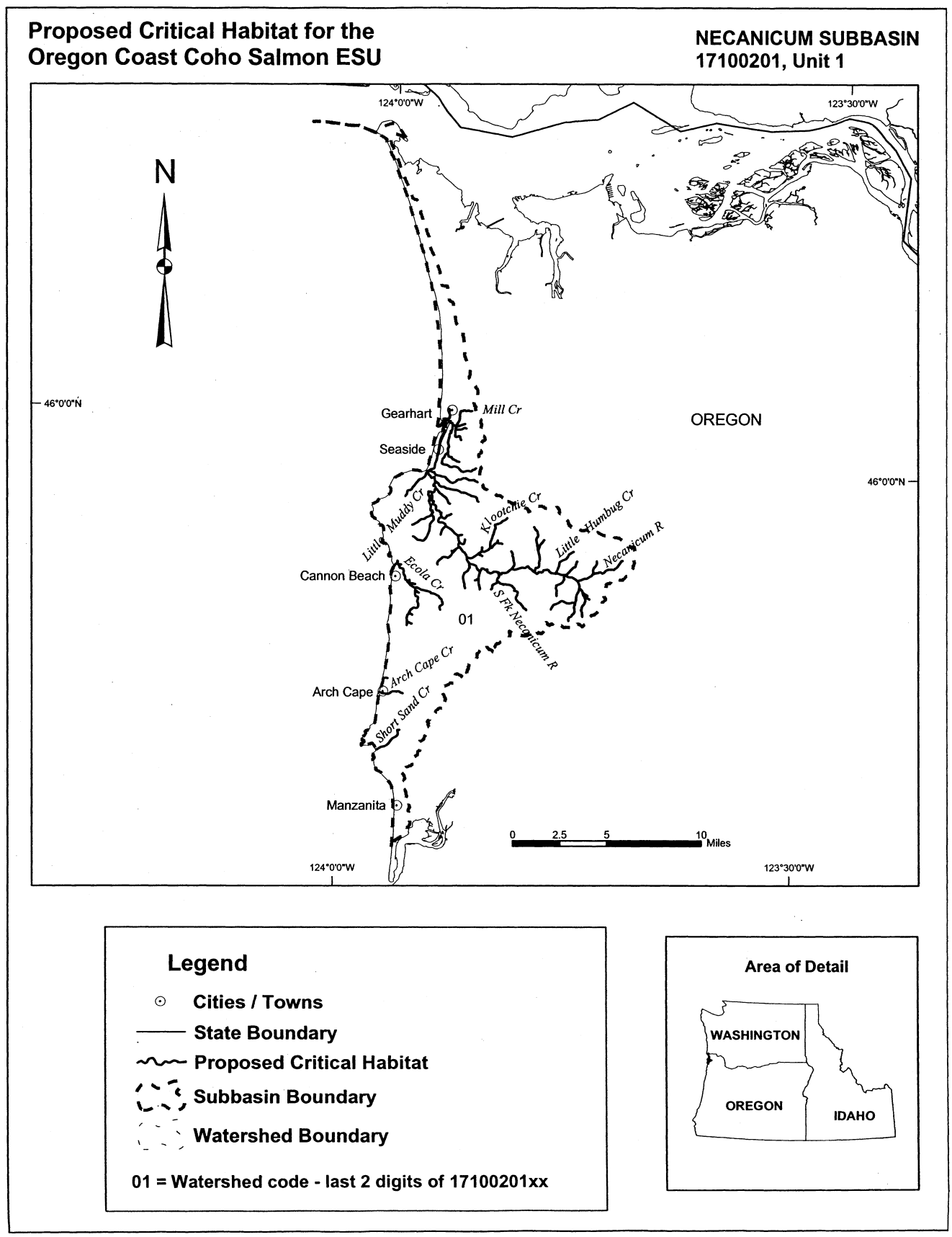
(13) Unit 13. Sixes Subbasin 17100306—*(i) Sixes River Watershed 1710030603.* Outlet(s) = Sixes River (Lat 42.8543, Long −124.5427) upstream to endpoint(s) in: Beaver Creek (42.7867, −124.4373); Calrton Creek (42.8594, −124.2382); Cold Creek (42.7824, −124.2070); Crystal Creek (42.8404, −124.4501); Dry Creek (42.7673, −124.3726); Edson Creek (42.8253, −124.3782); Hays Creek (42.8455, −124.1796); Little Dry Creek (42.8002, −124.3838); Murphy Canyon (42.8516, −124.1541); Sixes River (42.8232, −124.1704); Sixes River, Middle Fork (42.7651, −124.1782); Sixes River, North Fork (42.8878, −124.2320); South Fork Sixes River (42.8028, −124.3022); Sugar Creek (42.8217, −124.2035); Unnamed (42.8189, −124.3567); Unnamed (42.7952, −124.3918); Unnamed (42.8276, −124.4629).

(ii) New River Frontal Watershed 1710030604. Outlet(s) = New River (Lat 43.0007, Long −124.4557); Twomile Creek (43.0440, −124.4415) upstream to endpoint(s) in: Bethel Creek (42.9519, −124.3954); Boulder Creek (42.8574, −124.5050); Butte Creek (42.9458, −124.4096); Conner Creek (42.9814, −124.4215); Davis Creek (42.9657, −124.3968); Floras Creek (42.9127, −124.3963); Fourmile Creek (42.9887, −124.3077); Fourmile Creek, South Fork (42.9642, −124.3734); Langlois Creek (42.9238, −124.4570); Little Creek (43.0030, −124.3562); Long Creek (42.9828, −124.3770); Lower Twomile Creek (43.0223, −124.4080); Morton Creek (42.9437, −124.4234); New River (42.8563, −124.4602); North Fourmile Creek (42.9900, −124.3176); Redibough Creek (43.0251, −124.3659); South Twomile Creek (43.0047, −124.3672); Spring Creek (43.0183, −124.4299); Twomile Creek (43.0100, −124.3291); Unnamed (43.0209, −124.3386); Unnamed (43.0350, −124.3506); Unnamed (43.0378, −124.3481); Unnamed (43.0409, −124.3544); Unnamed (42.8714, −124.4586); Unnamed (42.9029, −124.4222); Unnamed (42.9031, −124.4581); Unnamed (42.9294, −124.4421); Unnamed (42.9347, −124.4559); Unnamed (42.9737, −124.3363); Unnamed (42.9800, −124.3432); Unnamed (43.0058, −124.4066); Willow Creek (42.8880, −124.4505).

(14) Maps of proposed critical habitat for the Oregon Coast coho salmon ESU follow:

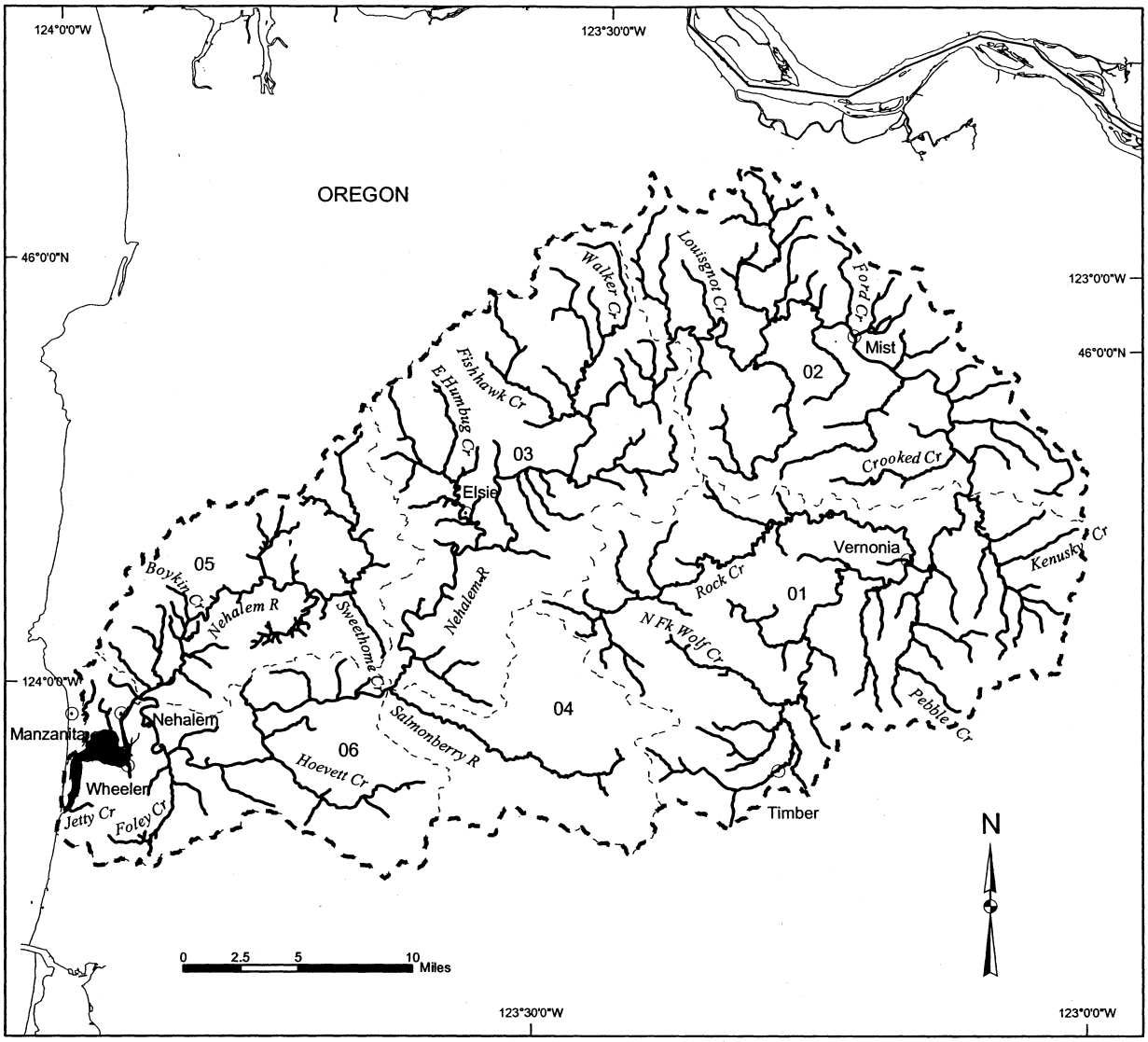
BILLING CODE 3510–22–P


Map of the Oregon Coast Coho Salmon ESU
125°0'0"W
123°0'0"W
121°0'0"W
46°0'0"N
44°0'0"N
WASHINGTON
OREGON
N
17100201
Unit 1
17100202
Unit 2
17100203
Unit 3
17100204
Unit 4
17100205
Unit 5
17100206
Unit 6
17100207
Unit 7
17100304
Unit 11
17100303
Unit 10
17100301
Unit 8
17100305
Unit 12
17100302
Unit 9
17100306
Unit 13
0 20 40 80 Miles
Legend
State Boundaries
Water Bodies
Subbasin Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
NECANICUM SUBBASIN
17100201, Unit 1
124°0'0"W
123°30'0"W
N
46°0'0"N
Gearhart
Mill Cr
Seaside
OREGON
Little Muddy Cr
Klootchie Cr
Little Humbug Cr
Necanicum R
Cannon Beach
Ecola Cr
S Fk Necanicum R
01
Arch Cape Cr
Arch Cape
Short Sand Cr
Manzanita
0 2.5 5 10 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundary
01 = Watershed code - last 2 digits of 17100201xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

NEHALEM SUBBASIN 17100202, Unit 2

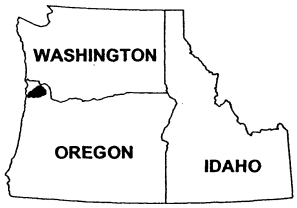


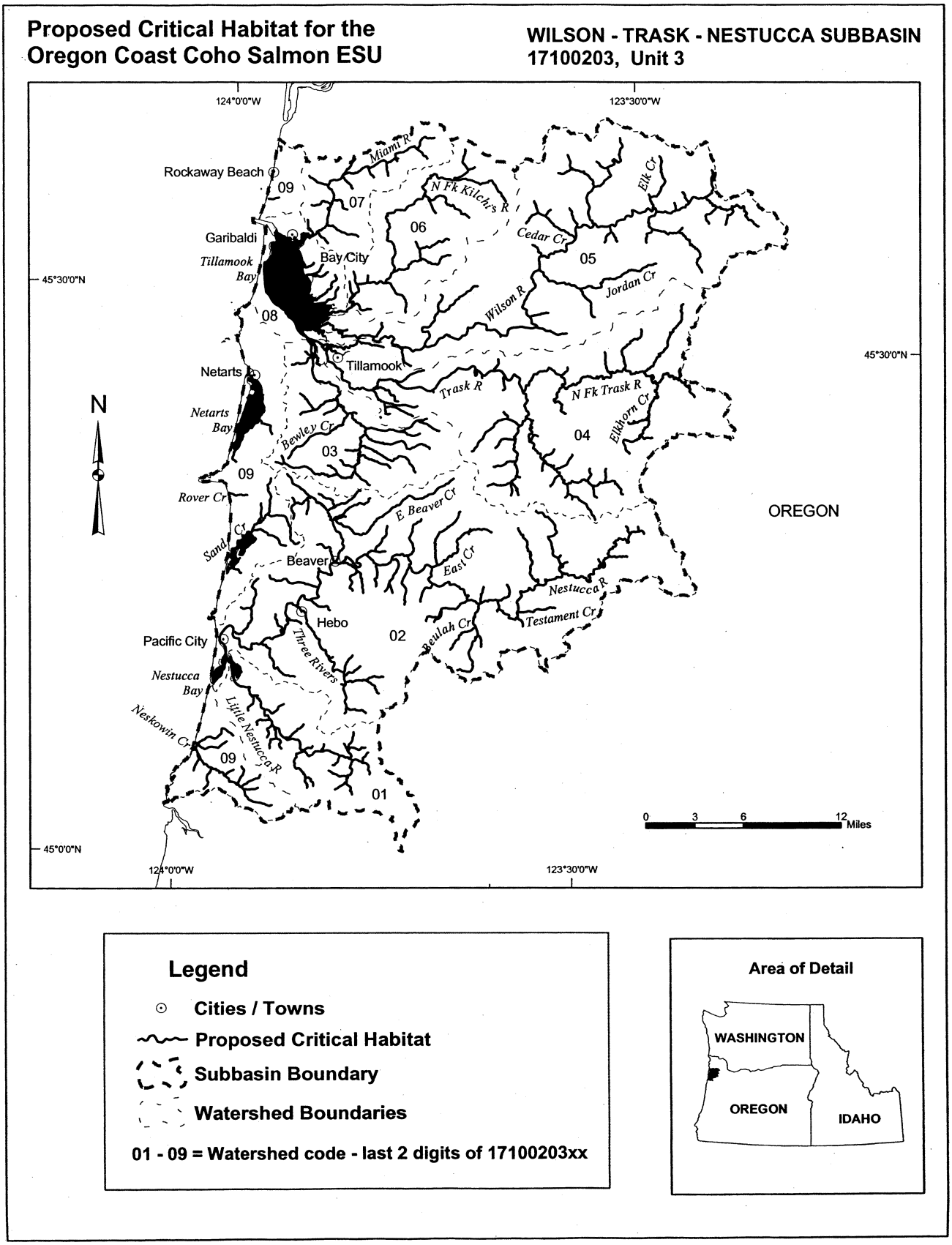
Legend

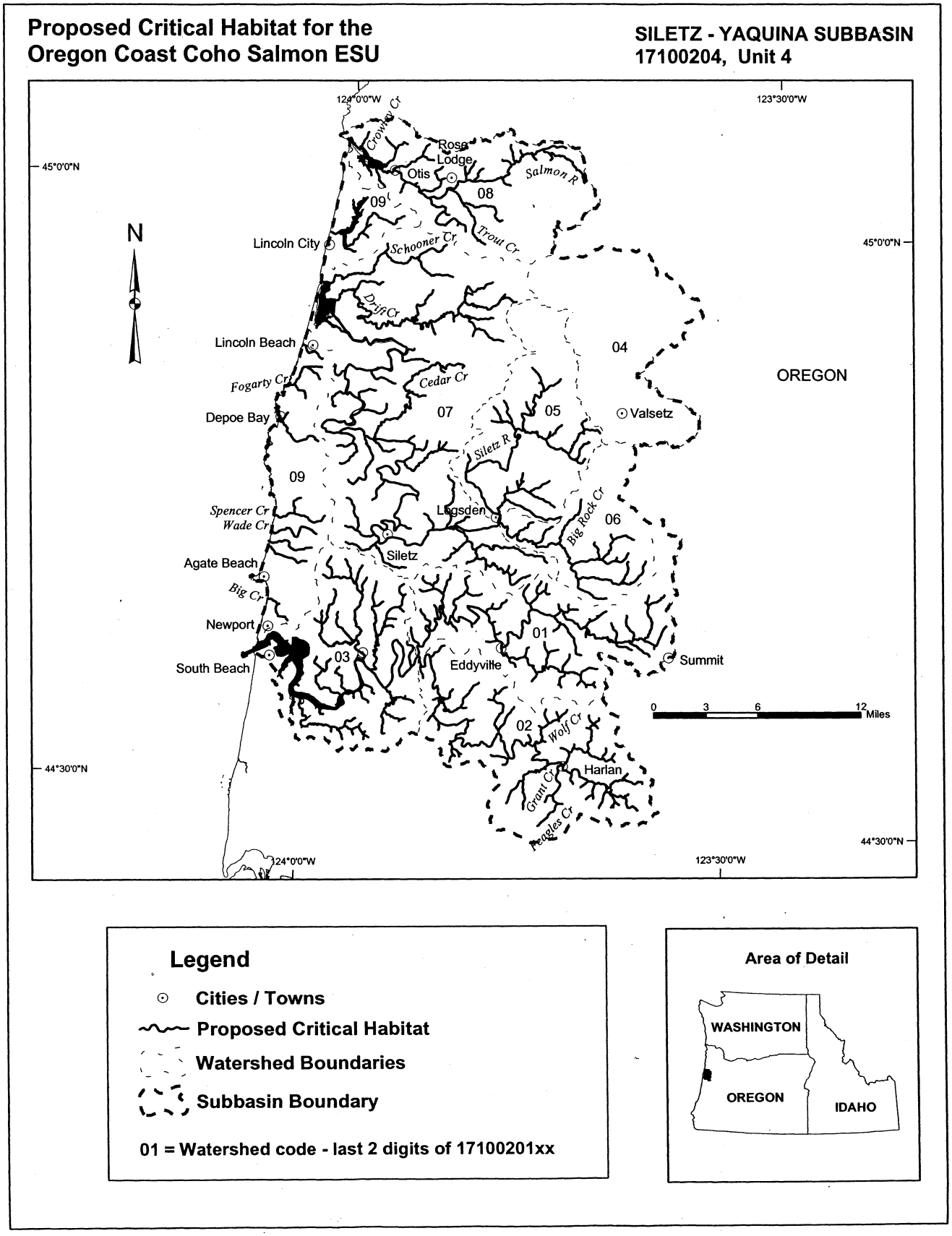
- Cities / Towns
- State Boundary
- Proosed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

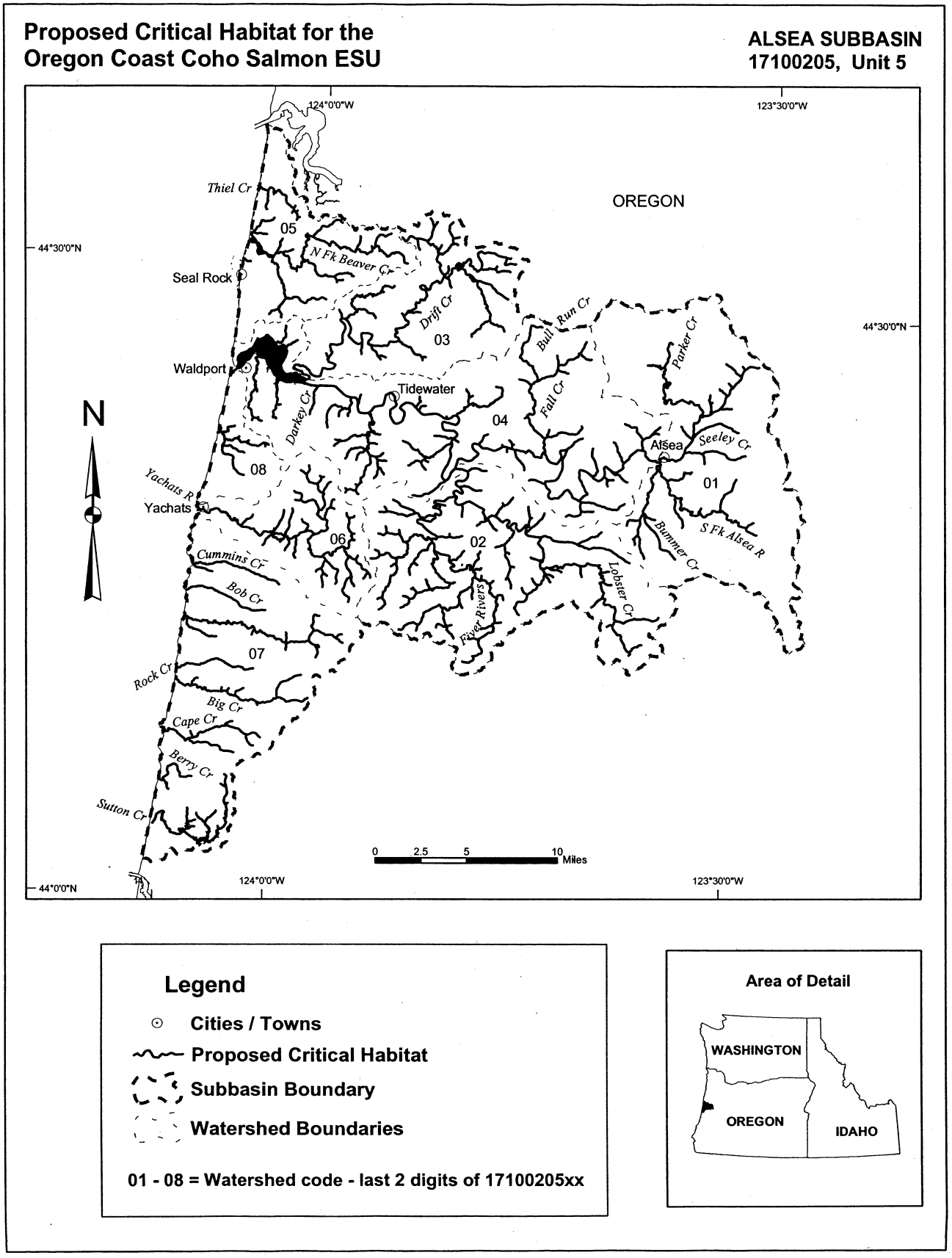
01 - 06 = Watershed code - last 2 digits of 17100202xx

Area of Detail



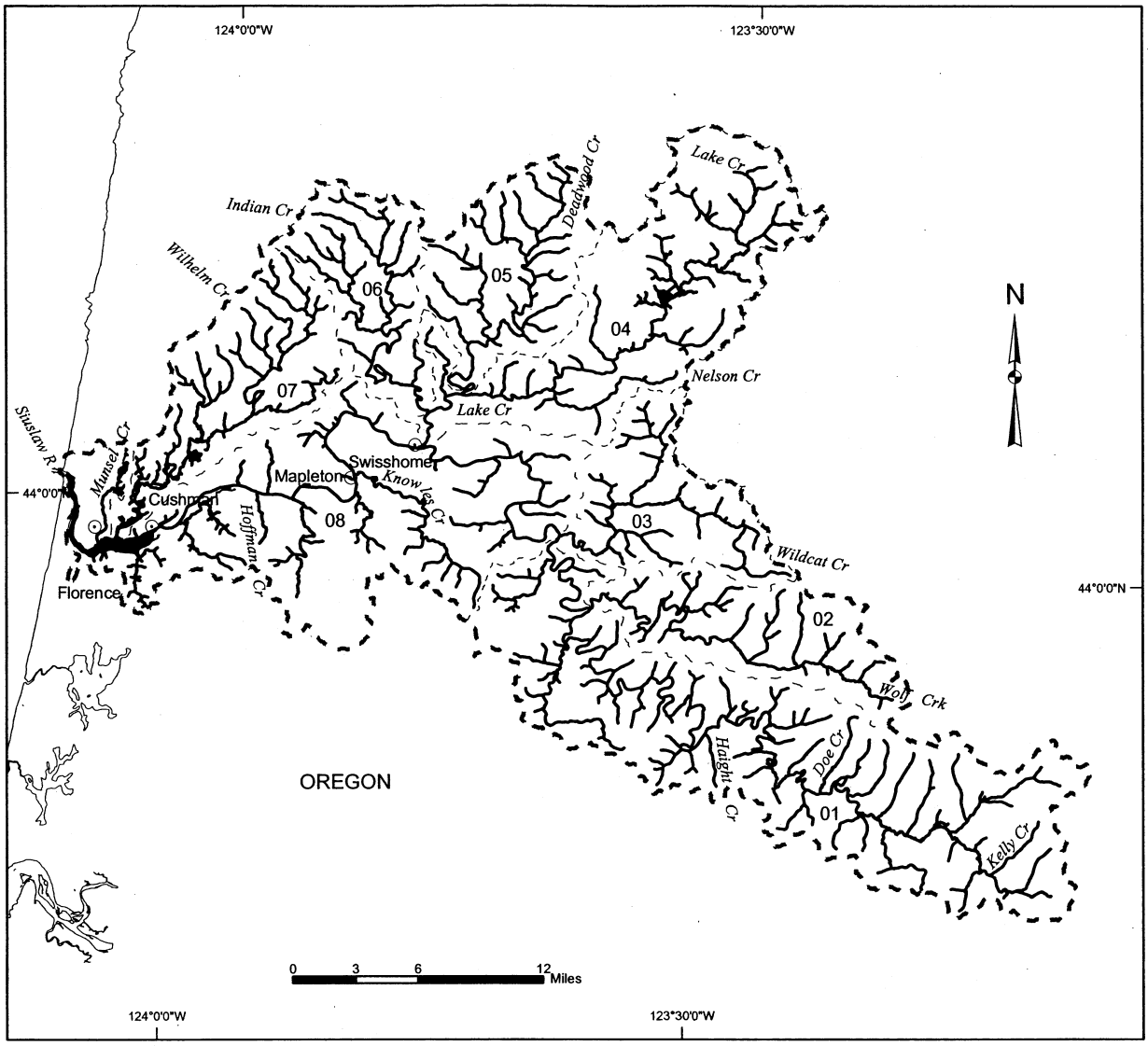

Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
WILSON - TRASK - NESTUCCA SUBBASIN
17100203, Unit 3
124°0'0"W
123°30'0"W
45°30'0"N
45°0'0"N
Rockaway Beach
Garibaldi
Tillamook Bay
Bay City
Tillamook
Netarts
Netarts Bay
Rover Cr
Sand Cr
Beaver
Hebo
Pacific City
Nestucca Bay
Neskowin Cr
Miami R
N Fk Kilchis R
Elk Cr
Cedar Cr
Jordan Cr
Wilson R
Trask R
N Fk Trask R
Elkhorn Cr
Bewley Cr
E Beaver Cr
East Cr
Nestucca R
Testament Cr
Beulah Cr
Three Rivers
Little Nestucca R
09
07
06
05
08
03
04
02
01
N
OREGON
0 3 6 12 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 09 = Watershed code - last 2 digits of 17100203xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
SILETZ - YAQUINA SUBBASIN
17100204, Unit 4
124°0'0"W
123°30'0"W
45°0'0"N
44°30'0"N
N
Crowley Cr
Rose Lodge
Otis
Salmon R
09
08
Lincoln City
Schooner Cr
Trout Cr
Drift Cr
Lincoln Beach
04
OREGON
Fogarty Cr
Cedar Cr
Depoe Bay
07
05
Valsetz
Siletz R
09
Spencer Cr
Wade Cr
Logsden
Big Rock Cr
06
Siletz
Agate Beach
Big Cr
Newport
01
South Beach
03
Eddyville
Summit
0 3 6 12 Miles
02
Wolf Cr
Harlan
Grant Cr
Peagles Cr
Legend
Cities / Towns
Proposed Critical Habitat
Watershed Boundaries
Subbasin Boundary
01 = Watershed code - last 2 digits of 17100201xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
ALSEA SUBBASIN
17100205, Unit 5
124°0'0"W
123°30'0"W
44°30'0"N
44°0'0"N
OREGON
Thiel Cr
05
N Fk Beaver Cr
Seal Rock
Drift Cr
03
Bull Run Cr
Parker Cr
Waldport
Tidewater
Darkey Cr
04
Fall Cr
Alsea
Seeley Cr
08
01
Yachats R
Yachats
06
02
Bummer Cr
S Fk Alsea R
Cummins Cr
Bob Cr
Lobster Cr
Five Rivers
07
Rock Cr
Big Cr
Cape Cr
Berry Cr
Sutton Cr
N
0 2.5 5 10 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17100205xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

SIUSLAW SUBBASIN 17100206, Unit 6

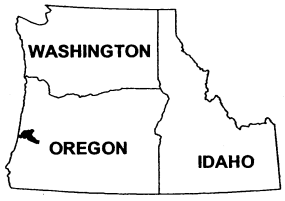


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

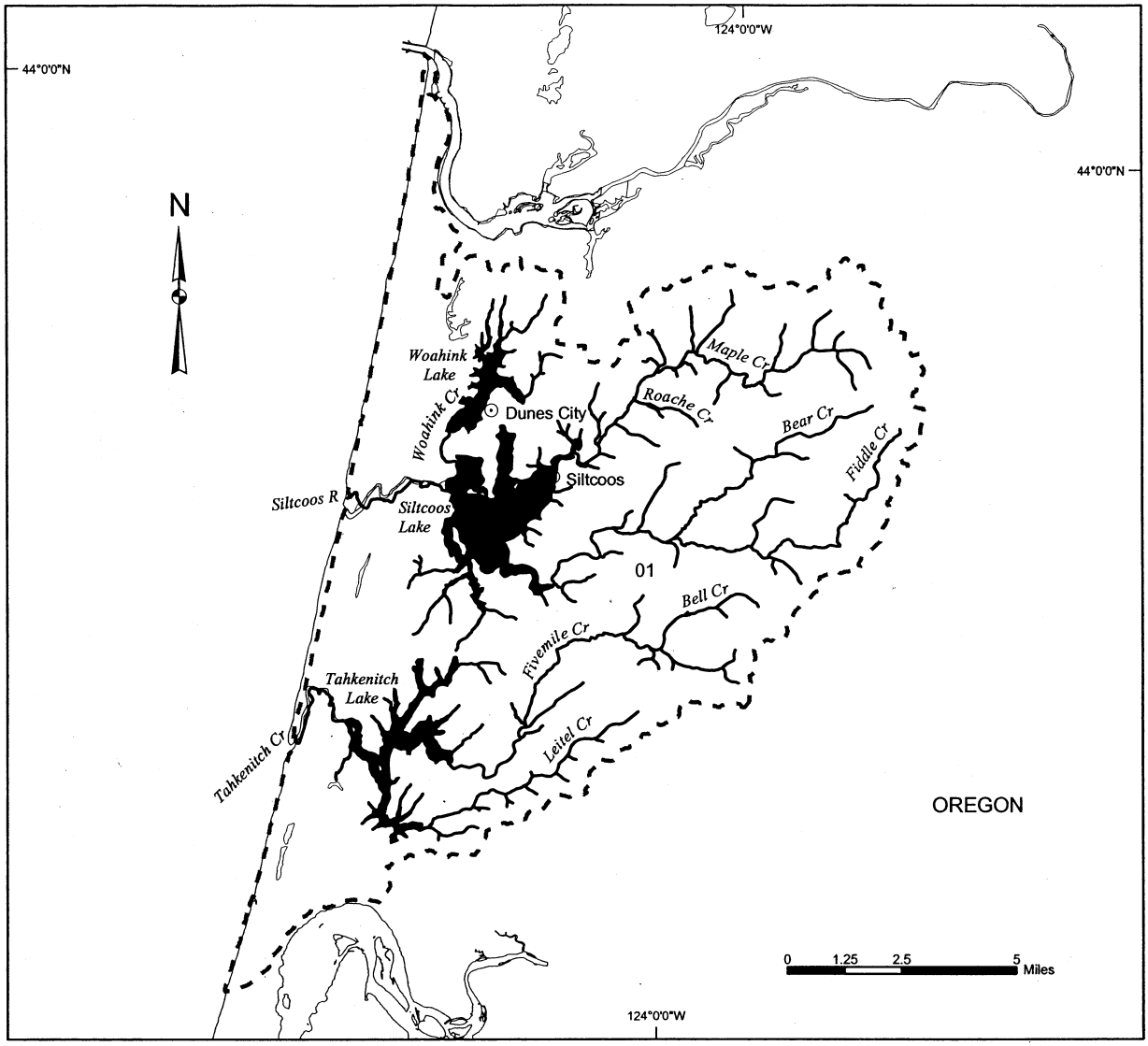
01 - 08 = Watershed code - last 2 digits of 17100206xx

Area of Detail



Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

SILTCOOS SUBBASIN 17100207, Unit 7

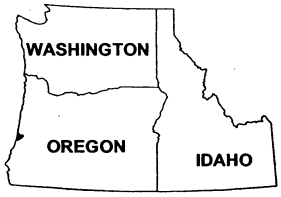


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

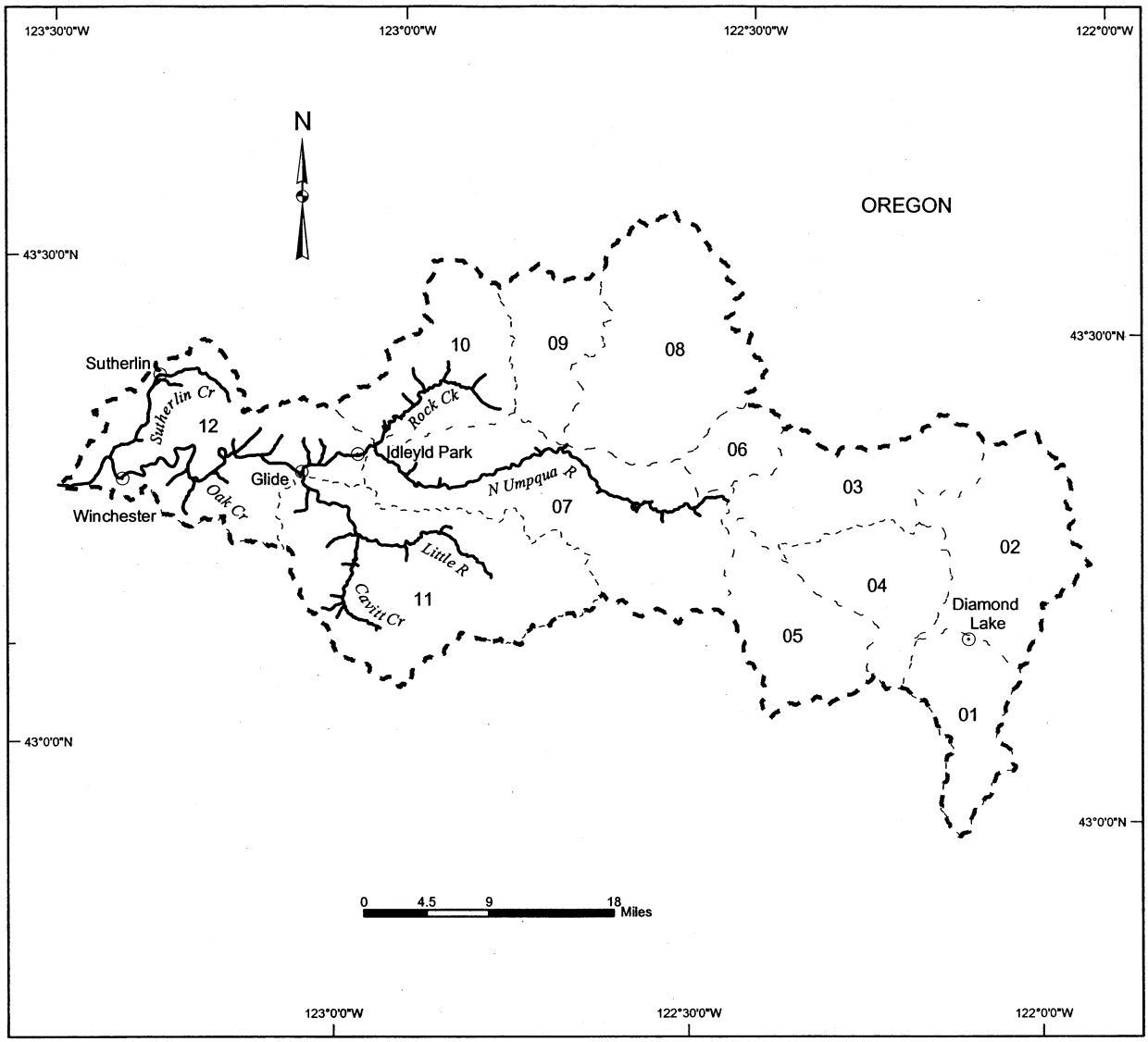
01 = Watershed code - last 2 digits of 17100207xx

Area of Detail



Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

NORTH UMPQUA SUBBASIN 17100301, Unit 8

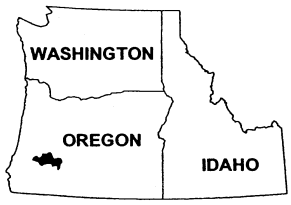


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

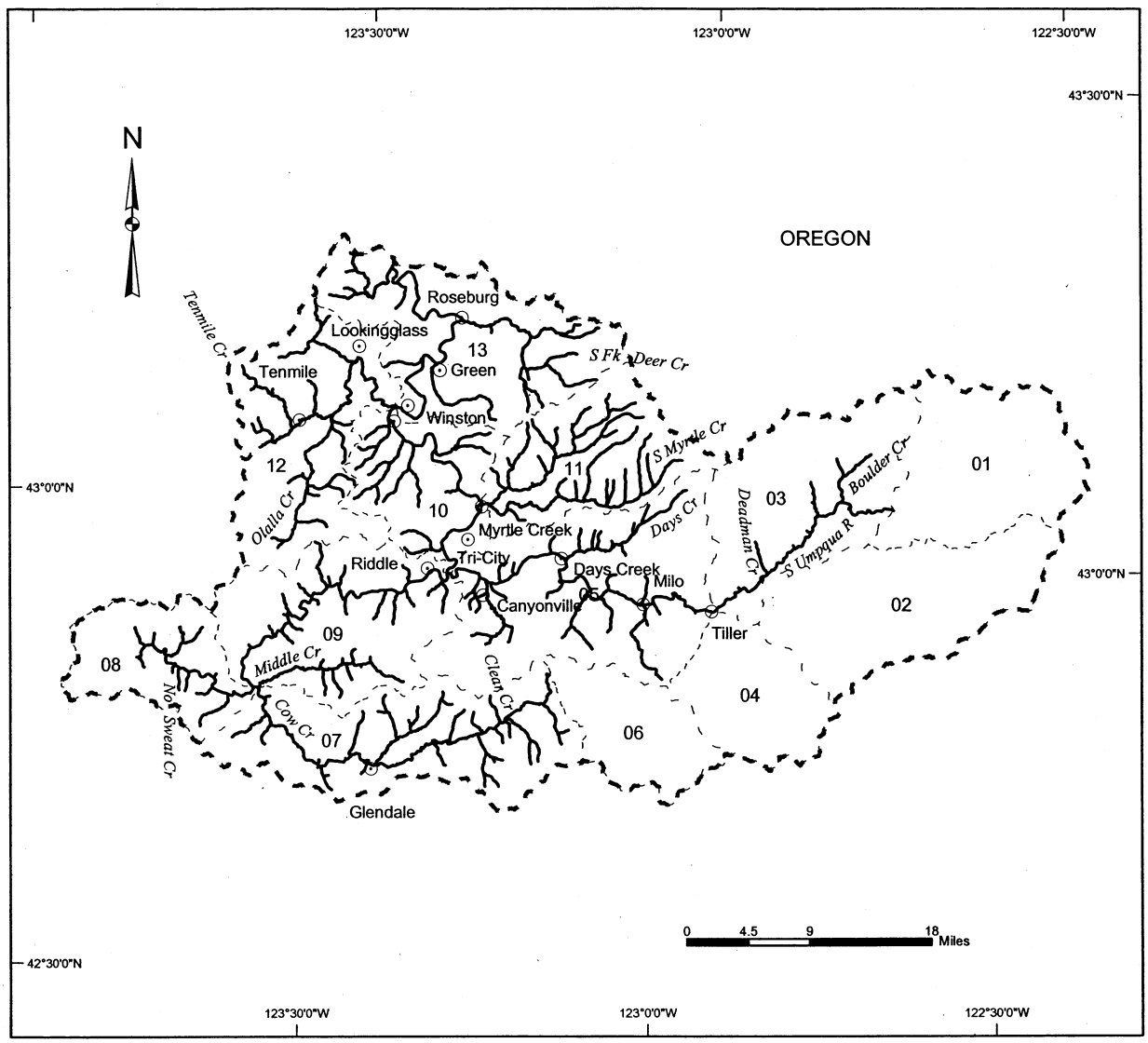
01 - 12 = Watershed code - last 2 digits of 17100301xx

Area of Detail



Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

SOUTH UMPQUA SUBBASIN 17100302, Unit 9

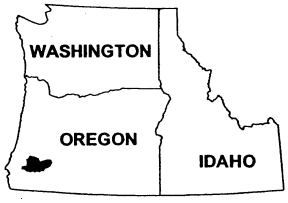


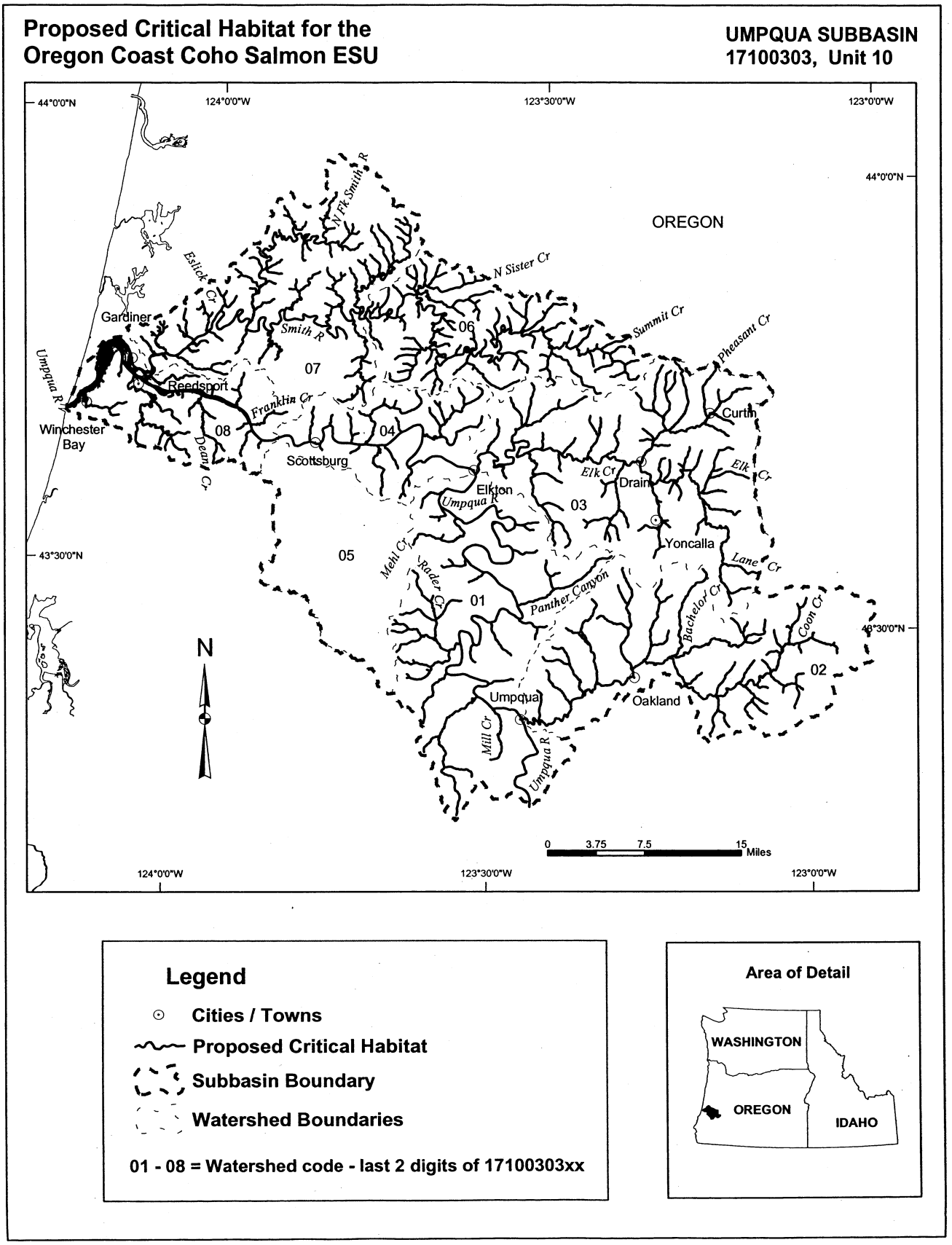
Legend

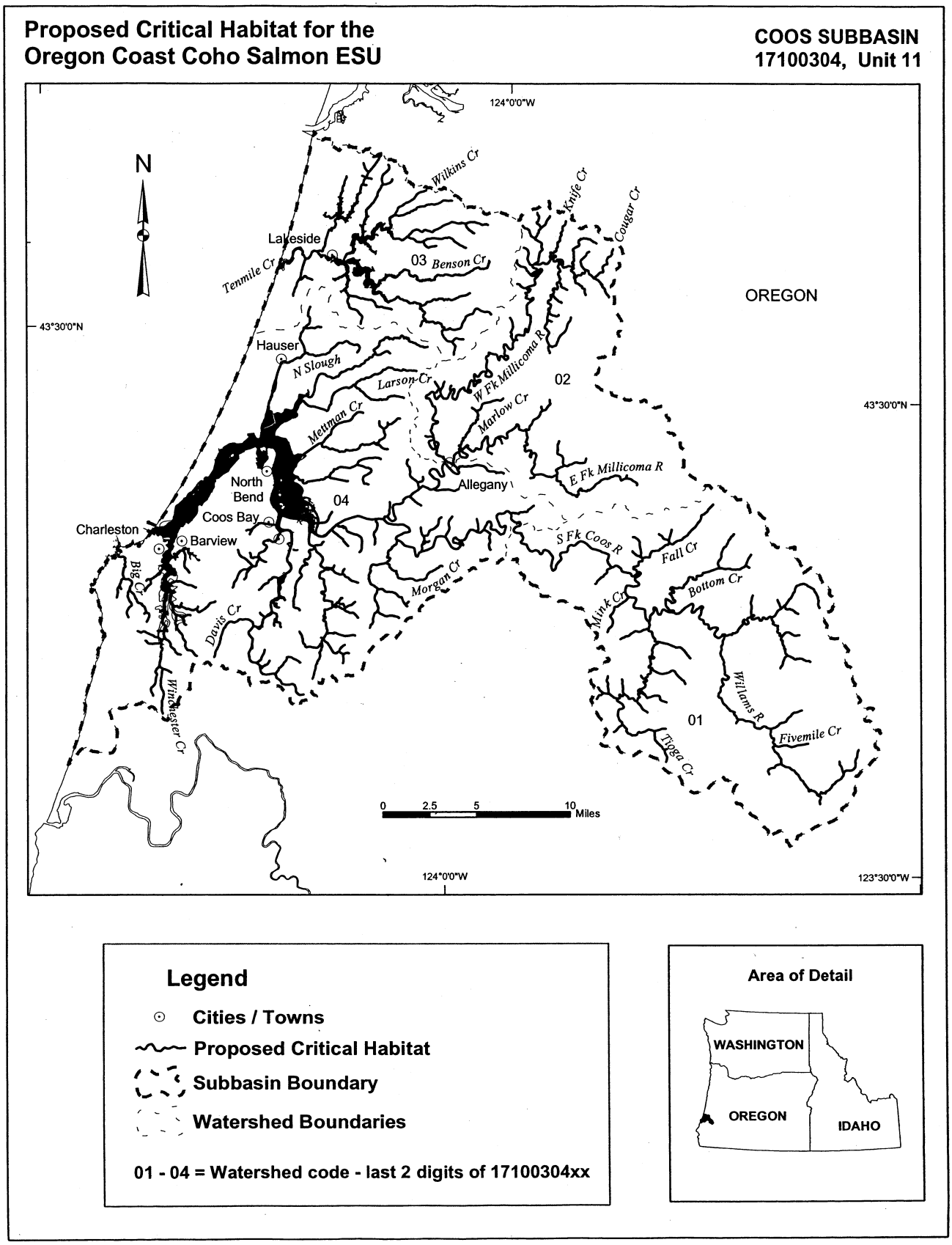
- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 13 = Watershed code - last 2 digits of 17100302xx

Area of Detail

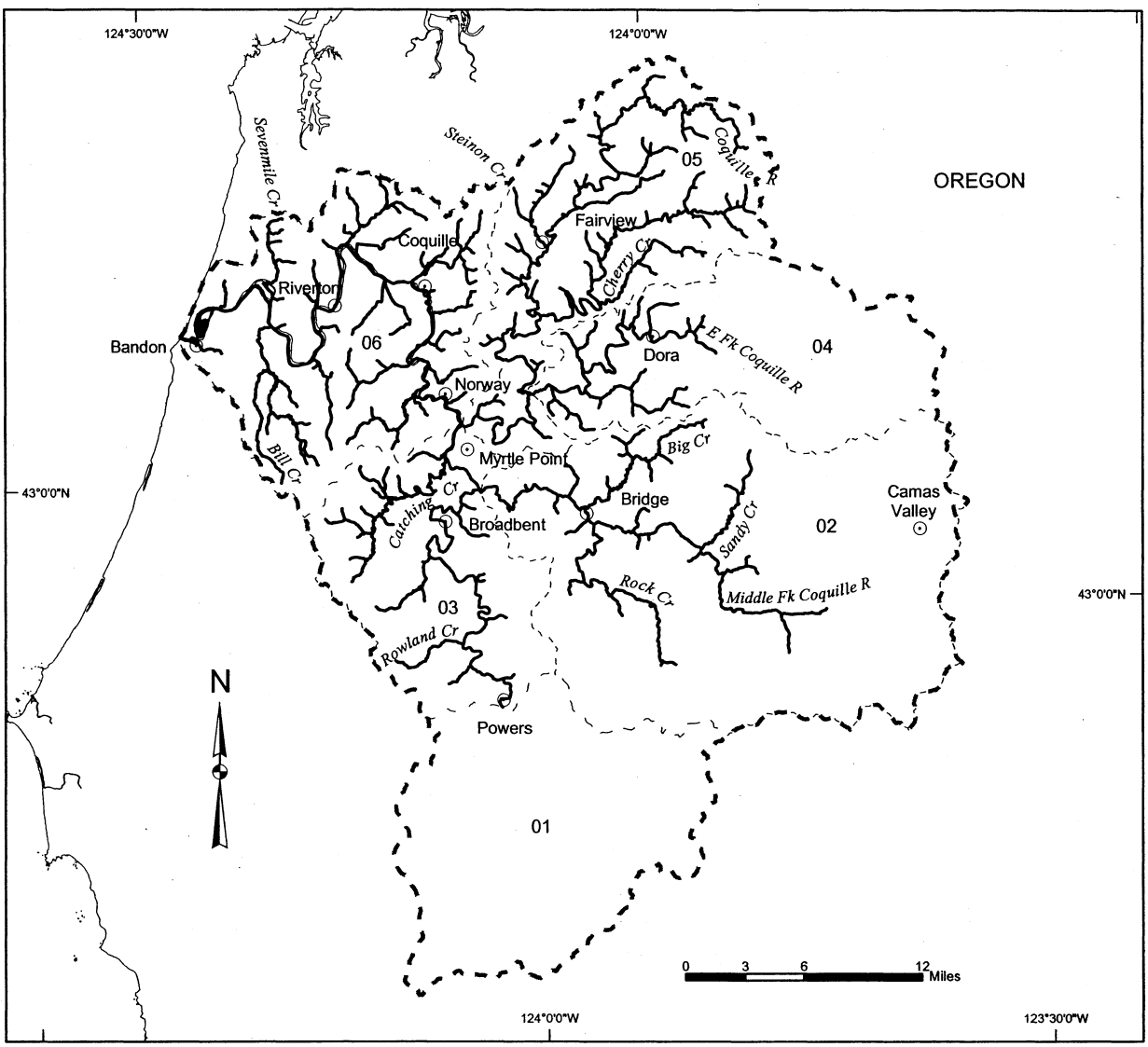



Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
UMPQUA SUBBASIN
17100303, Unit 10
44°0'0"N
124°0'0"W
123°30'0"W
123°0'0"W
43°30'0"N
OREGON
N Fk Smith R
Eslick Cr
N Sister Cr
Summit Cr
Pheasant Cr
Gardiner
Smith R
06
07
Umpqua R
Reedsport
Franklin Cr
Winchester Bay
08
04
Dean Cr
Scottsburg
Curtin
Elk Cr
Drain
Elk Cr
Elkton
Umpqua R
03
Yoncalla
05
Mehl Cr
Rader Cr
01
Panther Canyon
Lane Cr
Bachelor Cr
Coon Cr
02
N
Umpqua
Oakland
Mill Cr
Umpqua R
0 3.75 7.5 15 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17100303xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Oregon Coast Coho Salmon ESU
COOS SUBBASIN
17100304, Unit 11
N
124°0'0"W
43°30'0"N
123°30'0"W
Wilkins Cr
Knife Cr
Cougar Cr
Lakeside
Tenmile Cr
03
Benson Cr
OREGON
Hauser
N Slough
Larson Cr
W Fk Millicoma R
02
Marlow Cr
Mettman Cr
E Fk Millicoma R
North Bend
Allegany
04
Coos Bay
Charleston
Barview
S Fk Coos R
Fall Cr
Big Cr
Morgan Cr
Bottom Cr
Mink Cr
Davis Cr
Winchester Cr
Williams R
01
Fivemile Cr
Tioga Cr
0 2.5 5 10 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 04 = Watershed code - last 2 digits of 17100304xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Oregon Coast Coho Salmon ESU

COQUILLE SUBBASIN 17100305, Unit 12

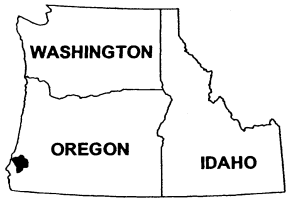


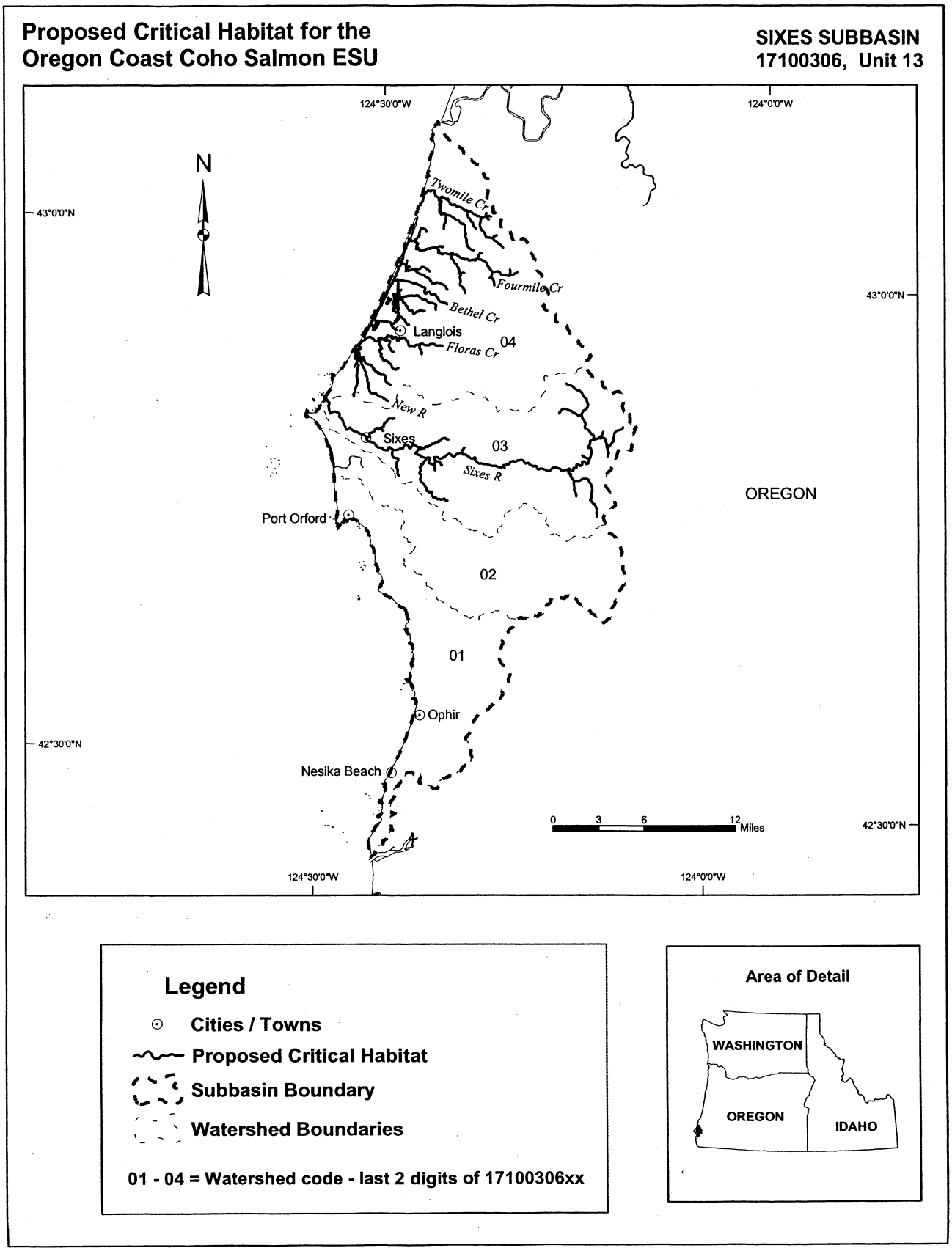
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 06 = Watershed code - last 2 digits of 17100305xx

Area of Detail





(k) Hood Canal Summer-run Chum Salmon (Oncorhynchus keta). Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 2. Hood Canal Subbasin 17110018—*(i) Lower West Hood Canal*

Frontal Watershed 1711001802. Outlet(s)= Eagle Creek (Lat 47.4849, Long −123.0766); Finch Creek (47.4067, −123.1377); Fulton Creek (47.6183, −122.9736); Jorsted Creek (47.5263, −123.0489); Lilliwaup Creek (47.4689, −123.1136); Unnamed (47.4576, −123.1117) upstream to endpoint(s) in: Eagle Creek (47.4905, −123.0830); Finch Creek (47.4076, −123.1586); Fulton Creek (47.6275, −122.9805); Jorsted Creek (47.5246, −123.0649); Lilliwaup Creek (47.4704, −123.1166); Unnamed (47.4585, −123.1186).

(ii) Hamma Hamma River Watershed 1711001803. Outlet(s) = Hamma Hamma River (Lat 47.5471, Long −123.0440) upstream to endpoint(s) in: Hamma Hamma River (47.5547, −123.0623); John Creek (47.5369, −123.0619).

(iii) Duckabush River Watershed 1711001804. Outlet(s) = Duckabush River (Lat 47.6502, Long −122.9348) upstream to endpoint(s) in: Duckabush River (47.6654, −122.9728).

(iv) Dosewallips River Watershed 1711001805. Outlet(s) = Dosewallips River (Lat 47.6880, Long −122.8949) upstream to endpoint(s) in: Dosewallips River (47.7157, −122.9396).

(v) Big Quilcene River Watershed 1711001806. Outlet(s) = Big Quilcene River (Lat 47.8188, Long −122.8605) upstream to endpoint(s) in: Big Quilcene River (47.8102, −122.9119).

(vi) Upper West Hood Canal Frontal Watershed 1711001807. Outlet(s) = Little Quilcene River (Lat 47.8266; Long −122.8608) upstream to endpoint(s) in: Little Quilcene River (47.8374, −122.8854).

(vii) West Kitsap Watershed 1711001808. Outlet(s) = Anderson Creek (Lat 47.5670, Long −122.9664); Big Beef Creek (47.6521, −122.7823); Dewatto River (47.4538, −123.0474); Little Anderson Creek (47.6653, −122.7554); Tahuya River (47.3767, −123.0355); Union River (47.4484, −122.8368); Unnamed (47.3767, −123.0372); Unnamed (47.4537, −123.0474) upstream to endpoint(s) in: Anderson Creek (47.5596, −122.9354); Bear Creek (47.4980, −122.8074); Big Beef Creek (47.6385, −122.7868); Dewatto River (47.4937, −122.9914); East Fork Union River (47.5056, −122.7897); Hazel Creek (47.5170, −122.7945); Little Anderson Creek (47.6606, −122.7543); North East Fork Union River (47.4954, −122.7819); Tahuya River (47.4510, −122.9597); Union River (47.5273, −122.7846); Unnamed (47.4492, −122.9229); Unnamed (47.4527, −122.8294); Unnamed (47.4553, −122.8301); Unnamed (47.4594, −122.8396); Unnamed (47.4700, −122.8300); Unnamed (47.4852, −122.8313); Unnamed (47.4966, −122.8393); Unnamed (47.4971, −122.8315); Unnamed (47.6600, −122.7559); Unnamed (47.6642, −122.7534).

(2) Unit 3. Puget Sound Subbasin 17110019—*Port Ludlow/Chimacum Creek Watershed 1711001908.* Outlet(s) = Chimacum Creek (Lat 48.0507, Long −122.7832) upstream to endpoint(s) in: Chimacum Creek (47.9743, −122.7764).

(3) Unit 4. Dungeness/Elwha Subbasin 17110020—*(i) Discovery Bay Watershed 1711002001.* Outlet(s) = Salmon Creek (Lat 47.9895, Long −122.8879); Snow Creek (47.9900, −122.8834) upstream to endpoint(s) in: Salmon Creek (47.9775, −122.9191); Snow Creek (47.9638, −122.8827).

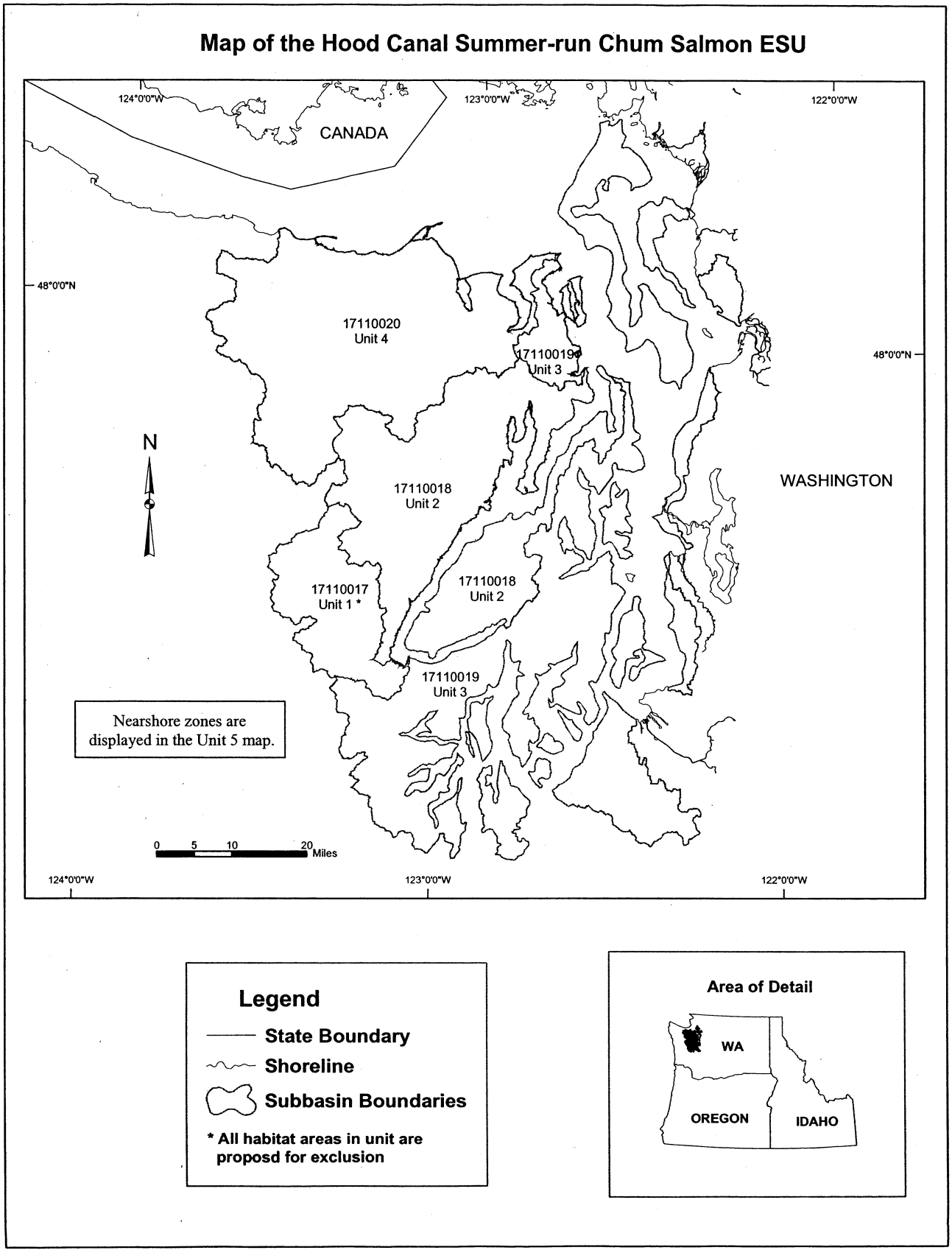
(ii) Sequim Bay Watershed 1711002002. Outlet(s) = Jimmycomelately Creek (Lat 48.0235, Long −123.0039) upstream to endpoint(s) in: Jimmycomelately Creek (48.0125, −123.0026).

(iii) Dungeness River Watershed 1711002003. Outlet(s) = Dungeness River (Lat 48.1506, Long −123.1311); Unnamed (48.1537, −123.1267) upstream to endpoint(s) in: Dungeness River (48.0258, −123.1358); Matriotti Creek (48.1369, −123.1488); Unnamed (48.1167, −123.1403); Unnamed (48.1514, −123.1216).

(4) Unit 5. Nearshore Marine Areas—This unit includes all nearshore zones (including areas adjacent to islands) of Hood Canal and the Strait of Juan de Fuca (to Dungeness Bay) from extreme high water out to a depth of 30 meters, except for the following contiguous nearshore segments associated with Department of Defense lands and restricted marine zones: from Lat 47.7723, Long −122.7035 to Lat 47.7214, Long −122.7454; from Lat 47.7365, Long −122.8542 to Lat 47.7623, Long −122.8517; from Lat 47.7810, Long −122.8517 to Lat 47.8001, Long −122.8182; from Lat 47.8001, Long −122.7873 to Lat 47.6928, Long −122.8309; from Lat 48.0159, Long −122.6971 to Lat 48.0190, Long −122.6980; from Lat 48.1174, Long −122.7508 to Lat 48.1180, Long −122.7498; from Lat 48.1195, Long −122.7501 to Lat 48.1426, Long −122.7545; and from Lat 48.1444, Long −122.7547 to Lat 48.1407, Long −122.7945.

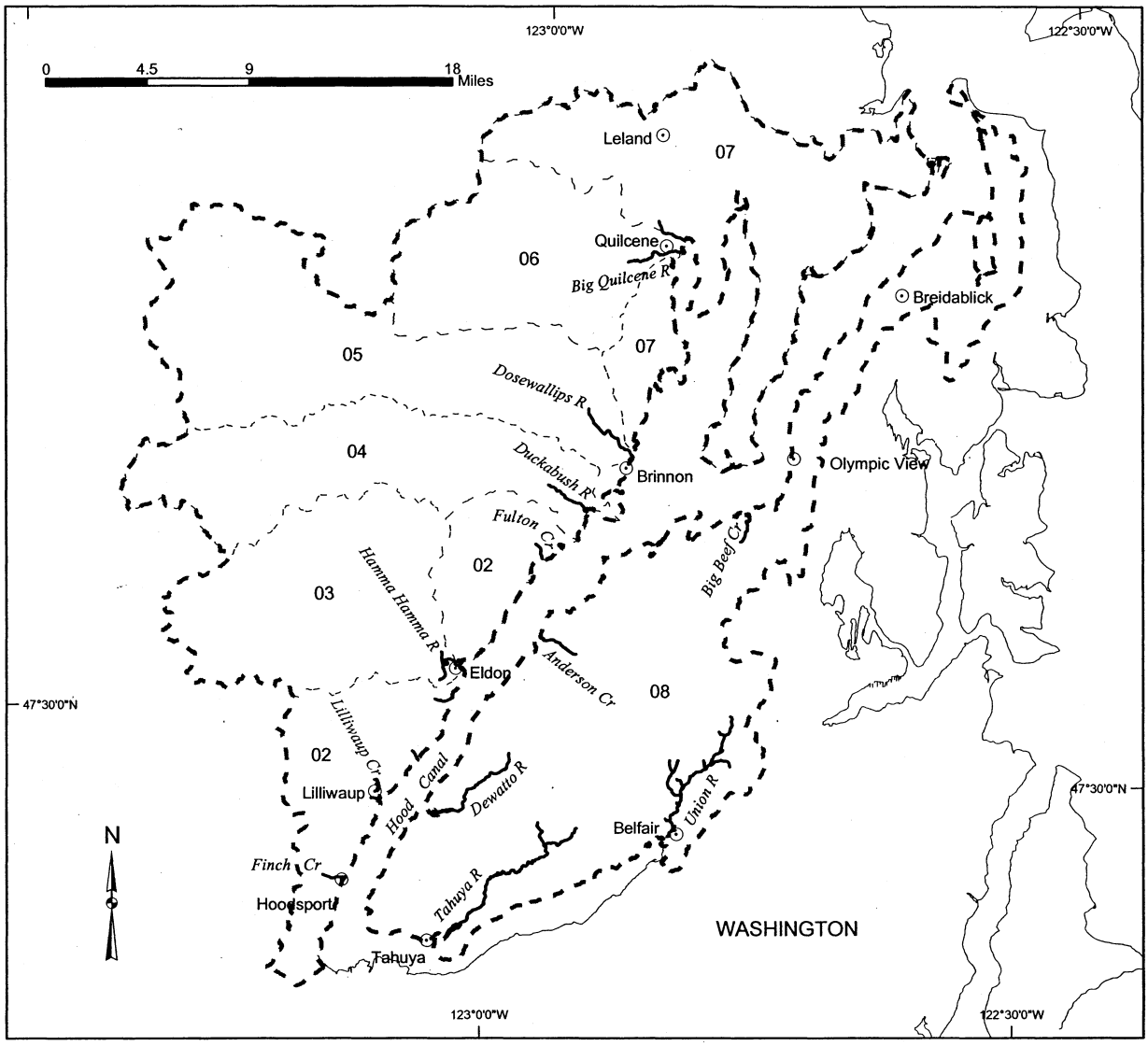
(5) Maps of proposed critical habitat for the Hood Canal summer-run chum salmon ESU follow:

BILLING CODE 3510–22–P


Map of the Hood Canal Summer-run Chum Salmon ESU
124°0'0"W
123°0'0"W
122°0'0"W
CANADA
48°0'0"N
17110020
Unit 4
17110019
Unit 3
N
17110018
Unit 2
WASHINGTON
17110017
Unit 1 *
17110018
Unit 2
17110019
Unit 3
Nearshore zones are displayed in the Unit 5 map.
0 5 10 20 Miles
Legend
State Boundary
Shoreline
Subbasin Boundaries
* All habitat areas in unit are proposd for exclusion
Area of Detail
WA
OREGON
IDAHO

Proposed Critical Habitat for the Hood Canal Summer-run Chum ESU

HOOD CANAL SUBBASIN 17110018, Unit 2

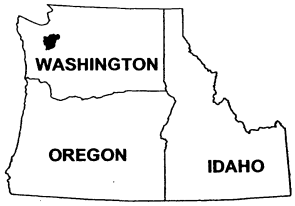


Legend

- Cities / Towns
- Shoreline
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

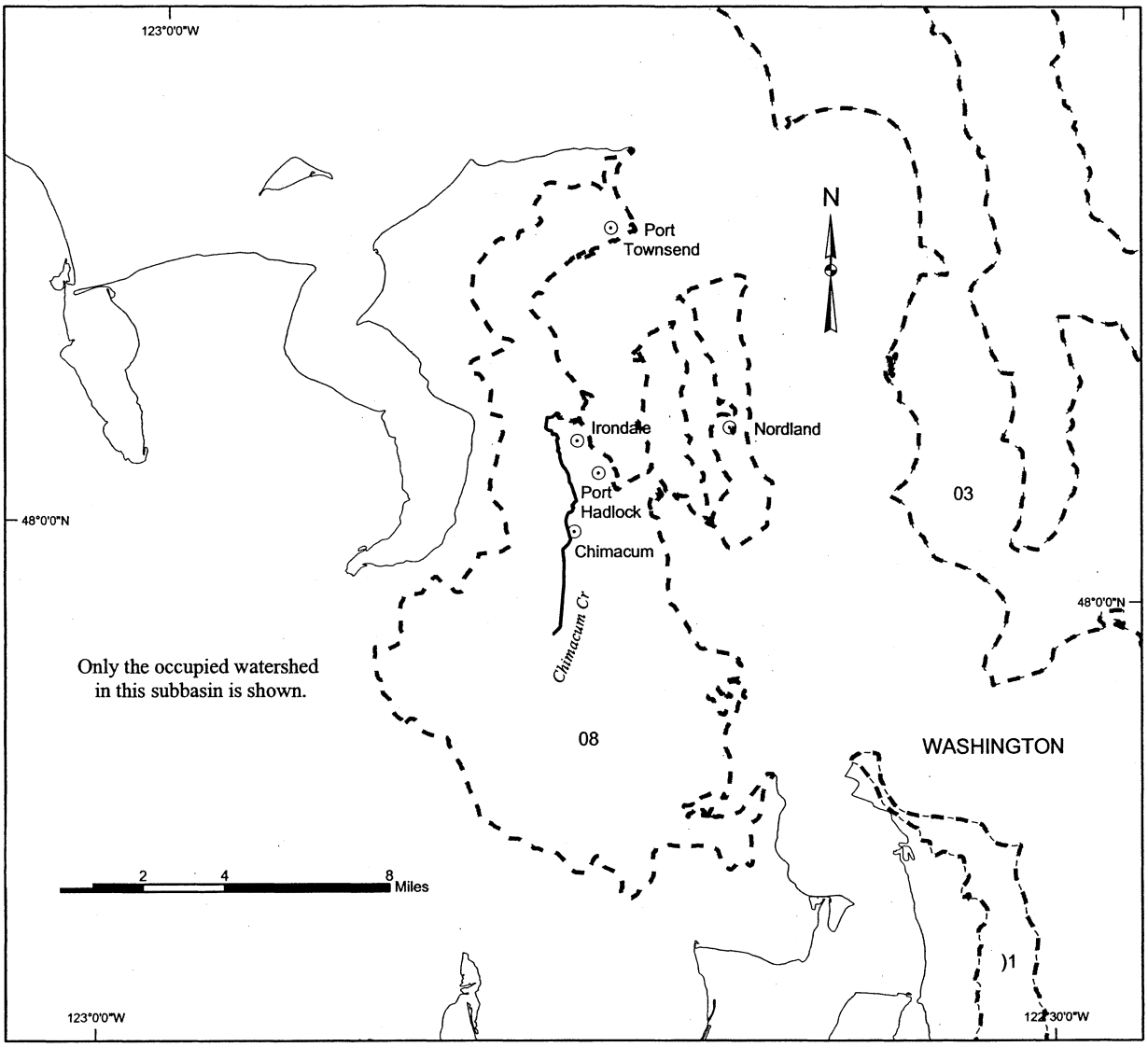
02 - 08 = Watershed code - last 2 digits of 17110018xx

Area of Detail



Proposed Critical Habitat for the Hood Canal Summer-run Chum ESU

PUGET SOUND / KITSAP SUBBASIN 17110019, Unit 3

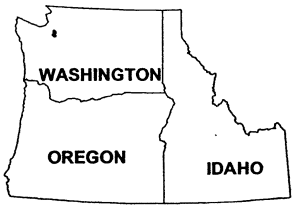


Legend

- Cities / Towns
- Shoreline
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

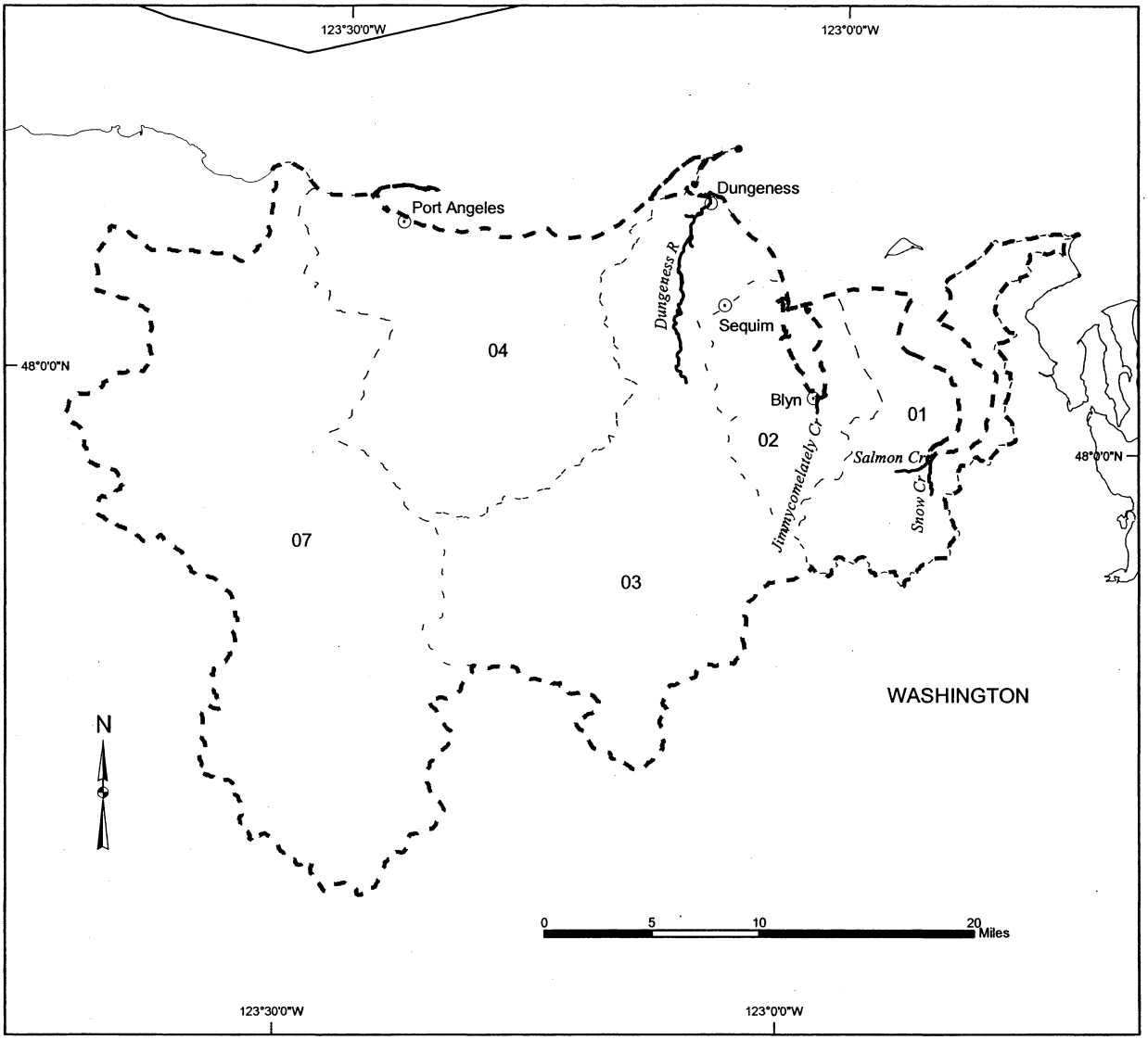
01 - 06, 08 = Watershed code - last 2 digits of 17110019xx

Area of Detail



Proposed Critical Habitat for the Hood Canal Summer-run Chum ESU

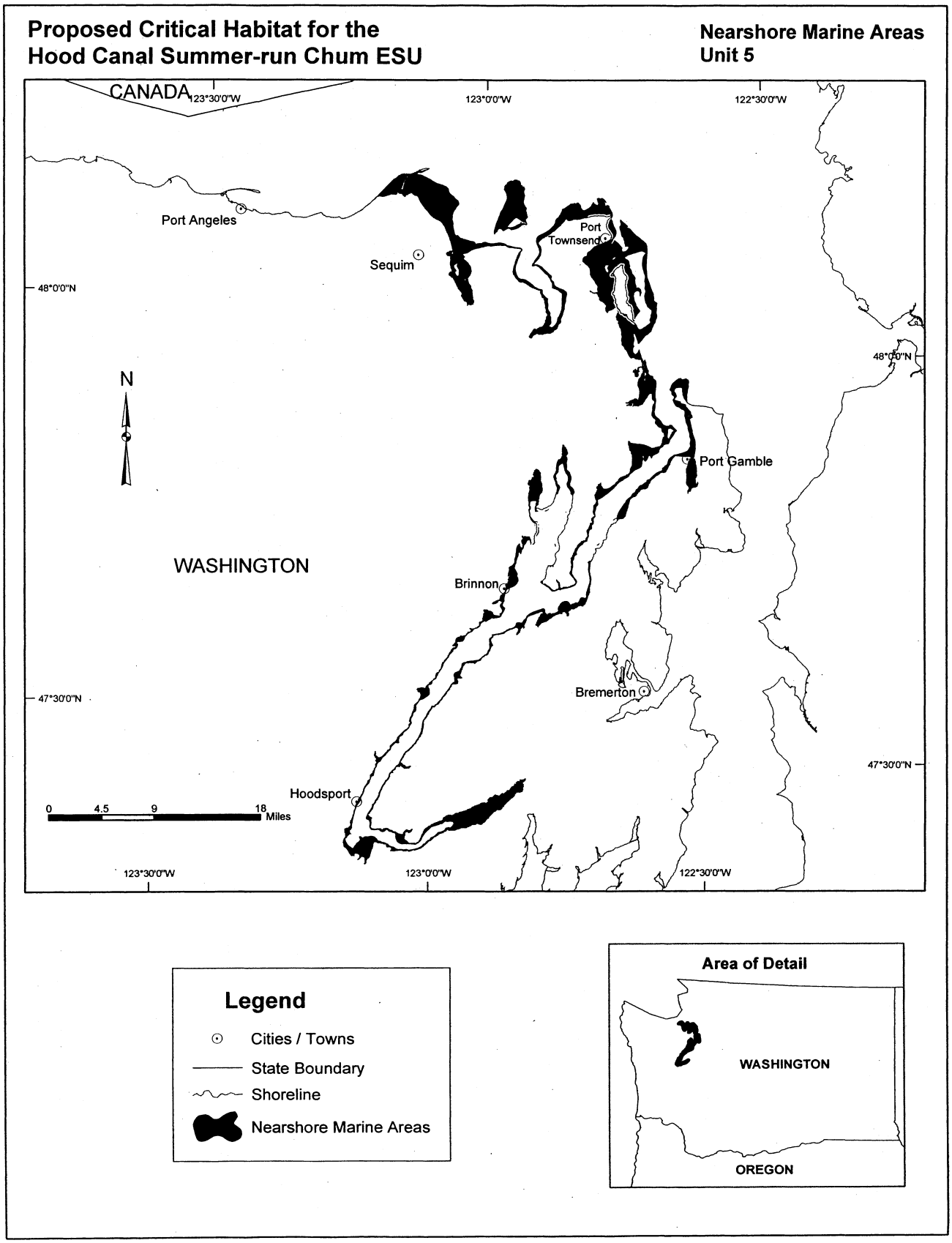
DUNGENESS / ELWHA SUBBASIN 17110020, Unit 4



Legend

- Cities / Towns
- Shoreline
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 04, 07 = Watershed code - last 2 digits of 17110020xx



BILLING CODE 3510–22–C

(l) Columbia River Chum Salmon (Oncorhynchus keta). Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Middle Columbia/Hood Subbasin 17070105—*(i) White Salmon River Watershed 1707010509.* Outlet(s) = White Salmon River (Lat 45.7267, Long −121.5209) upstream to endpoint(s) in: White Salmon River (45.7677, −121.5374).

(ii) Middle Columbia/Grays Creek Watershed 1707010512. Outlet(s) = Columbia River (Lat 45.7074, Long −121.7965) upstream to endpoint(s) in: Columbia River (45.7267, −121.5209).

(iii) Middle Columbia/Eagle Creek 1707010513. Outlet(s) = Columbia River (Lat 45.6453, Long −121.9395) upstream to endpoint(s) in: Columbia River (45.7074, −121.7965).

(2) Unit 2. Lower Columbia/Sandy Subbasin 17080001—*(i) Washougal River Watershed 1708000106.* Outlet(s) = Unnamed (Lat 45.5812, Long −122.4077); Washougal River (45.5795, −122.4023) upstream to endpoint(s) in: Lacamas Creek (45.5972, −122.3933); Little Washougal River (45.6210, −122.3750); Unnamed (45.5861, −122.4083); Washougal River (45.6232, −122.2738).

(ii) Columbia Gorge Tributaries Watershed 1708000107. Outlet(s) = Columbia River (Lat 45.5709, Long −122.4020) upstream to endpoint(s) in: Columbia River (45.6453, −121.9395); Duncan Creek (45.6136, −122.0539); Gibbons Creek (45.5710, −122.3147); Greenleaf Creek (45.6548, −121.9569); Hamilton Creek (45.6535, −121.9879); Hardy Creek (45.6354, −121.9987); Indian Mary Creek (45.6066, −122.0716); Lawton Creek (45.5746, −122.2501); Unnamed (45.5673, −122.3033); Unnamed (45.6017, −122.1106); Unnamed (45.6017, −122.1087); Unnamed (45.6483, −121.9725); Unnamed (45.6509, −121.9502); Walton Creek (45.5757, −122.2618).

(iii) Salmon Creek Watershed 1708000109. Outlet(s) = Lake River (Lat 45.8437, Long −122.7800); Love Creek (45.5976, −122.5443); Unnamed (45.5867, −122.5015); Unnamed (45.5919, −122.5241); Unnamed (45.5952, −122.5366) upstream to endpoint(s) in: Love Creek (45.5981, −122.5444); Salmon Creek (45.7089, −122.6480); Unnamed (45.5873, −122.5015); Unnamed (45.5924, −122.5242); Unnamed (45.5955, −122.5360).

(3) Unit 3. Lewis Subbasin 17080002—*(i) East Fork Lewis River Watershed 1708000205.* Outlet(s) = East Fork Lewis River (Lat 45.8664, Long −122.7189); Gee Creek (45.8462, −122.7803) upstream to endpoint(s) in: Brezee Creek (45.8622, −122.6667); East Fork Lewis River (45.8395, −122.4463); Gee Creek (45.8264, −122.7458); Lockwood Creek (45.8578, −122.6259); Mason Creek (45.8410, −122.5919); McCormick Creek (45.8521, −122.6907); Riley Creek (45.8663, −122.6349); Unnamed (45.8076, −122.5878); Unnamed (45.8076, −122.6286); Unnamed (45.8090, −122.6089); Unnamed (45.8111, −122.5860); Unnamed (45.8149, −122.5654); Unnamed (45.8201, −122.5991); Unnamed (45.8241, −122.6380); Unnamed (45.8280, −122.6431); Unnamed (45.8292, −122.6040); Unnamed (45.8389, −122.6456); Unnamed (45.8439, −122.6478); Unnamed (45.8439, −122.6605).

(ii) Lower Lewis River Watershed 1708000206. Outlet(s) = Lewis River (Lat 45.8519, Long −122.7806) upstream to endpoint(s) in: Cedar Creek (45.9383, −122.5818); Colvin Creek (45.9400, −122.6081); Houghton Creek (45.9395, −122.6478); Johnson Creek (45.9385, −122.6261); Lewis River (45.9570, −122.5550); Ross Creek (45.9340, −122.7076).

(4) Unit 4. Lower Columbia/Clatskanie Subbasin 17080003—*(i) Kalama River Watershed 1708000301.* Outlet(s) = Kalama River (Lat 46.0340, Long −122.8696) upstream to endpoint(s) in: Kalama River (46.0449, −122.8034).

(ii) Germany/Abernathy Watershed 1708000304. Outlet(s) = Abernethy Creek (Lat 46.1908, Long −123.1661); Germany Creek (46.1895, −123.1244); Mill Creek (46.1888, −123.1745) upstream to endpoint(s) in: Abernethy Creek (46.2263, −123.1467); Germany Creek (46.2221, −123.1353); Mill Creek (46.1932, −123.1834).

(iii) Skamokawa/Elochoman Watershed 1708000305. Outlet(s) = Elochoman River (Lat 46.2269, Long −123.4039); Jim Crow Creek (46.2662, −123.5511); Skamokawa Creek (46.2677, −123.4562); Unnamed (46.2243, −123.3975) upstream to endpoint(s) in: Beaver Creek (46.2262, −123.3239); Brooks Slough (46.2502, −123.4094); Clear Creek (46.2611, −123.2996); Duck Creek (46.2517, −123.3159); Eggman Creek (46.3248, −123.4951); Elochoman River (46.2615, −123.2965); Indian Jack Slough (46.2371, −123.3955); Jim Crow Creek (46.2891, −123.5553); Kelly Creek (46.3109, −123.4797); Left Fork Skamokawa Creek (46.3331, −123.4610); Quarry Creek (46.3292, −123.4241); Skamokawa Creek (46.3277, −123.4236); Unnamed (46.2338, −123.3282); Unnamed (46.3293, −123.4534); West Fork Skamokawa Creek (46.3119, −123.4889); West Valley Creek (46.2981, −123.4698); Wilson Creek (46.3006, −123.3787).

(5) Unit 5. Lower Cowlitz Subbasin 17080005—*(i) Jackson Prairie Watershed 1708000503.* Outlet(s) = Cowlitz River (Lat 46.3678, Long −122.9337) upstream to endpoint(s) in: Bear Creek (46.4544, −122.9187); Blue Creek (46.4885, −122.7253); Coon Creek (46.4272, −122.9109); Cowlitz River (46.5033, −122.5871); Lacamas Creek (46.5564, −122.6878); Mill Creek (46.5025, −122.8017); Salmon Creek (46.4130, −122.8165); Skook Creek (46.4708, −122.7594); Unnamed (46.4191, −122.8205); Unnamed (46.4205, −122.8662); Unnamed (46.4280, −122.8380); Unnamed (46.4707, −122.7713); Unnamed (46.4885, −122.8068); Unnamed (46.5076, −122.6675); Unnamed (46.5311, −122.8194); Unnamed (46.5432, −122.7466).

(ii) North Fork Toutle River Watershed 1708000504. Outlet(s) = North Fork Toutle River (Lat 46.3669, Long −122.5859) upstream to endpoint(s) in: North Fork Toutle River (46.3718, −122.5847).

(iii) Green River Watershed 1708000505. Outlet(s) = Green River (Lat 46.3718, Long −122.5847) upstream to endpoint(s) in: Green River (46.3831, −122.5540).

(iv) South Fork Toutle River Watershed 1708000506. Outlet(s) = South Fork Toutle River (Lat 46.3282, Long −122.7215) upstream to endpoint(s) in: Johnson Creek (46.3102, −122.6444); South Fork Toutle River (46.2817, −122.6420).

(v) East Willapa Watershed 1708000507. Outlet(s) = Cowlitz River (Lat 46.2660, Long −122.9154) upstream to endpoint(s) in: Arkansas Creek (46.3032, −122.9801); Cowlitz River (46.3678, −122.9337); Delameter Creek (46.2598, −122.9679); Hill Creek (46.3704, −122.9267); McMurphy Creek (46.4082, −122.9520); Monahan Creek (46.2636, −122.9727); North Fork Toutle River (46.3669, −122.5859); Olequa Creek (46.4324, −122.9688); Unnamed (46.2606, −122.9551); Unnamed (46.2642, −122.9291); Unnamed (46.2689, −122.9589); Unnamed (46.2880, −122.9051); Unnamed (46.2892, −122.9626); Unnamed (46.3294, −122.9085); Unnamed (46.3371, −122.8922); Unnamed (46.3491, −122.7052); Unnamed (46.3571, −122.7684); Unnamed (46.3587, −122.7478); Unnamed (46.3683, −122.7503); Unnamed (46.3814, −122.6091); Wyant Creek (46.3314, −122.6768).

(vi) Coweeman Watershed 1708000508. Outlet(s) = Cowlitz River (Lat 46.0977, Long −122.9141); Owl

Creek (46.0768, −122.8679) upstream to endpoint(s) in: Baird Creek (46.1789, −122.5822); Butler Creek (46.1491, −122.5170); Cowlitz River (46.2660, −122.9154); Goble Creek (46.1074, −122.7068); Leckler Creek (46.2164, −122.9325); Mulholland Creek (46.2004, −122.6484); Nineteen Creek (46.1593, −122.6095); North Fork Goble Creek (46.1208, −122.7691); Owl Creek (46.0914, −122.8692); Salmon Creek (46.2547, −122.8839); Sandy Bend Creek (46.2318, −122.9143); Skipper Creek (46.1625, −122.5915); Turner Creek (46.1167, −122.8150); Unnamed (46.0719, −122.8607); Unnamed (46.0767, −122.8604); Unnamed (46.0897, −122.7355); Unnamed (46.1295, −122.8993); Unnamed (46.1369, −122.8034); Unnamed (46.1441, −122.5816); Unnamed (46.1478, −122.8649); Unnamed (46.1516, −122.8749); Unnamed (46.1558, −122.7803); Unnamed (46.1727, −122.7716); Unnamed (46.1753, −122.7657); Unnamed (46.1940, −122.7068); Unnamed (46.2021, −122.6941); Unnamed (46.2416, −122.8869).

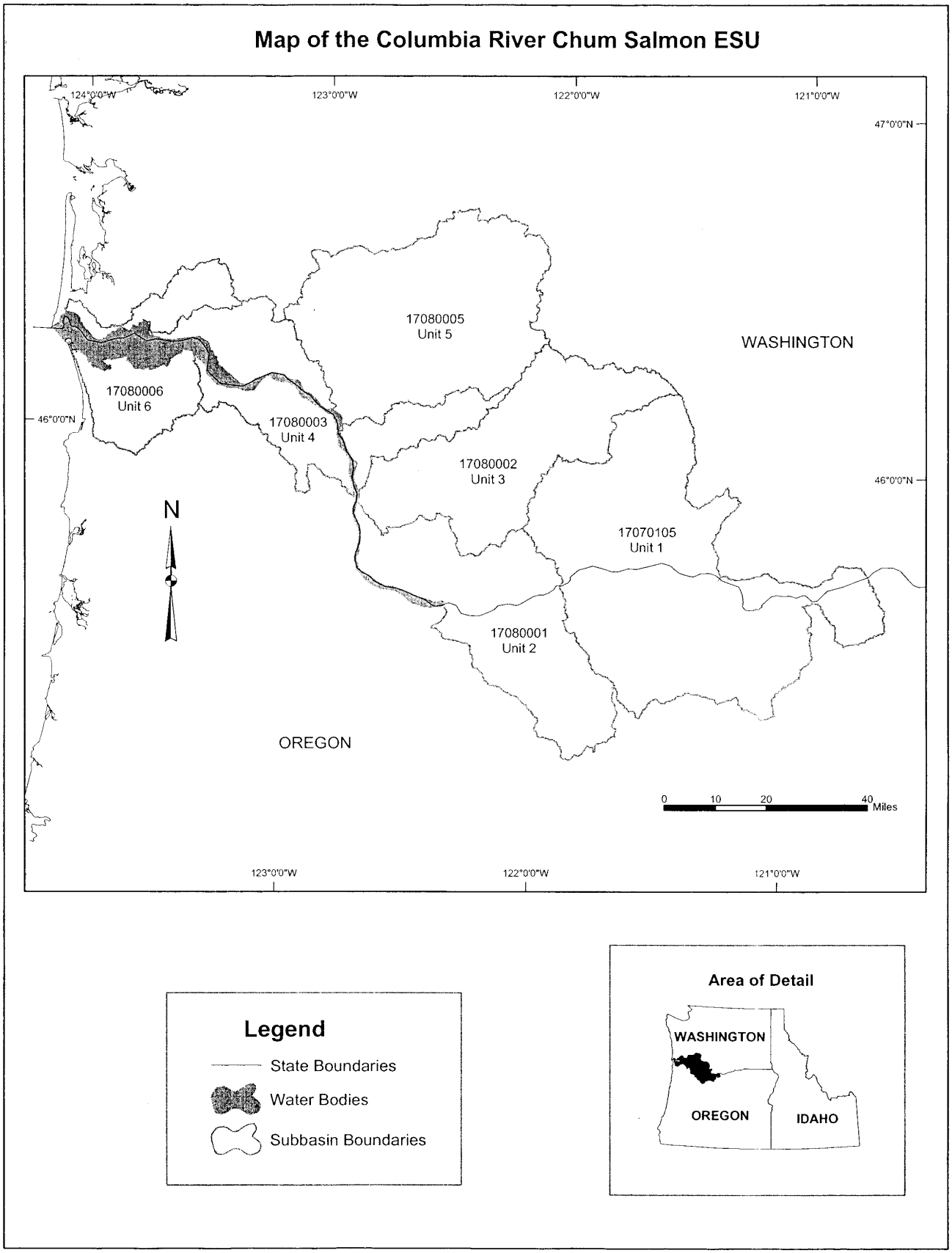
(6) Unit 6. Lower Columbia Subbasin 17080006—*(i) Big Creek Watershed 1708000602.* Outlet(s) = Big Creek (Lat 46.1848, Long −123.5943) upstream to endpoint(s) in: Big Creek (46.1476, −123.5820); Little Creek (46.1510, −123.6007).

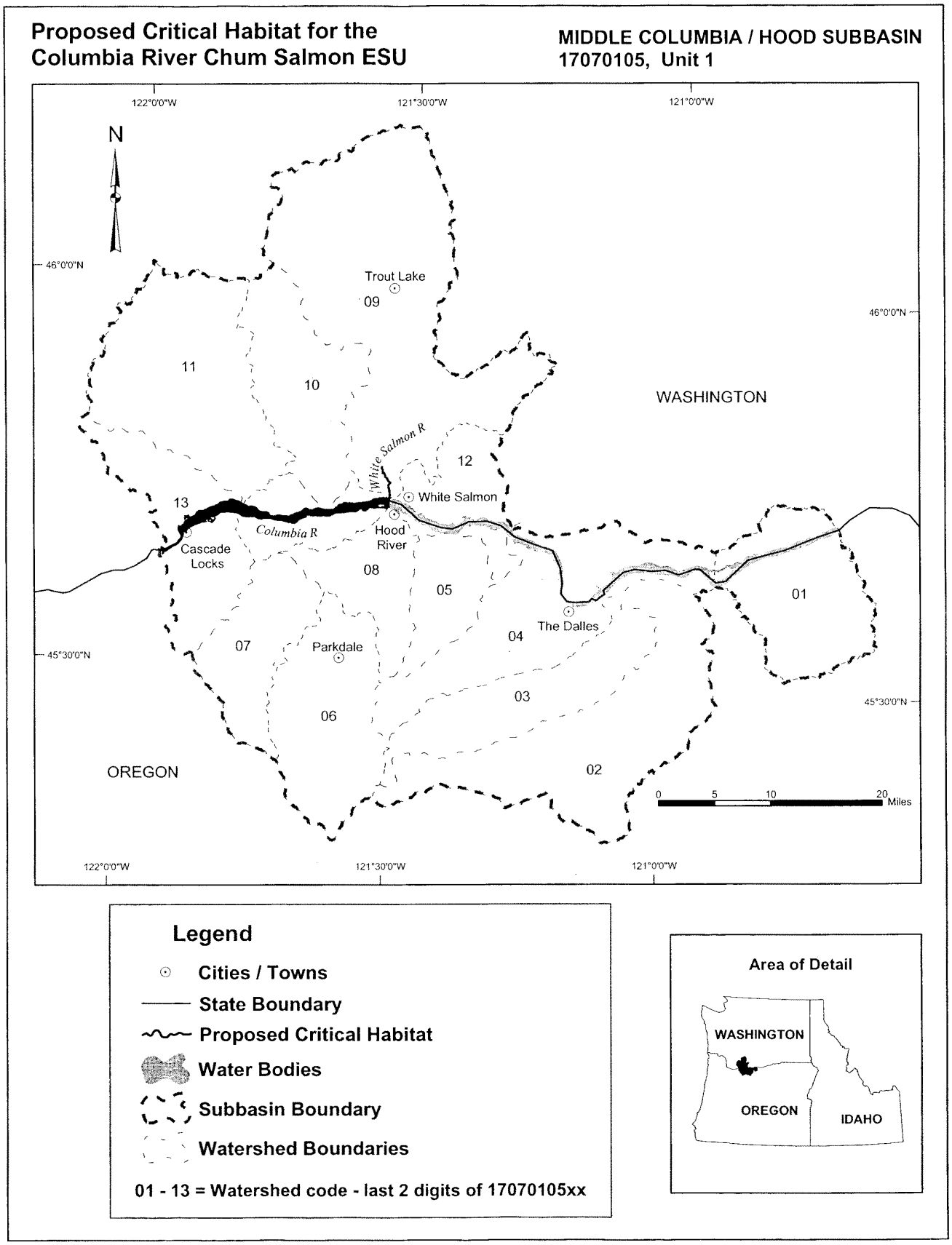
(ii) Grays Bay Watershed 1708000603. Outlet(s) = Deep River (Lat 46.3035, Long −123.7092); Grays River (46.3035, −123.6867); Unnamed (46.2419, −123.8842); Unnamed (46.3026, −123.9702) upstream to endpoint(s) in: Alder Creek (46.4279, −123.4621); Blaney Creek (46.3957, −123.4607); Campbell Creek (46.3435, −123.7087); Chinook River (46.2685, −123.9233); Deep River (46.3480, −123.6865); East Fork Grays River (46.4424, −123.4120); Fossil Creek (46.3612, −123.5217); Grays River (46.4628, −123.4602); Johnson Creek (46.4544, −123.4732); Kessel Creek (46.3336, −123.5850); King Creek (46.3444, −123.5774); Lassila Creek (46.3343, −123.7108); Mitchell Creek (46.4512, −123.4269); South Fork Grays River (46.3836, −123.4592); Thadbar Creek (46.3331, −123.6092); Unnamed (46.2502, −123.8833); Unnamed (46.2847, −123.9402); Unnamed (46.2901, −123.9368); Unnamed (46.3605, −123.5228); Unnamed (46.3838, −123.5454); Unnamed (46.4328, −123.4444); West Fork Grays River (46.3942, −123.5611).

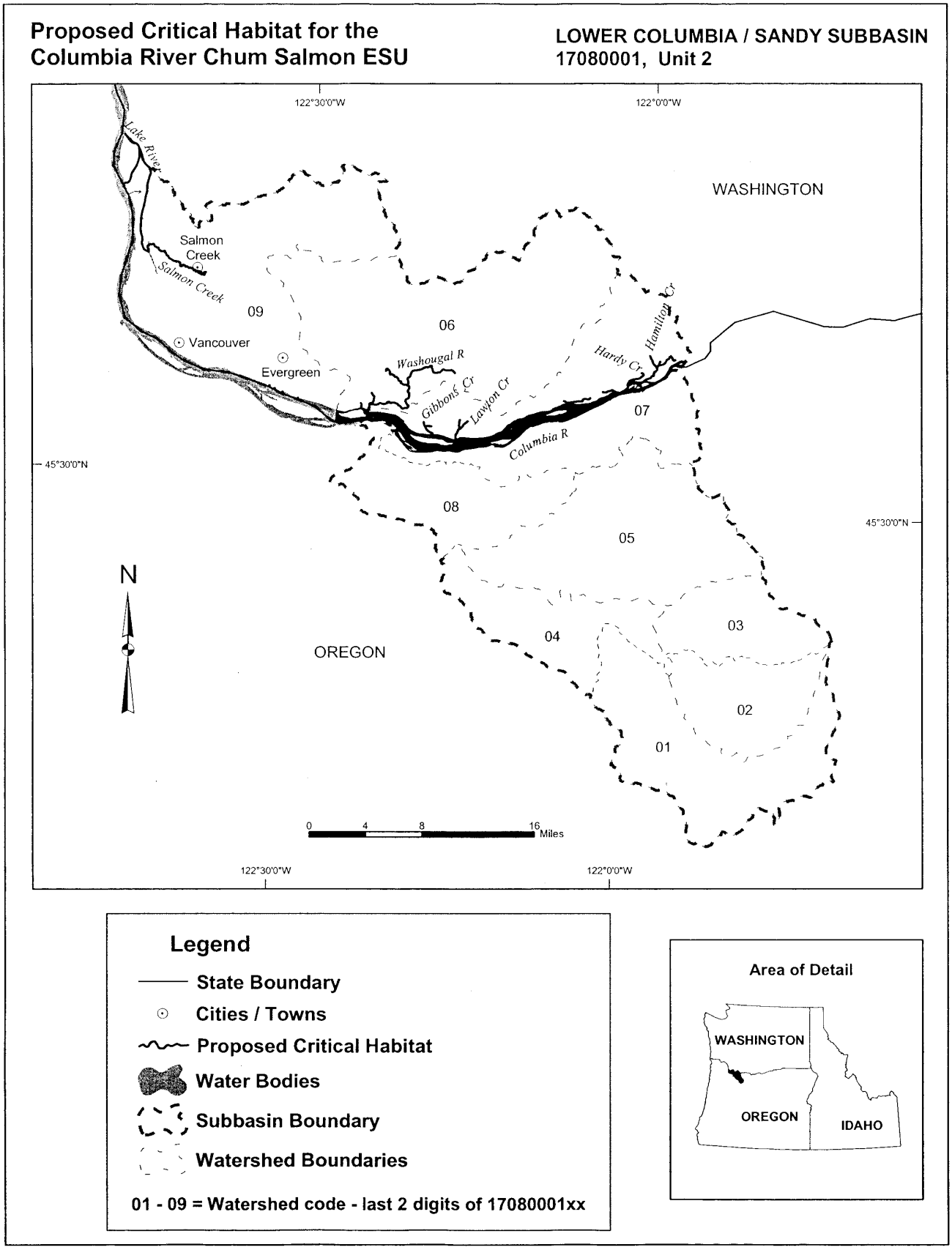
(7) Unit 7. Lower Columbia River Corridor—*Lower Columbia River Corridor* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (45.5709, −122.4020).

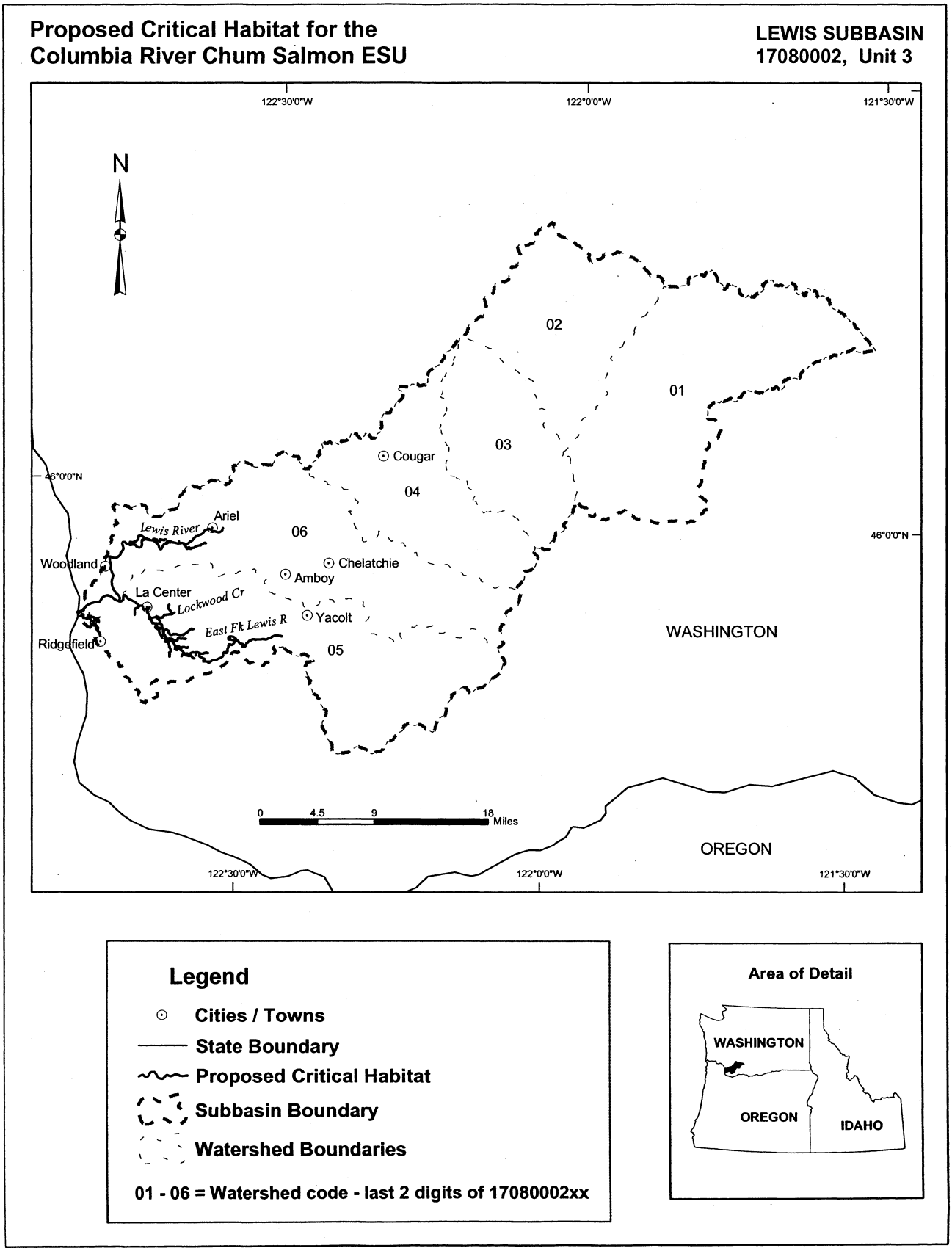
(8) Maps of proposed critical habitat for the Columbia River chum salmon ESU follow:

BILLING CODE 3510–22–P


Map of the Columbia River Chum Salmon ESU
124°0'0"W
123°0'0"W
122°0'0"W
121°0'0"W
47°0'0"N
46°0'0"N
17080005
Unit 5
WASHINGTON
17080006
Unit 6
17080003
Unit 4
17080002
Unit 3
17070105
Unit 1
17080001
Unit 2
N
OREGON
0 10 20 40 Miles
Legend
State Boundaries
Water Bodies
Subbasin Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO

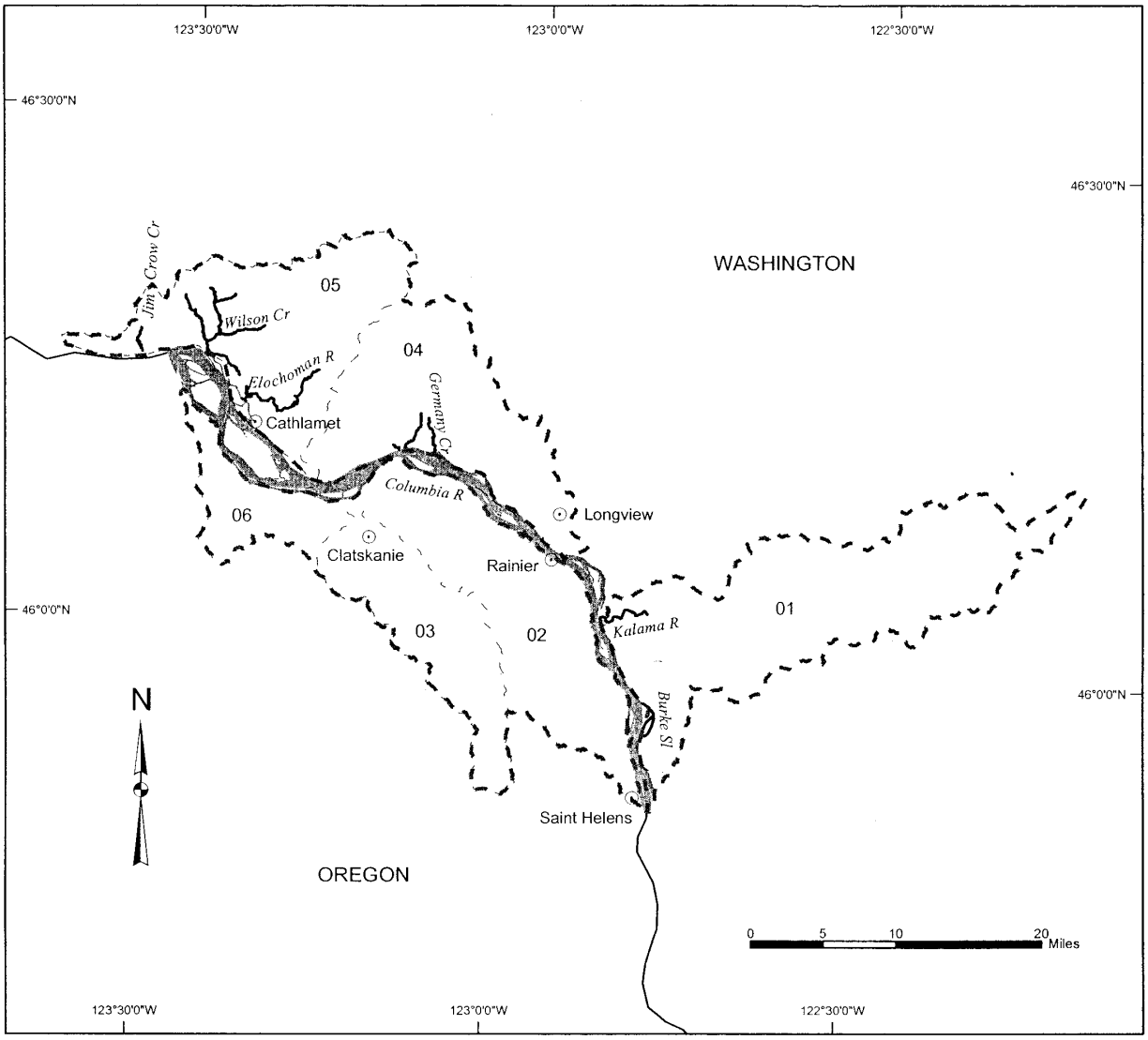

Proposed Critical Habitat for the Columbia River Chum Salmon ESU
MIDDLE COLUMBIA / HOOD SUBBASIN 17070105, Unit 1
122°0'0"W
121°30'0"W
121°0'0"W
46°0'0"N
45°30'0"N
N
Trout Lake
09
11
10
WASHINGTON
White Salmon R
12
White Salmon
13
Columbia R
Hood River
Cascade Locks
08
05
01
The Dalles
04
07
Parkdale
03
06
02
OREGON
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 13 = Watershed code - last 2 digits of 17070105xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Columbia River Chum Salmon ESU
LOWER COLUMBIA / SANDY SUBBASIN
17080001, Unit 2
122°30'0"W
122°0'0"W
45°30'0"N
Lake River
Salmon Creek
Salmon Creek
Vancouver
Evergreen
WASHINGTON
OREGON
Washougal R
Gibbons Cr
Lawton Cr
Columbia R
Hardy Cr
Hamilton Cr
09
06
07
08
05
04
03
02
01
N
0 4 8 16 Miles
Legend
State Boundary
Cities / Towns
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 09 = Watershed code - last 2 digits of 17080001xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Columbia River Chum Salmon ESU
LEWIS SUBBASIN
17080002, Unit 3
122°30'0"W
122°0'0"W
121°30'0"W
N
46°0'0"N
02
01
03
Cougar
04
Ariel
Lewis River
06
Woodland
Chelatchie
Amboy
La Center
Lockwood Cr
Yacolt
East Fk Lewis R
Ridgefield
05
WASHINGTON
0
4.5
9
18
Miles
OREGON
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17080002xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Columbia River Chum Salmon ESU

LOWER COLUMBIA / CLATSKANIE SUBBASIN 17080003, Unit 4



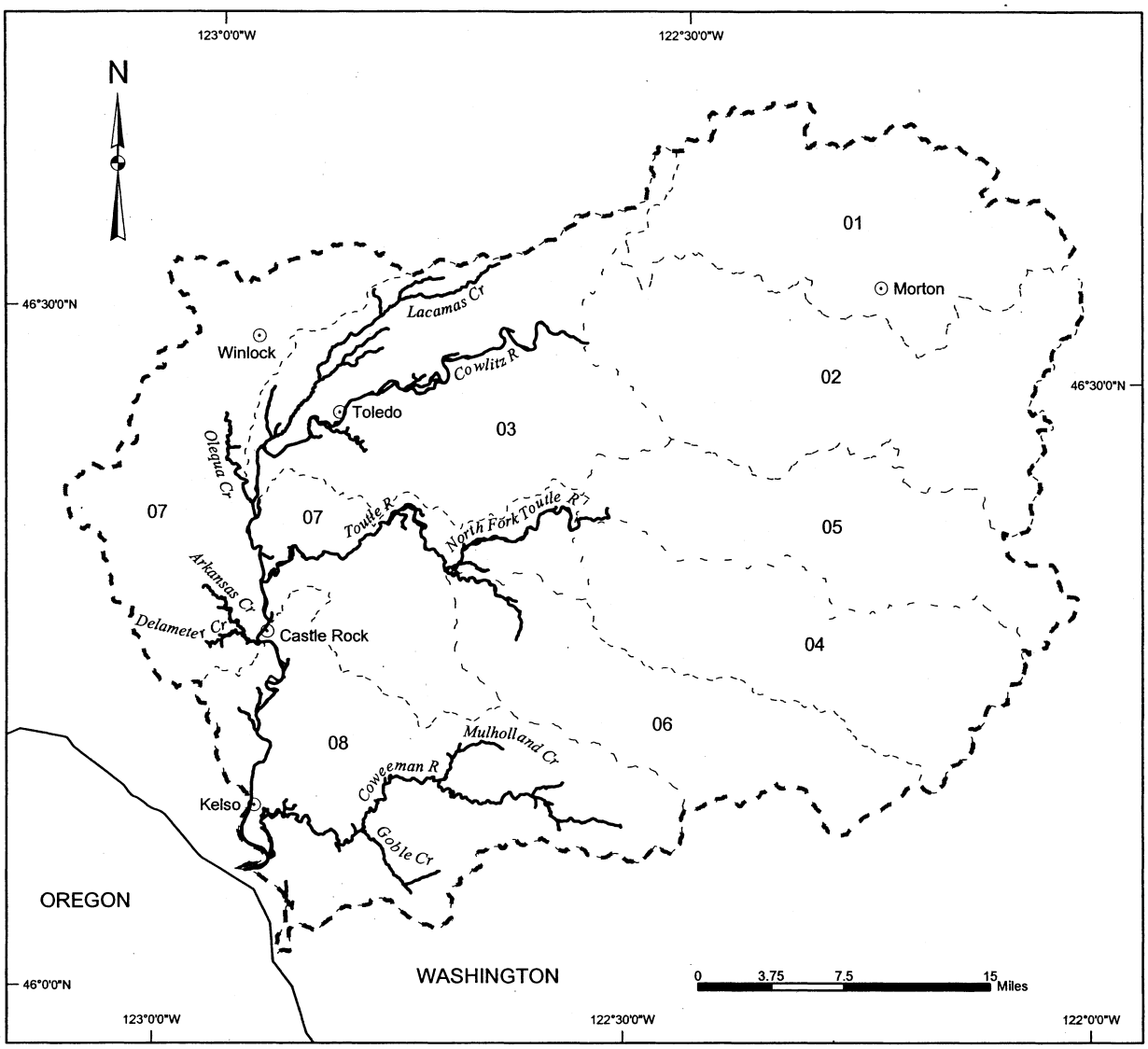
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

01 - 06 = Watershed code - last 2 digits of 17080003xx

Proposed Critical Habitat for the Columbia River Chum Salmon ESU

COWLITZ SUBBASIN 17080005, Unit 5

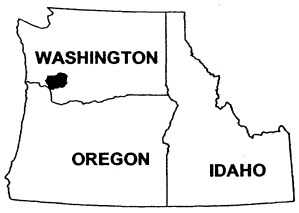


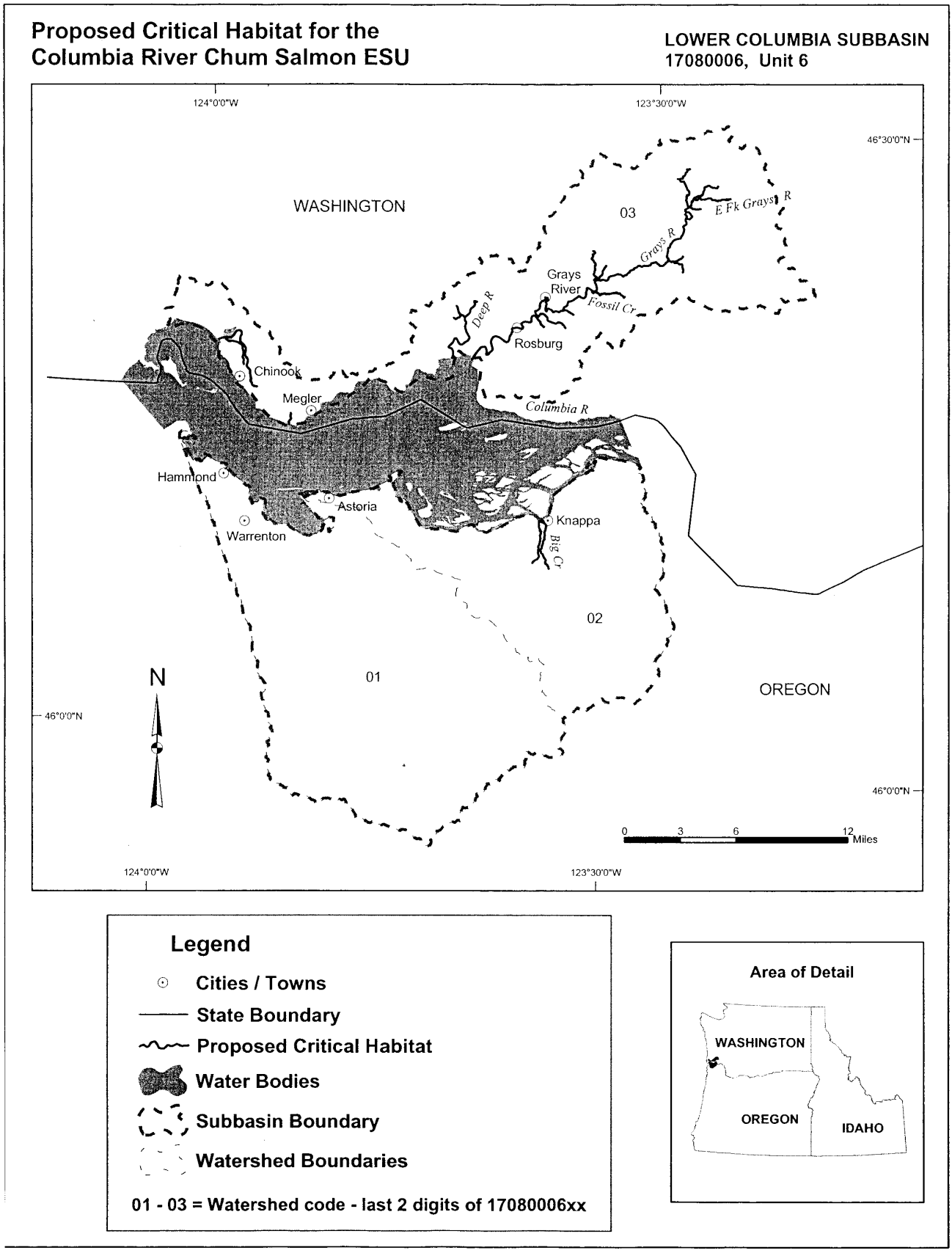
Legend

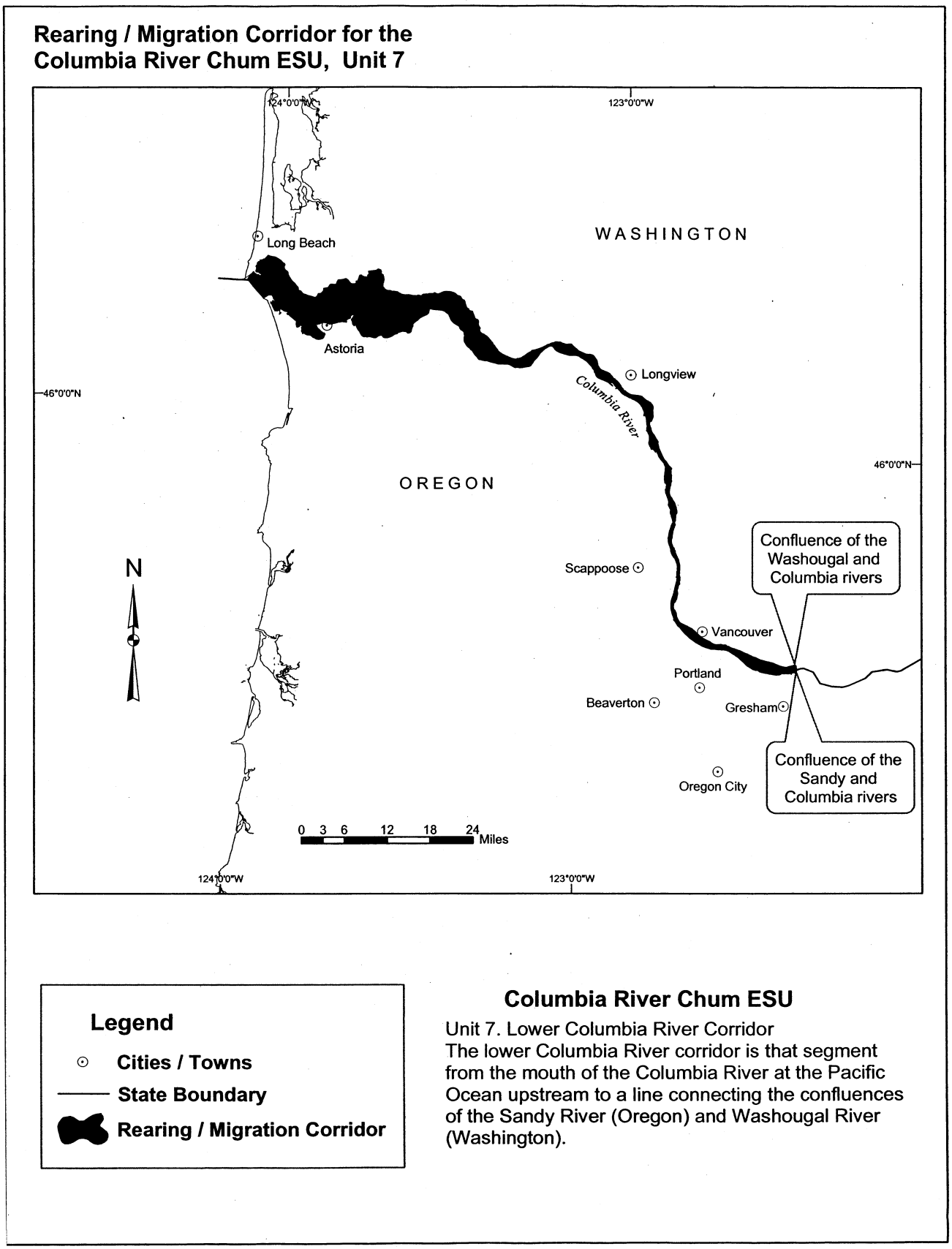
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 08 = Watershed code - last 2 digits of 17080005xx

Area of Detail




Proposed Critical Habitat for the
Columbia River Chum Salmon ESU
LOWER COLUMBIA SUBBASIN
17080006, Unit 6
124°0'0"W
123°30'0"W
46°30'0"N
46°0'0"N
WASHINGTON
OREGON
03
02
01
E Fk Grays R
Grays R
Grays River
Fossil Cr
Deep R
Rosburg
Chinook
Megler
Columbia R
Hammond
Astoria
Warrenton
Knappa
Big Cr
N
0 3 6 12 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17080006xx
Area of Detail
WASHINGTON
OREGON
IDAHO

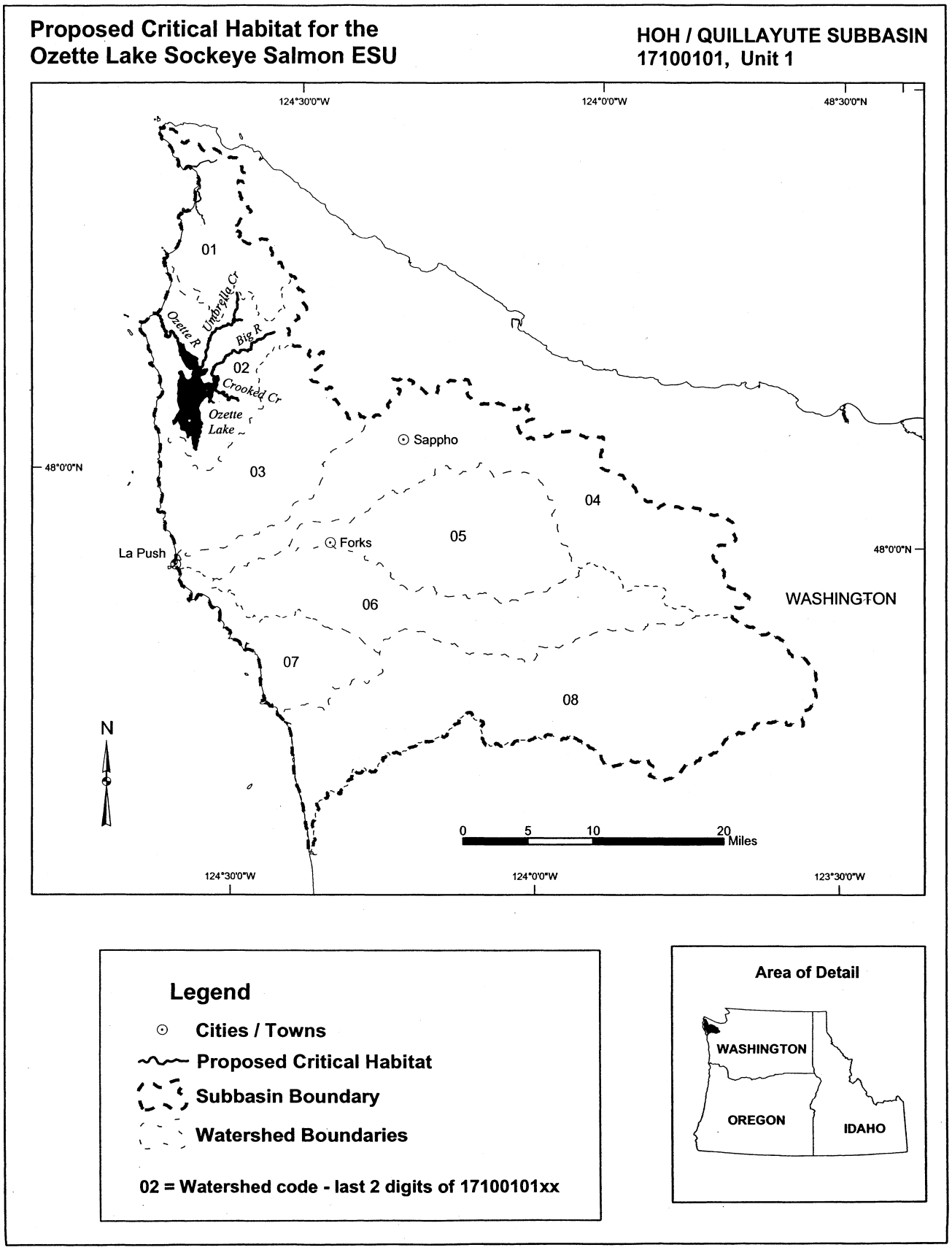


(m) Ozette Lake Sockeye Salmon (Oncorhynchus nerka). Critical habitat is proposed to include the areas defined in the following unit:

(1) Unit 1. Hoh/Quillayute Subbasin 17100101—*Ozette Lake Watershed*

1710010102. Outlet(s) = Ozette River (Lat 48.1818, Long −124.7076) upstream to endpoints in: Big River (48.1740, −124.5106); Crooked Creek (48.0950, −124.5599); East Branch Umbrella Creek (48.1835, −124.5659); Ozette River (48.0370, −124.6218); Umbrella Creek (48.2127, −124.5787).

(2) A map of proposed critical habitat for the Ozette Lake sockeye salmon ESU follows:



BILLING CODE 3510–22–C

(n) Upper Columbia River Oncorhynchus mykiss. Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Chief Joseph Subbasin 17020005—*Upper Columbia/Swamp Creek Watershed 1702000505.* Outlet(s) = Columbia River (Lat 47.8077, Long −119.9754) upstream to endpoint(s) in: Columbia River (48.0828, −119.7062).

(2) Unit 2. Okanogan Subbasin 17020006—*(i) Upper Okanogan River Watershed 1702000601.* Outlet(s) = Okanogan River (Lat 48.7350, Long −119.4280) upstream to endpoint(s) in: Antoine Creek (48.7474, −119.3655); Ninemile Creek (48.9755, −119.3834); Okanogan River (49.0002, −119.4409); Similkameen River (48.9345, −119.4411); Tomasket Creek (48.9502, −119.3618); Whitestone Creek (48.7773, −119.4170).

(ii) Okanogan River/Bonaparte Creek Watershed 1702000602. Outlet(s) = Okanogan River (Lat 48.5612, Long −119.4863) upstream to endpoint(s) in: Aeneas Creek (48.6629, −119.4953); Bonaparte Creek (48.6824, −119.3947); Okanogan River (48.7350, −119.4280); Tunk Creek (48.5644, −119.4718).

(iii) Salmon Creek Watershed 1702000603. Outlet(s) = Salmon Creek (Lat 48.3593, Long −119.5805) upstream to endpoint(s) in: Salmon Creek (48.5374, −119.7465).

(iv) Okanogan River/Omak Creek Watershed 1702000604. Outlet(s) = Okanogan River (Lat 48.3593, Long −119.5805) upstream to endpoint(s) in: Okanogan River (48.5612, −119.4863); Omak Creek (48.3698, −119.4365); Unnamed (48.3802, −119.4915).

(v) Lower Okanogan River Watershed 1702000605. Outlet(s) = Okanogan River (Lat 48.0976, Long −119.7352) upstream to endpoint(s) in: Chiliwist Creek (48.2643, −119.7304); Loup Loup Creek (48.3080, −119.7128); Okanogan River (48.3593, −119.5805).

(3) Unit 3. Similkameen Subbasin 17020007—*Lower Similkameen River Watershed 1702000704.* Outlet(s) = Similkameen River (Lat 48.9345, Long −119.4411) upstream to endpoint(s) in: Similkameen River (48.9657, −119.5009).

(4) Unit 4. Methow Subbasin 17020008—*(i) Lost River Watershed 1702000801.* Outlet(s) = Lost River Gorge (Lat 48.6501, Long −120.5103) upstream to endpoint(s) in: Lost River Gorge (48.7324, −120.4475).

(ii) Upper Methow River Watershed 1702000802. Outlet(s) = Methow River (Lat 48.6015, Long −120.4376) upstream to endpoint(s) in: Early Winters Creek (48.5889, −120.4711); Methow River (48.6597, −120.5368).

(iii) Upper Chewuch River Watershed 1702000803. Outlet(s) = Chewuch River (Lat 48.7501, Long −120.1356) upstream to endpoint(s) in: Andrews Creek (48.7855, −120.1087); Chewuch River (48.8614, −120.0288); Lake Creek (48.8258, −120.1996).

(iv) Lower Chewuch River Watershed 1702000804. Outlet(s) = Chewuch River (Lat 48.4751, Long −120.1790) upstream to endpoint(s) in: Boulder Creek (48.5804, −120.1521); Chewuch River (48.7501, −120.1356); Eightmile Creek (48.6167, −120.1975); Twentymile Creek (48.7025, −120.1087).

(v) Twisp River Watershed 1702000805. Outlet(s) = Twisp River (Lat 48.3682, Long −120.1176) upstream to endpoint(s) in: Buttermilk Creek 48.3414, −120.3034); Eagle Creek (48.3579, −120.3953); Little Bridge Creek (48.4289, −120.3552); South Creek (48.4329, −120.5434); Twisp River (48.4545, −120.5621); War Creek (48.3626, −120.4106).

(vi) Middle Methow River Watershed 1702000806. Outlet(s) = Methow River (Lat 48.2495, Long −120.1156) upstream to endpoint(s) in: Goat Creek (48.6101, −120.3692); Hancock Creek (48.5338, −120.3310); Little Boulder Creek (48.5569, −120.3847); Methow River (48.6015, −120.4376); North Fork Beaver Creek (48.4340, −120.0228); Wolf Creek (48.4777, −120.2844).

(vii) Lower Methow River Watershed 1702000807. Outlet(s) = Methow River (Lat 48.0502, Long −119.8942) upstream to endpoint(s) in: Black Canyon Creek (48.0721, −120.0168); Foggy Dew Creek (48.1869, −120.2344); Gold Creek (48.2113, −120.2021); Libby Creek (48.2548, −120.1653); Methow River (48.2495, −120.1156); South Fork Gold Creek (48.1468, −120.1650).

(5) Unit 6. Upper Columbia/Entiat Subbasin 17020010—*(i) Entiat River Watershed 1702001001.* Outlet(s) = Entiat River (Lat 47.6585, Long −120.2194) upstream to endpoint(s) in: Entiat River (47.9855, −120.5749); Mad River (47.8254, −120.5301); Potato Creek (47.7944, −120.3889); Roaring Creek (47.6795, −120.4163); Stormy Creek (47.8246, −120.4125); Tamarack Creek (47.6699, −120.4041); Tillicum Creek (47.7295, −120.4303).

(ii) Lake Entiat Watershed 1702001002. Outlet(s) = Columbia River (Lat 47.3539, Long −120.1105) upstream to endpoint(s) in: Columbia River (47.8077, −119.9754).

(iii) Columbia River/Lynch Coulee Watershed 1702001003. Outlet(s) = Columbia River (Lat 47.0494, Long −120.0241) upstream to endpoint(s) in: Brushy Creek (47.1316, −120.1493); Colockum Creek (47.2919, −120.1592); Columbia River (47.3539, −120.1105); Lynch Coulee (47.2320, −119.9943); Quilomene Creek (47.1105, −120.0379); Tarpiscan Creek (47.2264, −120.0922); Tekison Creek (47.1816, −120.0206).

(iv) Columbia River/Sand Hollow Watershed 1702001004. Outlet(s) = Columbia River (Lat 46.8159, Long −119.9255) upstream to endpoint(s) in: Columbia River (47.0494, −120.0241); Sand Hollow (46.9296, −119.9365); Whiskey Dick Creek (47.0302, −120.0331).

(6) Unit 7. Wenatchee Subbasin 17020011—*(i) White River Watershed 1702001101.* Outlet(s) = White River (Lat 47.8088, Long −120.7159) upstream to endpoint(s) in: Little Wenatchee River (47.8526, −120.9541); Napeequa River (47.9359, −120.8712); Panther Creek (47.9375, −120.9408); White River (47.9535, −120.9380).

(ii) Chiwawa River Watershed 1702001102. Outlet(s) = Chiwawa River (Lat 47.7880, Long −120.6589) upstream to endpoint(s) in: Alder Creek (47.8565, −120.6564); Alpine Creek (48.0823, −120.8683); Buck Creek (48.1045, −120.8815); Chikamin Creek (47.9111, −120.7165); Chiwawa River (48.1140, −120.8775); Clear Creek (47.8016, −120.6210); James Creek (48.0748, −120.8598); Phelps Creek (48.0743, −120.8484); Unnamed (47.9727, −120.7878).

(iii) Nason/Tumwater Watershed 1702001103. Outlet(s) = Wenatchee River (Lat 47.5801, Long −120.6660) upstream to endpoint(s) in: Beaver Creek (47.7649, −120.6553); Chiwaukum Creek (47.7038, −120.7788); Coulter Creek (47.7594, −120.7969); Gill Creek (47.7716, −120.8237); Henry Creek (47.7545, −120.9944); Kahler Creek (47.7691, −120.7558); Mill Creek (47.7744, −121.0117); Nason Creek (47.7825, −121.0464); Roaring Creek (47.7572, −120.8203); Skinney Creek (47.7247, −120.7370).

(iv) Icicle/Chumstick Watershed 1702001104. Outlet(s) = Wenatchee River (Lat 47.5575, Long −120.5729) upstream to endpoint(s) in: Chumstick Creek (47.6785, −120.6385); Derby Canyon (47.6036, −120.5623); Eagle Creek (47.6342, −120.6261); Icicle Creek (47.6460, −120.9833); Wenatchee River (47.5801, −120.6660).

(v) Lower Wenatchee River Watershed 1702001105. Outlet(s) = Wenatchee River (Lat 47.4553, Long −120.3185) upstream to endpoint(s) in: Brender Creek (47.5214, −120.4844); Ingalls Creek (47.4612, −120.6776); King Canyon (47.3522, −120.4423); Mill Creek (47.5139, −120.6724); Mission Creek (47.3289, −120.4771); Peshastin Creek (47.4380, −120.6590); Sand Creek (47.4321, −120.5307); Wenatchee River (47.5575, −120.5729).

(7) Unit 9. Lower Crab Subbasin 17020015—*Lower Crab Creek Watershed 1702001509.* Outlet(s) =

Lower Crab Creek (Lat 46.8159, Long −119.9255) upstream to endpoint(s) in: Hayes Creek (46.8821, −119.2703); Lower Crab Creek (46.9028, −119.2785); Unnamed (46.8157, −119.4326); Unnamed (46.8243, −119.4429); Unnamed (46.8353, −119.3750); Unnamed (46.8658, −119.3757); Unnamed (46.8770, −119.5863).

(8) Unit 10. Upper Columbia/Priest Rapids Subbasin 17020016—*(i) Yakima River/Hanson Creek Watershed 1702001604.* Outlet(s) = Columbia River (Lat 46.7159, Long −119.5294) upstream to endpoint(s) in: Columbia River (46.8159, −119.9255).

(ii) Middle Columbia/Priest Rapids Watershed 1702001605. Outlet(s) = Columbia River (Lat 46.5091, Long −119.2661) upstream to endpoint(s) in: Columbia River (46.7159, −119.5294).

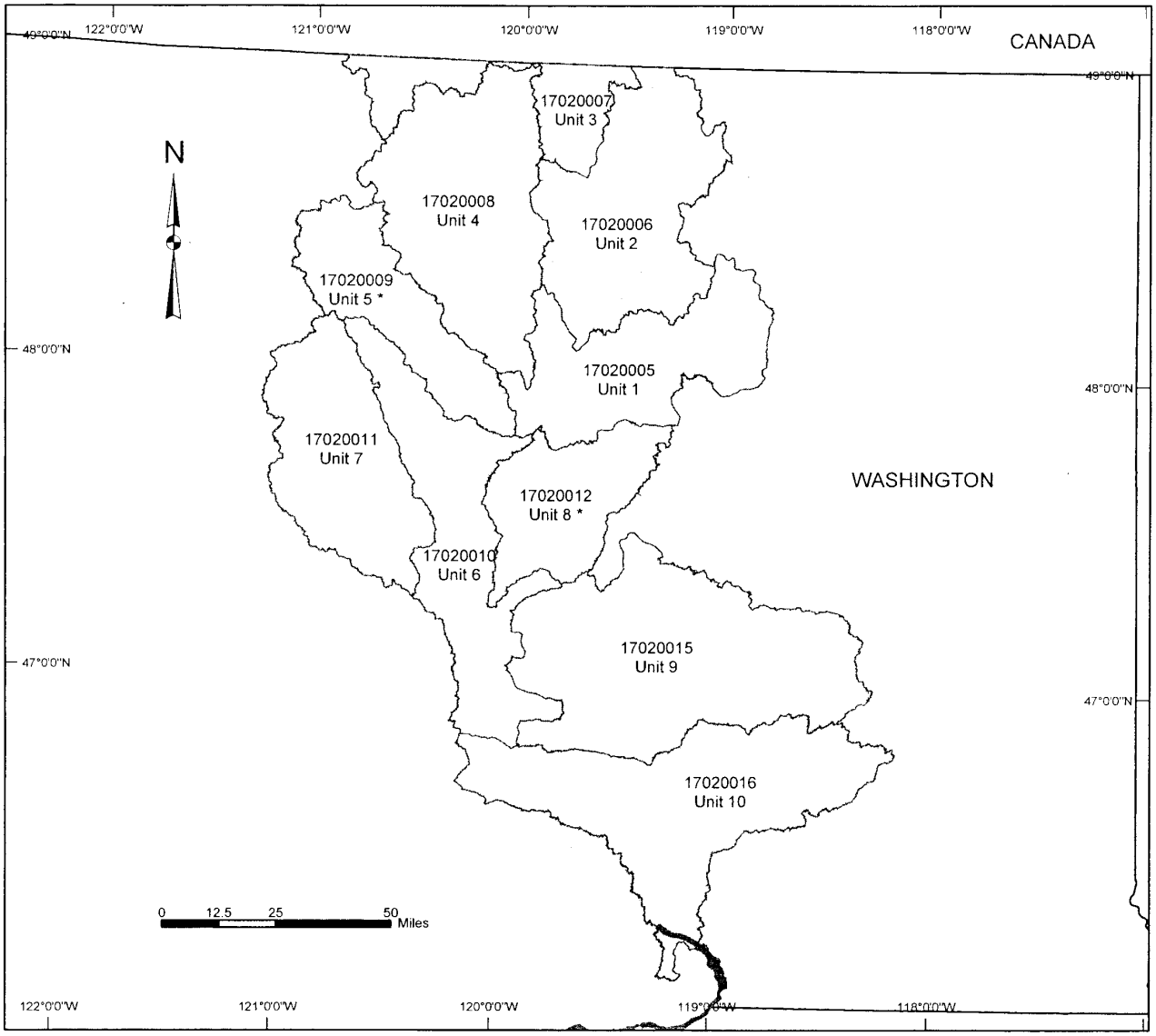
(iii) Columbia River/Zintel Canyon Watershed 1702001606. Outlet(s) = Columbia River (Lat 46.2534, Long −119.2268) upstream to endpoint(s) in: Columbia River (46.5091, −119.2661).

(9) Unit 11. Columbia River Corridor—*(i) Columbia River Corridor* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (46.2534, −119.2268).

(10) Maps of proposed critical habitat for the Upper Columbia River *O. mykiss* ESU follow:

BILLING CODE 3510–22–P

Map of the Upper Columbia River O. mykiss ESU



Legend

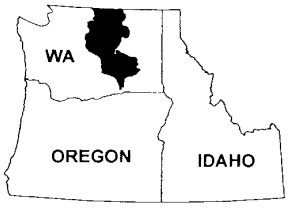
State Boundary

Water Bodies

Subbasin Boundaries

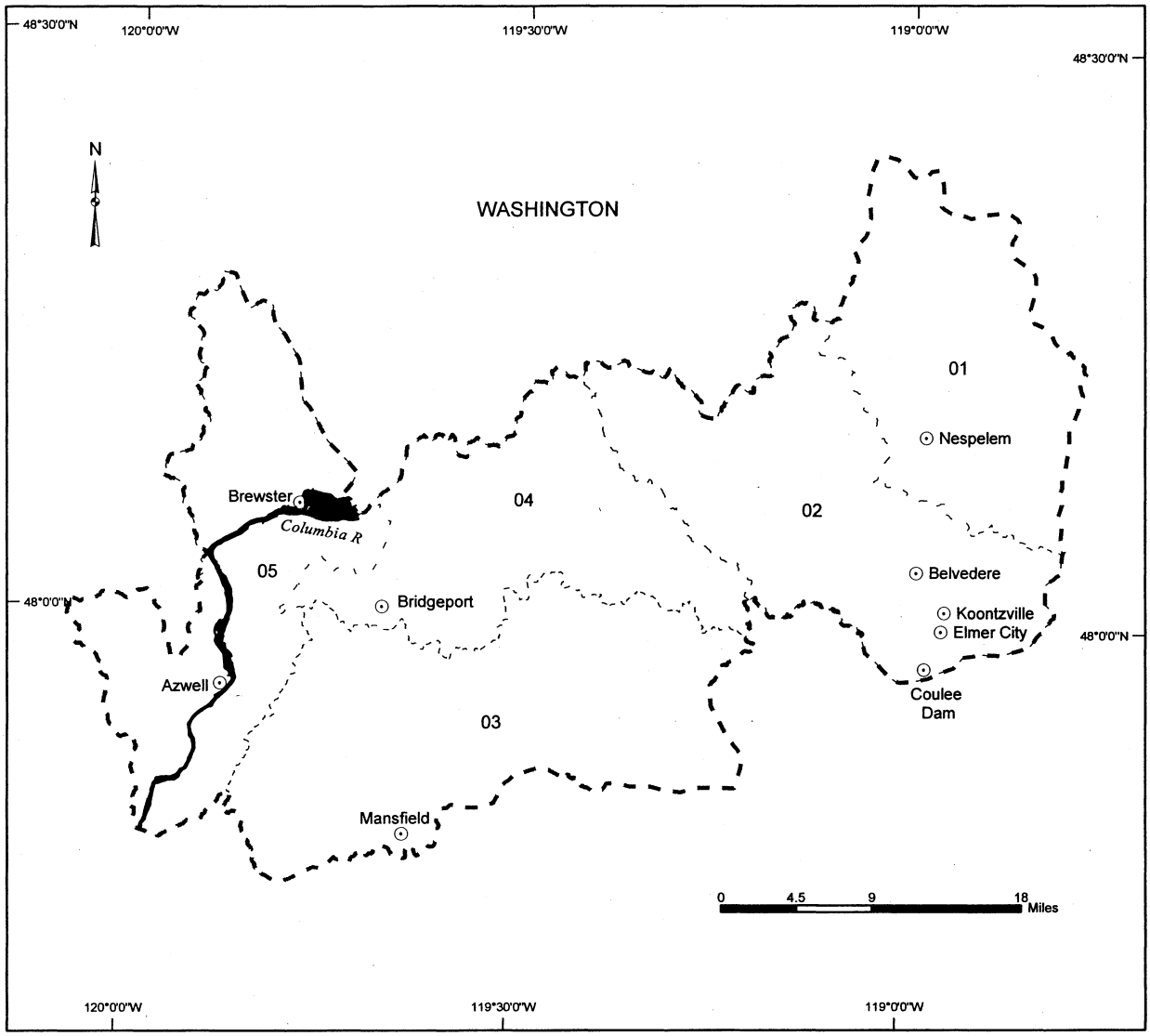
* All habitat areas in unit are proposed for exclusion

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

CHIEF JOSEPH SUBBASIN 17020005, Unit 1

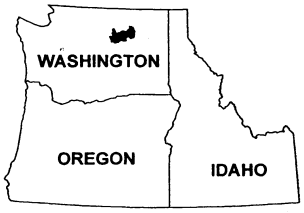


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

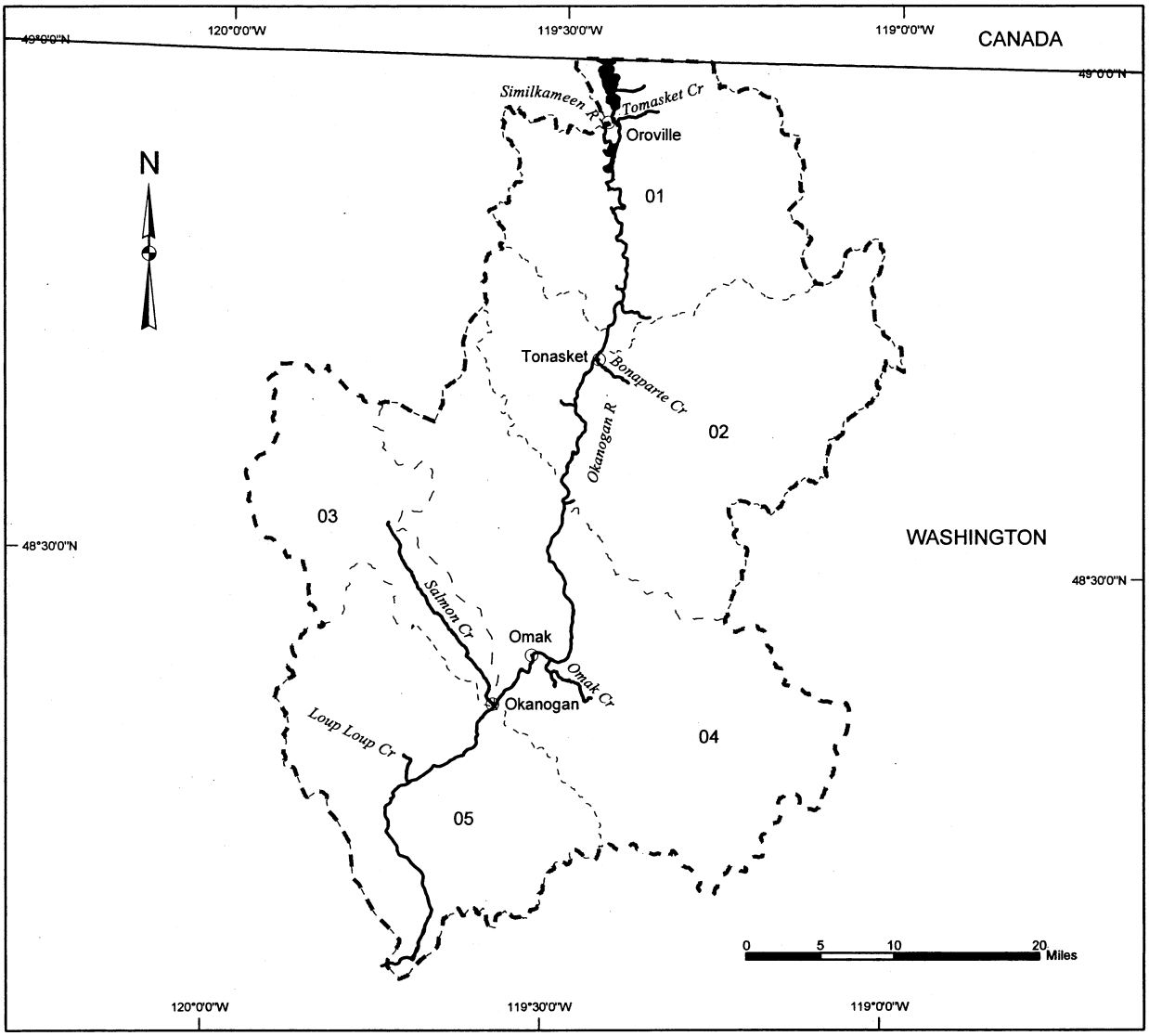
01 - 05 = Watershed code - last 2 digits of 17020005xx

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

OKANOGAN SUBBASIN 17020006, Unit 2

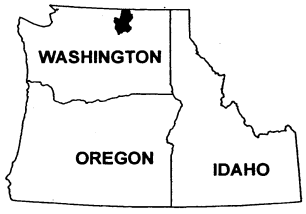


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

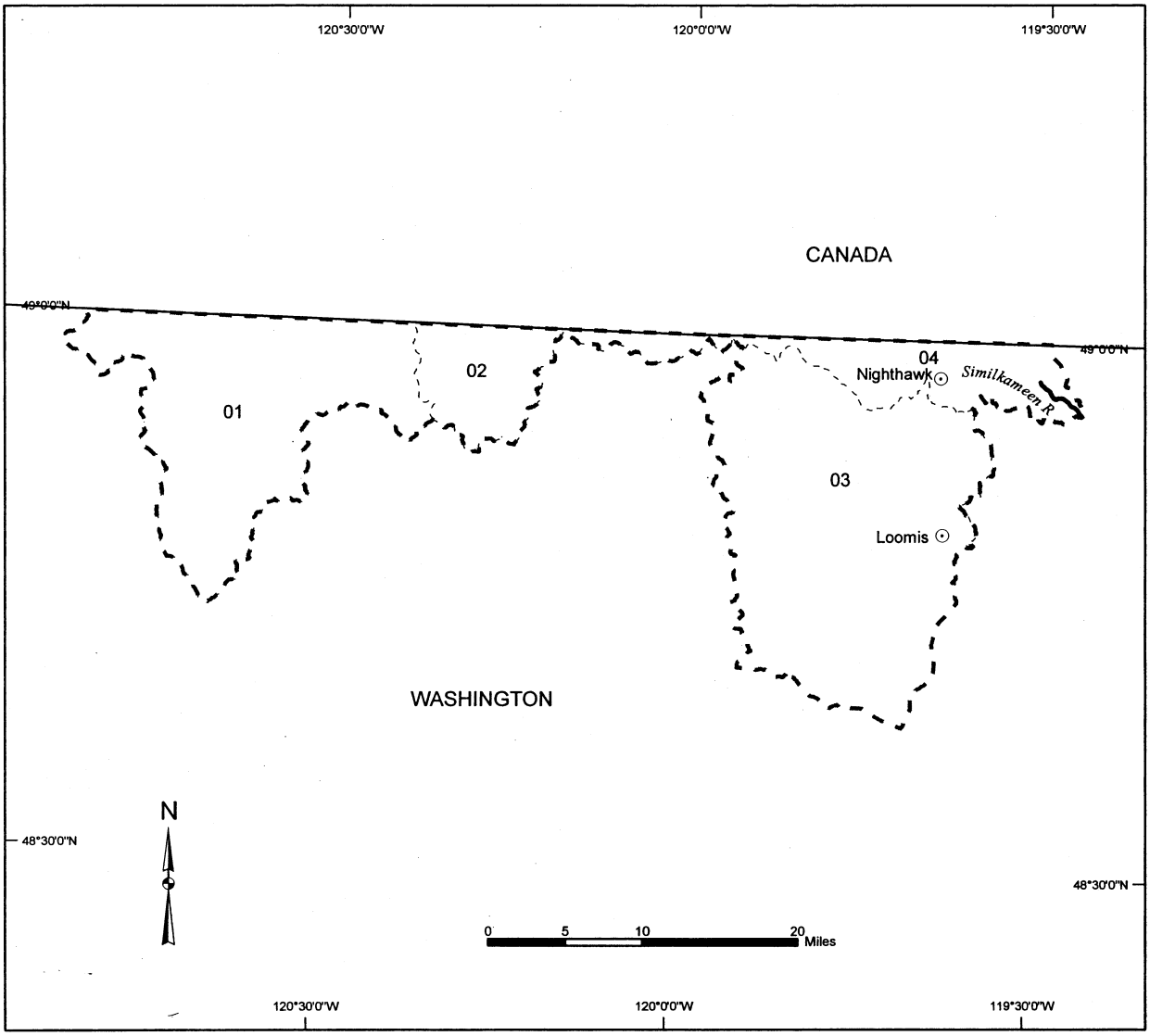
01 - 05 = Watershed code - last 2 digits of 17020006xx

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

SIMILKAMEEN SUBBASIN 17020007, Unit 3

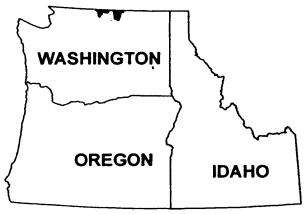


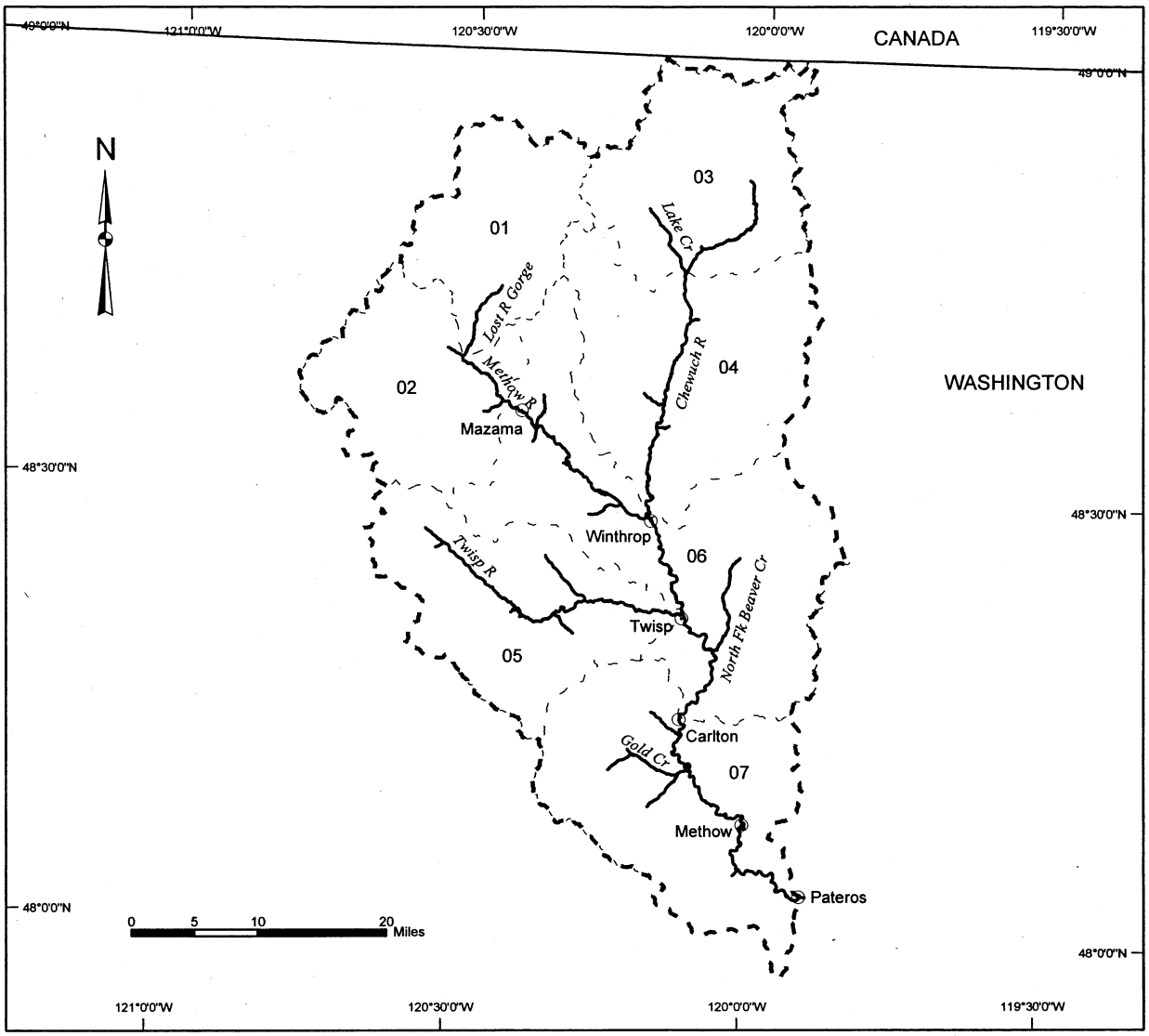
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 04 = Watershed code - last 2 digits of 17020007xx

Area of Detail

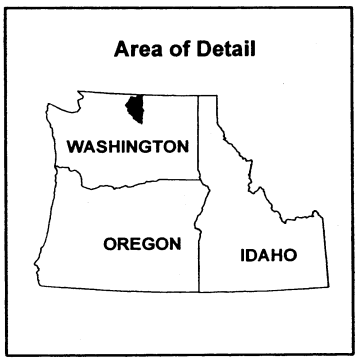




Legend

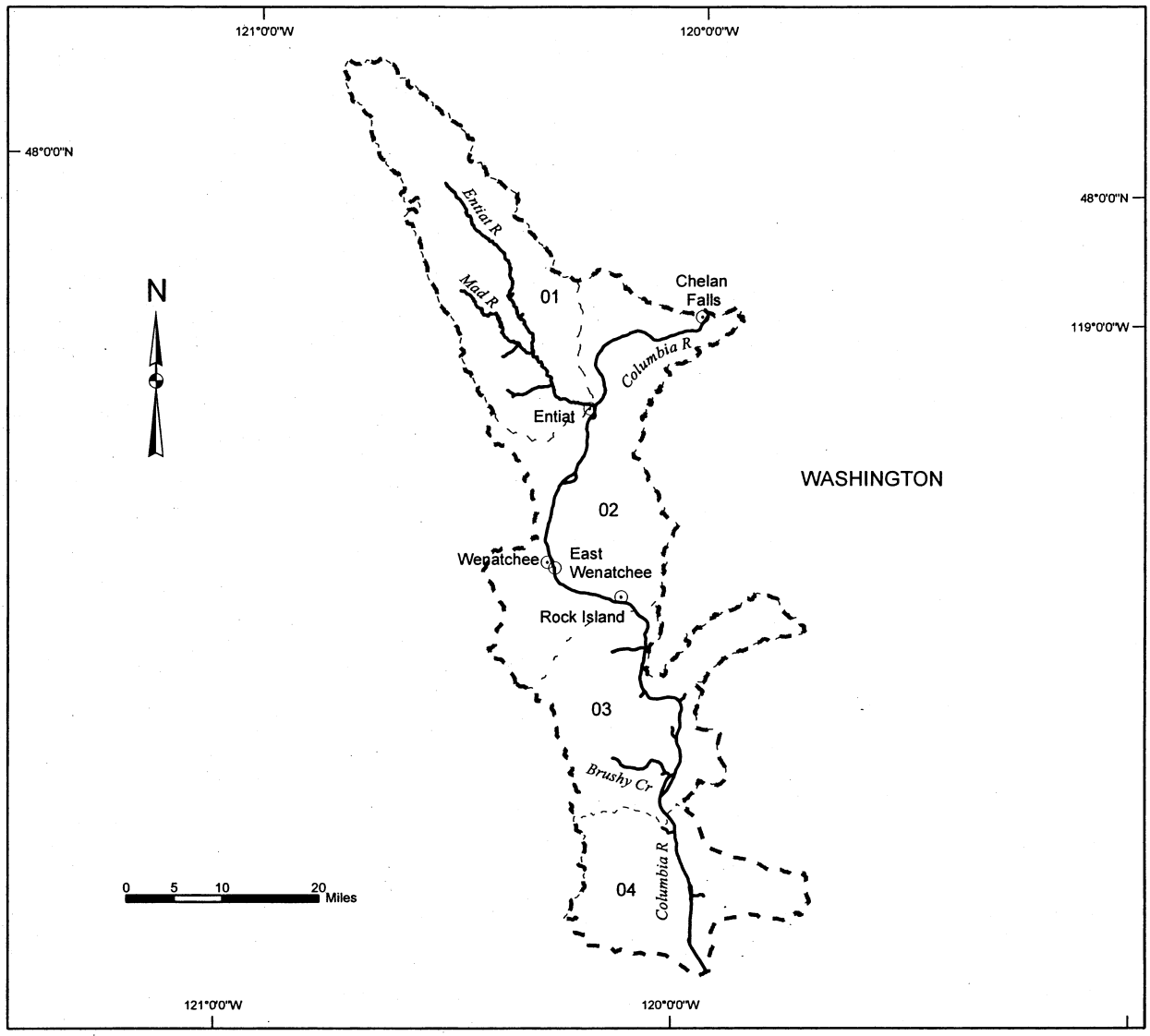
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 07 = Watershed code - last 2 digits of 17020008xx



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

UPPER COLUMBIA / ENTIAT SUBBASIN 17020010, Unit 6

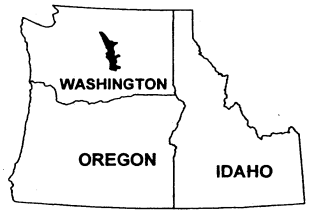


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

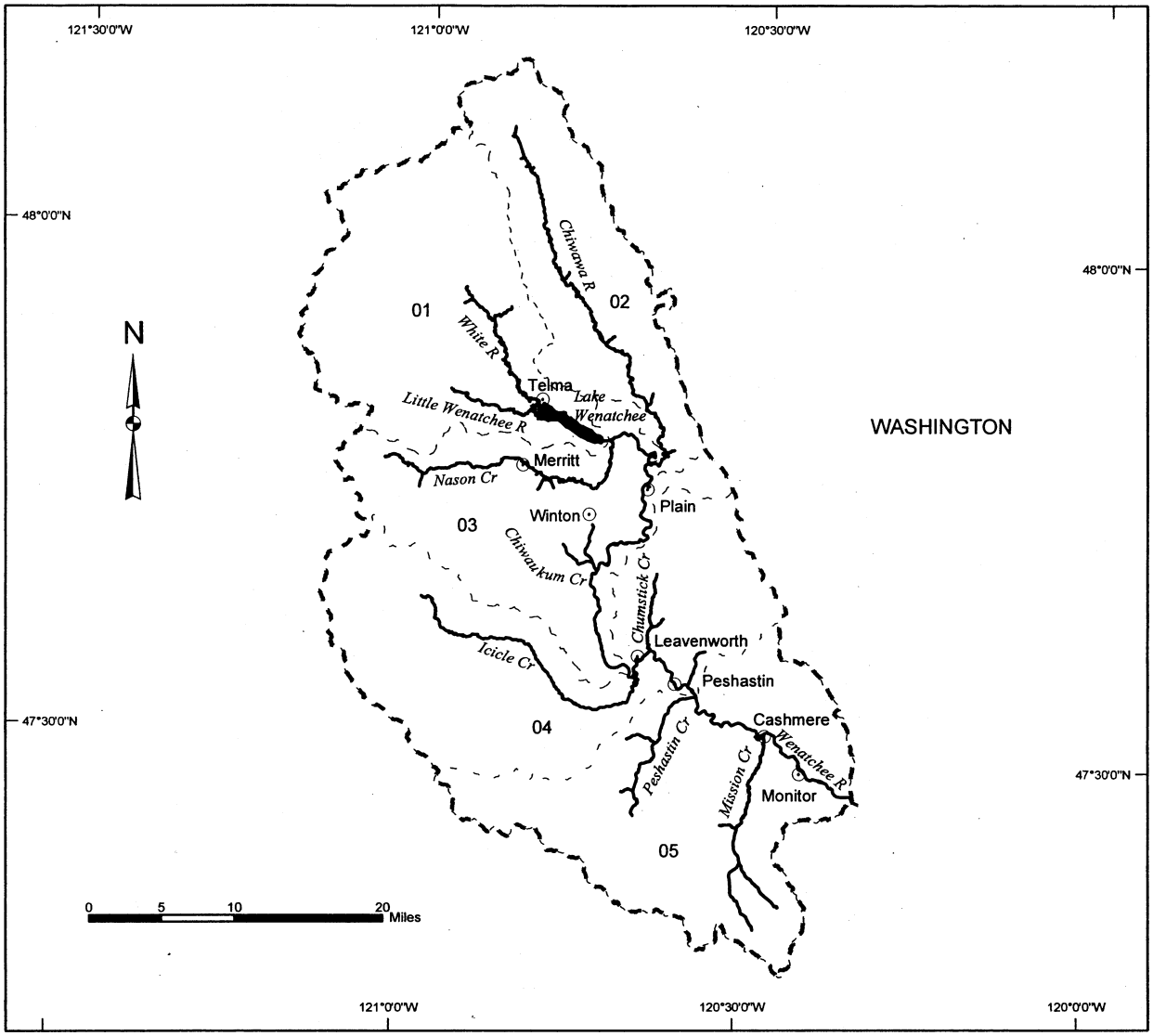
01 - 04 = Watershed code - last 2 digits of 17020010xx

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

WENATCHEE SUBBASIN 17020011, Unit 7

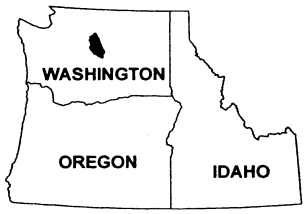


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

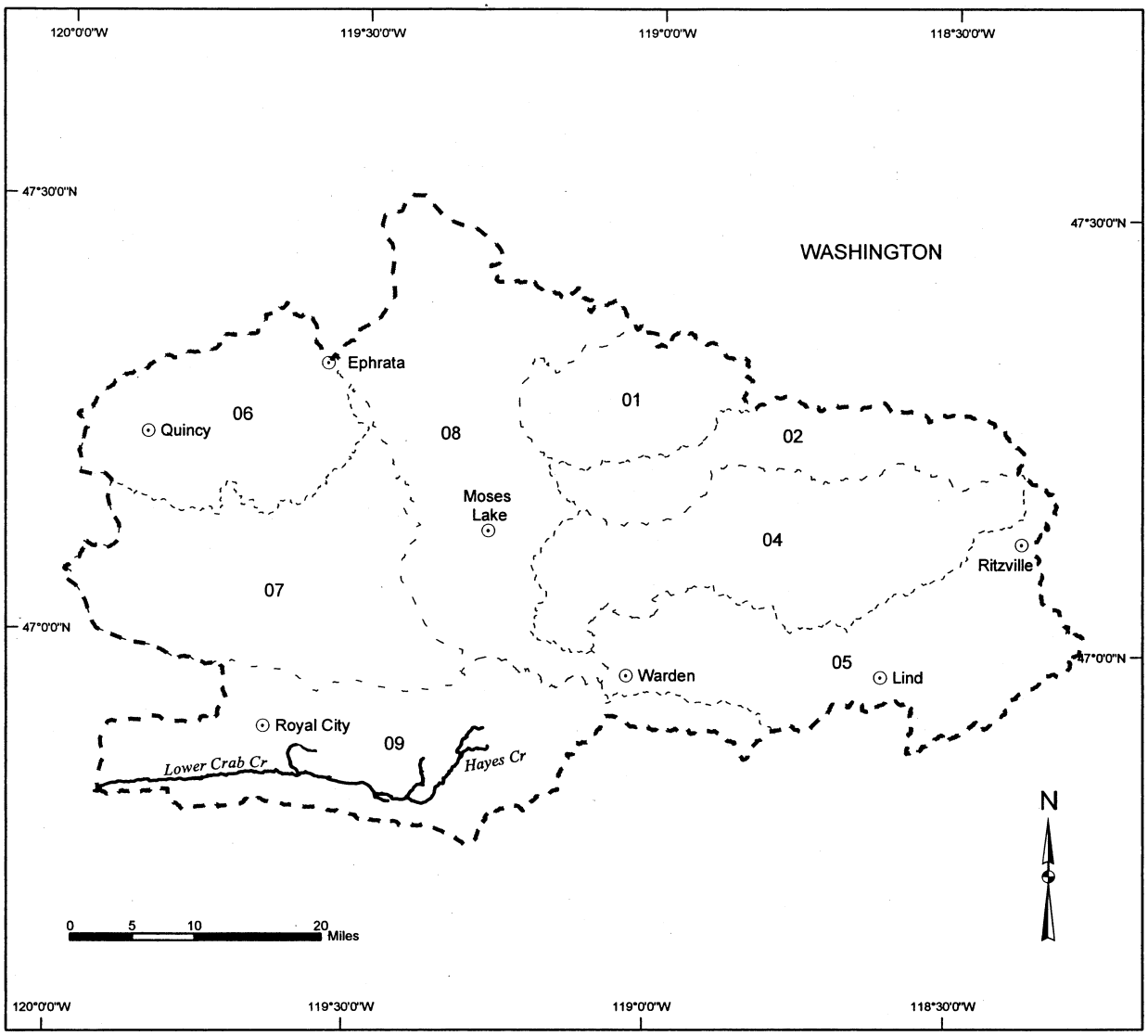
01 - 05 = Watershed code - last 2 digits of 17020011xx

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

LOWER CRAB SUBBASIN 17020015, Unit 9

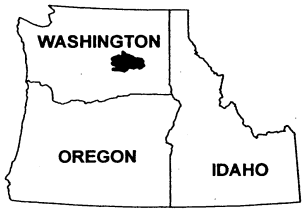


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

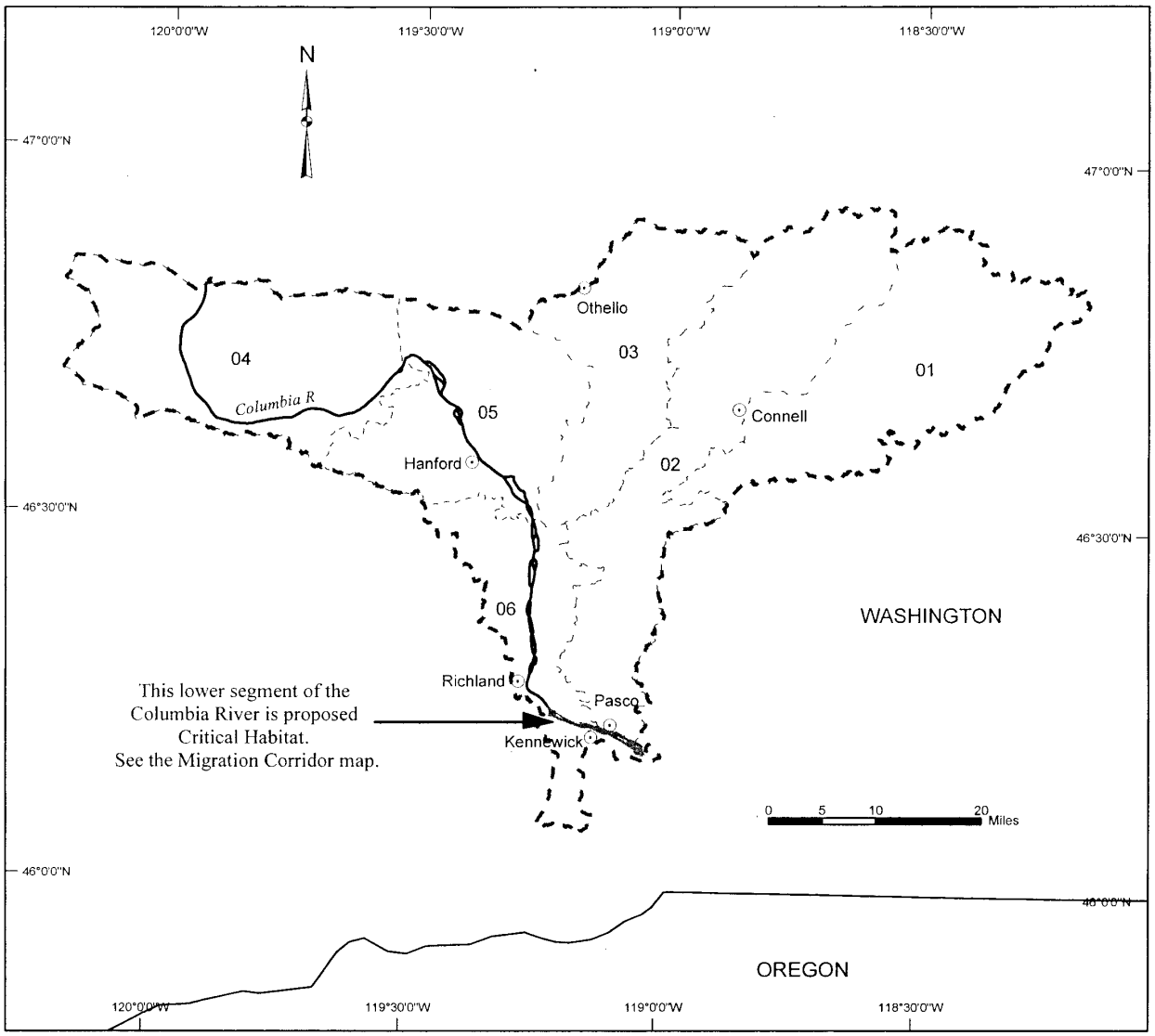
01 - 02, 04 - 09 = Watershed code - last 2 digits of 17020015xx

Area of Detail



Proposed Critical Habitat for the Upper Columbia River O. mykiss ESU

UPPER COLUMBIA / PRIEST RAPIDS SUBBASIN 17020016, Unit 10

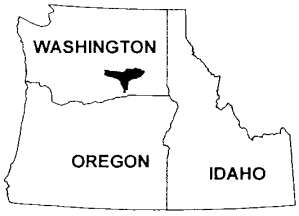


Legend

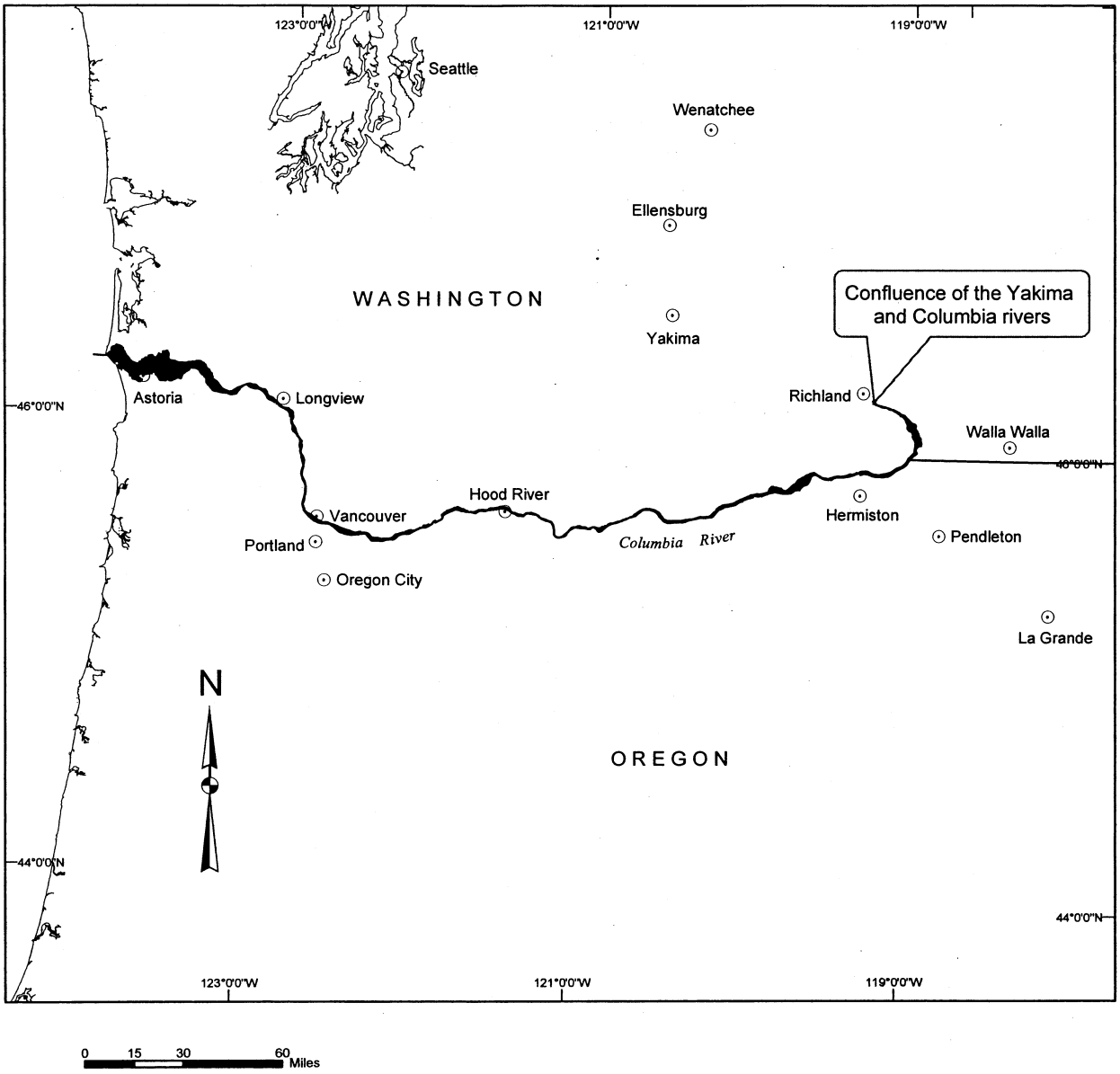
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Water Body
- Subbasin Boundary
- Watershed Boundaries

01 - 06 = Watershed code - last 2 digits of 17020016xx

Area of Detail



Rearing / Migration Corridor for the Upper Columbia River O. mykiss ESU, Unit 11



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Upper Columbia River O. mykiss ESU

Unit 11. Columbia River Corridor
The Columbia River Corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to the confluence of the Yakima River.

BILLING CODE 3510–22–C

(o) Snake River Basin Oncorhynchus mykiss. Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Hells Canyon Subbasin 17060101—*(i) Snake River/Granite Creek Watershed 1706010101.* Outlet(s) = Snake River (Lat 45.467, Long −116.554) upstream to endpoint(s) in: Battle Creek (45.307, −116.697); Bernard Creek (45.387, −116.569); Brush Creek (45.275, −116.657); Bull Creek (45.329, −116.673); Clarks Fork (45.476, −116.500); Deep Creek (45.237, −116.674); Devils Farm Creek (45.301, −116.611); Granite Creek (45.277, −116.630); Hells Canyon (45.254, −116.698); Lightning Creek (45.440, −116.500); Little Granite Creek (45.335, −116.636); North Fork Battle Creek (45.316, −116.687); Rattlesnake Creek (45.457, −116.610); Rough Creek (45.397, −116.638); Rush Creek (45.468, −116.596); Saddle Creek (45.375, −116.721); Sheep Creek (45.406, −116.523); Sluice Creek (45.445, −116.622); Snake River (45.243, −116.700); Stud Creek (45.267, −116.693); Three Creek (45.353, −116.610); Unnamed (45.468, −116.610); Wild Sheep Creek (45.326, −116.676).

(ii) Snake River/Getta Creek Watershed 1706010102. Outlet(s) = Snake River (Lat 45.747, Long −116.543) upstream to endpoint(s) in: Big Canyon Creek (45.689, −116.467); Corral Creek (45.588, −116.433); Cove Creek (45.553, −116.574); Durham Creek (45.595, −116.472); Getta Creek (45.736, −116.421); Highrange Creek (45.738, −116.518); Indian Creek (45.744, −116.449); Jones Creek (45.703, −116.526); Kirby Creek (45.575, −116.454); Kirkwood Creek (45.548, −116.457); Klopton Creek (45.627, −116.434); Kurry Creek (45.656, −116.426); Lookout Creek (45.713, −116.542); Lost Valley Creek (45.550, −116.482); Pleasant Valley Creek (45.647, −116.492); Salt Creek (45.576, −116.554); SCreek (45.491, −116.574); Snake River (45.468, −116.554); Somers Creek (45.645, −116.553); Temperance Creek (45.537, −116.571); Tryon Creek (45.694, −116.540); Two Corral Creek (45.561, −116.526); West Creek (45.664, −116.453); West Fork West Creek (45.669, −116.463).

(iii) Snake River/Divide Creek Watershed 1706010104. Outlet(s) = Snake River (Lat 45.857 Long −116.794) upstream to endpoint(s) in: Deep Creek (45.774, −116.654); Divide Creek (45.859, −116.741); Dry Creek (45.842, −116.598); Snake River (45.747, −116.543); Wolf Creek (45.776, −116.567).

(2) Unit 2. Imnaha River Subbasin 17060102—*(i) Upper Imnaha River Watershed 1706010201.* Outlet(s) = Imnaha River (Lat 45.232, Long −116.844) upstream to endpoint(s) in: Crazyman Creek (45.190, −116.811); Dry Creek (45.123, −116.867); Gumboot Creek (45.147, −116.968); Mahogany Creek (45.201, −116.905); North Fork Dry Creek (45.143, −116.850); North Fork Gumboot Creek (45.184, −116.928); North Fork Imnaha River (45.118, −117.129); Skookum Creek (45.117, −116.938); South Fork Imnaha River (45.111, −117.230); Unnamed (45.188, −116.923); Unnamed (45.208, −116.890).

(ii) Middle Imnaha River Watershed 1706010202. Outlet(s) = Imnaha River (Lat 45.557, Long −116.834) upstream to endpoint(s) in: Freezeout Creek (45.352, −116.761); Grouse Creek (45.179, −116.976); Imnaha River (45.232, −116.844); Morgan Creek (45.261, −116.948); Rich Creek (45.243, −116.869); Road Creek (45.279, −116.932); Shadow Canyon (45.295, −116.860); Summit Creek (45.228, −116.793); Unnamed (45.203, −116.978); Unnamed (45.203, −116.943); Unnamed (45.250, −116.923).

(iii) Big Sheep Creek Watershed 1706010203. Outlet(s) = Big Sheep Creek (Lat 45.520, Long −116.859) upstream to endpoint(s) in: Big Sheep Creek (45.171, −117.086); Carrol Creek (45.240, −117.063); Griffith Creek (45.273, −117.061); Lick Creek (45.133, −117.056); Marr Creek (45.299, −116.949); North Fork Carrol Creek (45.295, −116.993); South Fork Squaw Creek (45.354, −116.872); Tyee Creek (45.188, −116.991); Unnamed (45.164, −117.023); Unnamed (45.239, −117.045); Unnamed (45.297, −116.940).

(iv) Little Sheep Creek Watershed 1706010204. Outlet(s) = Big Sheep Creek (Lat 45.557, Long −116.834) upstream to endpoint(s) in: Bear Gulch (45.379, −116.955); Big Sheep Creek (45.520, −116.859); Camp Creek (45.544, −116.959); Canal Creek (45.256, −117.103); Devils Gulch (45.428, −116.962); Downey Gulch (45.405, −116.958); Ferguson Creek (45.267, −117.106); Lightning Creek (45.475, −117.020); Little Sheep Creek (45.236, −117.083); McCully Creek (45.295, −117.107); Redmont Creek (45.250, −117.099); South Fork Lightning Creek (45.473, −117.019); Summit Creek (45.390, −116.930); Threebuck Creek (45.395, −117.012); Trail Creek (45.563, −116.898).

(v) Lower Imnaha River Watershed 1706010205. Outlet(s) = Imnaha River (Lat 45.817, Long −116.764) upstream to endpoint(s) in: Corral Creek (45.708, −116.815); Cottonwood Creek (45.659, −116.865); Cow Creek (45.573, −116.628); Dodson Fork (45.725, −116.821); East Fork Fence Creek (45.652, −116.855); Fence Creek (45.655, −116.875); Horse Creek (45.421, −116.725); Imnaha River (45.557, −116.834); Lightning Creek (45.447, −116.682); Prong (45.589, −116.592); Pumpkin Creek (45.517, −116.758); Sleepy Creek (45.604, −116.666); Stubblefield Fork (45.711, −116.815); Tulley Creek (45.743, −116.766).

(3) Unit 3. Lower Snake/Asotin Subbasin 17060103—*(i) Snake River/Rogersburg Watershed 1706010301.* Outlet(s) = Snake River (Lat 46.080, Long −116.978) upstream to endpoint(s) in: Cache Creek (45.976, −116.928); Cave Gulch (46.023, −116.840); Cook Creek (45.901, −116.865); Corral Creek (46.055, −116.875); Cottonwood Creek (45.944, −116.860); Garden Creek (45.972, −116.903); Snake River (45.857, −116.794).

(ii) Asotin River Watershed 1706010302. Outlet(s) = Asotin Creek (Lat 46.345, Long −117.053) upstream to endpoint(s) in: Ayers Gulch (46.278, −117.094); Charley Creek (46.271, −117.460); Coombs Canyon (46.128, −117.276); George Creek (46.144, −117.303); Hefflefinger Gulch (46.151, −117.231); Huber Gulch (46.155, −117.188); Kelly Creek (46.251, −117.114); Lick Creek (46.260, −117.358); Middle Branch North Fork Asotin Creek (46.195, −117.439); Nims Gulch (46.178, −117.121); North Fork Asotin Creek (46.207, −117.478); Pintler Creek (46.194, −117.153); South Fork Asotin Creek (46.174, −117.341); South Fork North Fork Asotin Creek (46.192, −117.425).

(iii) Snake River/Captain John Creek Watershed 1706010303. Outlet(s) = Snake River (Lat 46.428, Long −117.038) upstream to endpoint(s) in: Captain John Creek (46.145, −116.821); Couse Creek (46.157, −117.032); Edeburn Gulch (46.142, −117.008); Mill Creek (46.157, −117.078); Redbird Creek (46.220, −116.898); Snake River (46.080, −116.978); South Fork Captain John Creek (46.123, −116.864); Tammany Creek (46.362, −117.052); Tenmile Canyon (46.284, −116.976); Tenmile Creek (46.123, −117.086); Unnamed (46.119, −117.100); Unnamed (46.124, −117.111).

(4) Unit 4. Upper Grande Ronde River Subbasin 17060104—*(i) Upper Grande Ronde River Watershed 1706010401.* Outlet(s) = Grande Ronde River (Lat 45.264, Long −118.376) upstream to endpoint(s) in: Chicken Creek (44.987, −118.378); Clear Creek (45.014, −118.329); Dry Creek (45.052, −118.380); East Fork Grande Ronde River (45.060, −118.237); East Sheep

Creek (44.987, −118.425); Fly Creek (45.125, −118.596); Grande Ronde River (44.998, −118.273); Limber Jim Creek (45.107, −118.270); Little Clear Creek (45.038, −118.300); Little Fly Creek (45.062, −118.504); Lookout Creek (45.065, −118.543); Muir Creek (45.066, −118.297); North Fork Limber Jim Creek (45.125, −118.308); Sheep Creek (45.016, −118.507); South Fork Limber Jim Creek (45.088, −118.304); Squaw Creek (45.103, −118.554); Umapine Creek (45.116, −118.571); Unnamed (45.042, −118.269); Unnamed (45.045, −118.417); West Chicken Creek (45.025, −118.404); Winter Canyon (45.215, −118.361).

(ii) Meadow Creek Watershed 1706010402. Outlet(s) = Meadow Creek (Lat 45.264, Long −118.376) upstream to endpoint(s) in: Battle Creek (45.216, −118.507); Bear Creek (45.210, −118.577); Burnt Corral Creek (45.159, −118.524); Dark Canyon (45.382, −118.394); East Burnt Corral Creek (45.173, −118.498); Ensign Creek (45.361, −118.554); Little Dark Canyon (45.322, −118.418); Marley Creek (45.177, −118.476); McCoy Creek (45.322, −118.628); McIntyre Creek (45.345, −118.459); Meadow Creek (45.286, −118.716); Peet Creek (45.233, −118.611); Smith Creek (45.295, −118.594); Sullivan Gulch (45.200, −118.515); Syrup Creek (45.296, −118.543); Tybow Canyon (45.214, −118.467); Unnamed (45.206, −118.552); Unnamed (45.275, −118.695); Unnamed (45.295, −118.718); Unnamed (45.330, −118.551); Waucup Creek (45.243, −118.660).

(iii) Grande Ronde River/Beaver Creek Watershed 1706010403. Outlet(s) = Grande Ronde River (Lat 45.347, Long −118.221) upstream to endpoint(s) in: Bear Creek (45.283, −118.270); Beaver Creek (45.146, −118.206); Dry Beaver Creek (45.168, −118.316); East Fork Rock Creek (45.166, −118.111); Grande Ronde River (45.264, −118.376); Graves Creek (45.245, −118.161); Hoodoo Creek (45.154, −118.259); Jordan Creek (45.162, −118.187); Little Beaver Creek (45.185, −118.333); Little Whiskey Creek (45.209, −118.178); Rock Creek (45.172, −118.139); Sheep Creek (45.281, −118.130); South Fork Spring Creek (45.346, −118.363); Spring Creek (45.396, −118.372); Unnamed (45.167, −118.144); Unnamed (45.227, −118.262); Unnamed (45.231, −118.279); Unnamed (45.232, −118.091); Unnamed (45.240, −118.257); Watermelon Creek (45.195, −118.277); Whiskey Creek (45.198, −118.181).

(iv) Grande Ronde River/Five Points Creek Watershed 1706010404. Outlet(s) = Grande Ronde River (Lat 45.408, Long −117.930) upstream to endpoint(s) in: California Gulch (45.406, −118.335); Conley Creek (45.406, −118.084); Dobbin Ditch (45.377, −118.017); Dry Creek (45.426, −118.379); Fiddlers Hell (45.443, −118.145); Five Points Creek (45.482, −118.143); Grande Ronde River (45.347, −118.221); Little John Day Creek (45.430, −118.192); Middle Fork Five Points Creek (45.485, −118.129); Mt Emily Creek (45.465, −118.125); Pelican Creek (45.438, −118.318); Tie Creek (45.420, −118.129); Unnamed (45.385, −118.043); Unnamed (45.423, −118.243).

(v) Catherine Creek Watershed 1706010405. Outlet(s) = Catherine Creek (Lat 45.219, Long −117.915) upstream to endpoint(s) in: Buck Creek (45.132, −117.606); Camp Creek (45.100, −117.596); Collins Creek (45.100, −117.531); Corral Creek (45.113, −117.575); Little Catherine Creek (45.148, −117.716); Middle Fork Catherine Creek (45.155, −117.567); Milk Creek (45.092, −117.717); North Fork Catherine Creek (45.221, −117.610); Pole Creek (45.123, −117.544); Prong Creek (45.096, −117.565); SPass Creek (45.115, −117.528); Scout Creek (45.105, −117.644); South Fork Catherine Creek (45.116, −117.503); Unnamed (45.104, −117.685).

(vi) Ladd Creek Watershed 1706010406. Outlet(s) = Ladd Creek (Lat 45.282, Long −117.936) upstream to endpoint(s) in: Catherine Creek (45.219, −117.915); Ladd Creek (45.215, −118.024); Little Creek (45.210, −117.784); Mill Creek (45.263, −118.083); Unnamed (45.259, −118.039).

(vii) Grande Ronde River/Mill Creek Watershed 1706010407. Outlet(s) = Grande Ronde River (Lat 45.408, Long −117.930) upstream to endpoint(s) in: Catherine Creek (45.282, −117.936); McAlister Slough (45.315, −117.973); Mill Creek (45.278, −117.728); Unnamed (45.297, −117.806).

(viii) Phillips Creek/Willow Creek Watershed 1706010408. Outlet(s) = Willow Creek (Lat 45.492, Long −117.931) upstream to endpoint(s) in: Dry Creek (45.640, −118.114); Finley Creek (45.625, −118.099); Mill Creek (45.568, −118.025); Slide Creek (45.422, −118.028); Unnamed (45.525, −118.014); Willow Creek (45.488, −118.032).

(ix) Grande Ronde River/Indian Creek Watershed 1706010409. Outlet(s) = Grande Ronde River (Lat 45.560, Long −117.910) upstream to endpoint(s) in: Camp Creek (45.386, −117.720); Clark Creek (45.409, −117.728); East Fork Indian Creek (45.363, −117.737); Grande Ronde River (45.408, −117.930); Indian Creek (45.332, −117.717); Little Indian Creek (45.375, −117.785); Middle Fork Clark Creek (45.462, −117.764); North Fork Clark Creek (45.502, −117.733); North Fork Indian Creek (45.419, −117.787); Unnamed (45.375, −117.739); Unnamed (45.476, −117.757).

(x) Lookingglass Creek Watershed 1706010410. Outlet(s) = Lookingglass Creek (Lat 45.707, Long −117.841) upstream to endpoint(s) in: Buzzard Creek (45.845, −117.939); Eagle Creek (45.723, −118.005); Jarboe Creek (45.776, −117.855); Little Lookingglass Creek (45.848, −117.901); Lookingglass Creek (45.777, −118.070); Mottet Creek (45.827, −117.958); Unnamed (45.835, −117.869); Unnamed (45.844, −117.893).

(xi) Grande Ronde River/Cabin Creek Watershed 1706010411. Outlet(s) = Grande Ronde River (Lat 45.726, Long −117.784) upstream to endpoint(s) in: Buck Creek (45.662, −117.919); Duncan Canyon (45.654, −117.776); East Phillips Creek (45.669, −118.066); Gordon Creek (45.665, −118.001); Grande Ronde River (45.560, −117.910); Little Phillips Creek (45.668, −118.036); North Fork Cabin Creek (45.721, −117.929); Pedro Creek (45.676, −118.051); Phillips Creek (45.666, −118.089); Rysdam Canyon (45.633, −117.812); South Fork Cabin Creek (45.698, −117.963); Unnamed (45.661, −117.930); Unnamed (45.672, −117.941); Unnamed (45.682, −117.974); Unnamed (45.695, −117.927); Unnamed (45.707, −117.916).

(5) Unit 5. Wallowa River Subbasin 17060105—*(i) Upper Wallowa River Watershed 1706010501.* Outlet(s) = Wallowa River (Lat 45.427, Long −117.310) upstream to endpoint(s) in: Hurricane Creek (45.337, −117.291); Little Hurricane Creek (45.407, −117.276); Prairie Creek (45.394, −117.189); Spring Creek (45.406, −117.287); Trout Creek (45.455, −117.281); Unnamed (45.387, −117.215); Unnamed (45.392, −117.214); Unnamed (45.411, −117.264); Unnamed (45.412, −117.156); Unnamed (45.424, −117.313); Wallowa River (45.335, −117.222).

(ii) Lostine River Watershed 1706010502. Outlet(s) = Lostine River (Lat 45.552, Long −117.489) upstream to endpoint(s) in: Lostine River (45.245, −117.375); Silver Creek (45.394, −117.420).

(iii) Middle Wallowa River Watershed 1706010503. Outlet(s) = Wallowa River (Lat 45.584, Long −117.540) upstream

to endpoint(s) in: Middle Fork Whisky Creek (45.590, −117.342); North Fork Whisky Creek (45.614, −117.331); Parsnip Creek (45.533, −117.419); South Fork Whisky Creek (45.590, −117.413); Straight Whisky Creek (45.622, −117.396); Wallowa River (45.427, −117.310); Whisky Creek (45.608, −117.397).

(iv) Bear Creek Watershed 1706010504. Outlet(s) = Bear Creek (Lat 45.584, Long −117.540) upstream to endpoint(s) in: Bear Creek (45.347, −117.500); Doc Creek (45.449, −117.572); Fox Creek (45.447, −117.562); Goat Creek (45.413, −117.519); Little Bear Creek (45.456, −117.500).

(v) Minam River Watershed 1706010505. Outlet(s) = Minam River (Lat 45.621, Long −117.720) upstream to endpoint(s) in: Cougar Creek (45.517, −117.672); Elk Creek (45.157, −117.480); Little Minam River (45.338, −117.643); Minam River (45.149, −117.392); Murphy Creek (45.414, −117.644); North Minam River (45.275, −117.520); Patrick Creek (45.426, −117.645); Squaw Creek (45.576, −117.706); Trout Creek (45.471, −117.652).

(vi) Lower Wallowa River Watershed 1706010506. Outlet(s) = Wallowa River (Lat 45.726, Long −117.784) upstream to endpoint(s) in: Deer Creek (45.452, −117.606); Dry Creek (45.650, −117.439); Fisher Creek (45.666, −117.750); Howard Creek (45.735, −117.695); Reagin Gulch (45.670, −117.559); Rock Creek (45.679, −117.620); Sage Creek (45.486, −117.590); Tamarack Canyon (45.656, −117.518); Unnamed (45.618, −117.629); Unnamed (45.654, −117.442); Unnamed (45.678, −117.556); Wallowa River (45.584, −117.540); Water Canyon (45.589, −117.614); Wise Creek (45.671, −117.705).

(6) Unit 6. Lower Grande Ronde Subbasin 17060106—*(i) Grande Ronde River/Rondowa Watershed 1706010601.* Outlet(s) = Grande Ronde River (Lat 45.896, Long −117.493) upstream to endpoint(s) in: Alder Creek (45.844, −117.750); Bear Creek (45.885, −117.752); Clear Creek (45.775, −117.714); Deep Creek (45.817, −117.651); East Grossman Creek (45.819, −117.625); Elbow Creek (45.927, −117.630); Grande Ronde River (45.726, −117.784); Grossman Creek (45.732, −117.614); Meadow Creek (45.825, −117.760); Sheep Creek (45.756, −117.797); Sickfoot Creek (45.842, −117.567); Unnamed (45.746, −117.656).

(ii) Grande Ronde River/Mud Creek Watershed 1706010602. Outlet(s) = Grande Ronde River (Lat 45.946, Long −117.450) upstream to endpoint(s) in: Bishop Creek (45.747, −117.555); Bobcat Creek (45.853, −117.370); Buck Creek (45.758, −117.298); Burnt Creek (45.769, −117.283); Courtney Creek (45.857, −117.314); Grande Ronde River (45.896, −117.493); Little Courtney Canyon (45.903, −117.385); McAllister Creek (45.683, −117.361); McCubbin Creek (45.700, −117.294); Mud Creek (45.633, −117.291); Unnamed (45.867, −117.329); Shamrock Creek (45.828, −117.335); Simmons Draw (45.730, −117.514); Sled Creek (45.730, −117.278); Teepee Creek (45.694, −117.349); Tope Creek (45.634, −117.330); Unnamed (45.710, −117.283); Unnamed (45.856, −117.312); Wallupa Creek (45.765, −117.528); Wildcat Creek (45.732, −117.489).

(iii) Wenaha River Watershed 1706010603. Outlet(s) = Wenaha River (Lat 45.946, Long −117.450) upstream to endpoint(s) in: Beaver Creek (46.002, −117.815); Crooked Creek (46.046, −117.624); First Creek (46.071, −117.519); Melton Creek (46.060, −117.566); Milk Creek (45.973, −117.902); North Fork Wenaha River (46.064, −117.912); Rock Creek (45.999, −117.766); Second Creek (46.065, −117.595); Slick Ear Creek (45.983, −117.784); South Fork Wenaha River (45.872, −117.897); Third Creek (46.089, −117.627); Weller Creek (45.989, −117.648); West Fork Butte Creek (46.064, −117.759).

(iv) Chesnimnus Creek Watershed 1706010604. Outlet(s) = Chesnimnus Creek (Lat 45.715, Long −117.155) upstream to endpoint(s) in: Alder Creek (45.702, −116.997); Billy Creek (45.815, −117.032); Butte Creek (45.641, −117.096); Chesnimnus Creek (45.718, −116.906); Deadman Gulch (45.659, −117.049); Devils Run Creek (45.775, −116.882); Doe Creek (45.751, −117.029); Dry Salmon Creek (45.663, −117.051); East Fork Peavine Creek (45.830, −117.061); Gooseberry Creek (45.681, −117.110); McCarty Gulch (45.749, −117.064); Peavine Creek (45.795, −117.084); Pine Creek (45.673, −117.029); Poison Creek (45.791, −116.979); Salmon Creek (45.662, −117.038); South Fork Chesnimnus Creek (45.743, −116.861); Sterling Gulch (45.712, −117.000); Summit Creek (45.794, −116.947); Telephone Gulch (45.767, −117.076); TNT Gulch (45.754, −116.919); Unnamed (45.694, −117.013); Unnamed (45.709, −116.878); Unnamed (45.724, −116.867); Unnamed (45.742, −117.090); Unnamed (45.825, −117.004); Unnamed (45.838, −117.009); Unnamed (45.846, −117.029); West Fork Peavine Creek (45.805, −117.100).

(v) Upper Joseph Creek Watershed 1706010605. Outlet(s) = Joseph Creek (Lat 45.823, Long −117.231) upstream to endpoint(s) in: Alford Gulch (45.729, −117.165); Cougar Creek (45.806, −117.150); Crow Creek (45.536, −117.115); Davis Creek (45.658, −117.257); Elk Creek (45.598, −117.167); Gould Gulch (45.657, −117.181); Little Elk Creek (45.694, −117.199); Sumac Creek (45.753, −117.148); Swamp Creek (45.543, −117.218); Unnamed (45.597, −117.141).

(vi) Lower Joseph Creek Watershed 1706010606. Outlet(s) = Joseph Creek (Lat 46.053, Long −117.005) upstream to endpoint(s) in: Basin Creek (45.910, −117.057); Broady Creek (45.882, −117.076); Cottonwood Creek (45.832, −116.950); Horse Creek (45.945, −116.962); Joseph Creek (45.823, −117.231); Peavine Creek (45.879, −117.162); Rush Creek (45.899, −117.150); Tamarack Creek (45.964, −117.127); Unnamed (45.826, −116.957); West Fork Broady Creek (45.862, −117.102).

(vii) Lower Grande Ronde River/Menatchee Creek Watershed 1706010607. Outlet(s) = Grande Ronde River (Lat 46.080, Long −116.978) upstream to endpoint(s) in: Bear Creek (45.973, −117.455); Buford Creek (45.975, −117.276); Cottonwood Creek (46.071, −117.301); Cougar Creek (46.049, −117.327); Deer Creek (45.992, −117.191); East Bear Creek (45.960, −117.307); Grande Ronde River (45.946, −117.450); Grouse Creek (46.031, −117.460); Menatchee Creek (46.018, −117.371); Rattlesnake Creek (46.079, −117.204); Shumaker Creek (46.049, −117.117); West Bear Creek (45.951, −117.337); West Branch Rattlesnake Creek (46.086, −117.258).

(7) Unit 7. Lower Snake/Tucannon Subbasin 17060107—*(i) Alpowa Creek Watershed 1706010701.* Outlet(s) = Alpowa Creek (Lat 46.422, Long −117.203) upstream to endpoint(s) in: Kidwell Gulch (46.338, −117.480); Page Creek (46.402, −117.210); Pow Wah Kee Creek (46.389, −117.288).

(ii) Snake River/Steptoe Canyon Watershed 1706010702. Outlet(s) = Snake River (Lat 46.660, Long −117.433) upstream to endpoint(s) in: Offield Canyon (46.648, −117.420); Snake River (46.428, −117.038); Steptoe Canyon (46.455, −117.192); Truax Canyon (46.565, −117.348); Wawawai Canyon (46.636, −117.375).

(iii) Deadman Creek Watershed 1706010703. Outlet(s) = Deadman Creek (Lat 46.626, Long −117.799) upstream to endpoint(s) in: Deadman Gulch

(46.574, −117.565); Lynn Gulch (46.628, −117.597); North Deadman Creek (46.578, −117.457); North Meadow Creek (46.517, −117.489); South Meadow Creek (46.507, −117.508).

(iv) Flat Creek Watershed 1706010704. Outlet(s) = Alkali Flat Creek (Lat 46.575, Long −118.087) upstream to endpoint(s) in: Alkali Flat Creek (46.653, −118.012).

(v) Upper Tucannon River Watershed 1706010706. Outlet(s) = Tucannon River (Lat 46.509, Long −117.995) upstream to endpoint(s) in: Cummings Creek (46.235, −117.610); Little Tucannon River (46.221, −117.758); Meadow Creek (46.163, −117.728); Panjab Creek (46.171, −117.709); Sheep Creek (46.196, −117.623); Tucannon River (46.168, −117.559); Tumalum Creek (46.315, −117.585).

(vi) Lower Tucannon River Watershed 1706010707. Outlet(s) = Tucannon River (Lat 46.558, Long −118.174) upstream to endpoint(s) in: Kellogg Creek (46.430, −118.067); Smith Hollow (46.463, −118.017); Tucannon River (46.509, −117.995).

(vii) Snake River/Penawawa Creek Watershed 1706010708. Outlet(s) = Snake River (Lat 46.589, Long −118.215) upstream to endpoint(s) in: Almota Creek (46.706, −117.363); Little Almota Creek (46.715, −117.465); Penawawa Creek (46.728, −117.625); Snake River (46.660, −117.433); Unnamed (46.698, −117.381).

(8) Unit 8. Palouse River Subbasin 17060108—*(i) Lower Palouse River Watershed 1706010808.* Outlet(s) = Palouse River (Lat 46.589, Long −118.215) upstream to endpoint(s) in: Palouse River (46.669, −118.223).

(9) Unit 9. Upper Salmon Subbasin 17060201—*(i) Salmon River/Challis Watershed 1706020101.* Outlet(s) = Salmon River (Lat 44.692, Long −114.049) upstream to endpoint(s) in: Challis Creek (44.563, −114.246); Salmon River (44.470, −114.192).

(ii) Salmon River/Bayhorse Creek Watershed 1706020104. Outlet(s) = Salmon River (Lat 44.470, Long −114.192) upstream to endpoint(s) in: Bayhorse Creek (44.395, −114.308); Salmon River (44.268, −114.326).

(iii) East Fork Salmon River/ McDonald Creek Watershed 1706020105. Outlet(s) = East Fork Salmon River (Lat 44.268, Long −114.326) upstream to endpoint(s) in: Big Lake Creek (44.165, −114.394); East Fork Salmon River (44.147, −114.378); McDonald Creek (44.091, −114.318); Pine Creek (44.136, −114.367).

(iv) Herd Creek Watershed 1706020108. Outlet(s) = Herd Creek (Lat 44.154, Long −114.300) upstream to endpoint(s) in: East Fork Herd Creek (44.037, −114.203); East Pass Creek (44.009, −114.369); Lake Creek (44.103, −114.194); Taylor Creek (44.067, −114.317); West Fork Herd Creek (44.032, −114.248).

(v) East Fork Salmon River/Big Boulder Creek Watershed 1706020109. Outlet(s) = East Fork Salmon River (Lat 44.147, Long −114.378) upstream to endpoint(s) in: Big Boulder Creek (44.131, −114.518); East Fork Salmon River (44.039, −114.461); Little Boulder Creek (44.065, −114.542).

(vi) Upper East Fork Salmon River Watershed 1706020110. Outlet(s) = East Fork Salmon River (Lat 44.039, Long −114.461) upstream to endpoint(s) in: Bowery Creek (44.0316, −114.4587); South Fork East Fork Salmon River (43.902, −114.562); West Fork East Fork Salmon River (43.929, −114.575); West Pass Creek (43.922, −114.446).

(vii) Germania Creek Watershed 1706020111. Outlet(s) = Germania Creek (Lat 44.039, Long −114.461) upstream to endpoint(s) in: Germania Creek (44.003, −114.532).

(viii) Salmon River/Kinnikinic Creek Watershed 1706020112. Outlet(s) = Salmon River (Lat 44.268, Long −114.326) upstream to endpoint(s) in: Salmon River (44.249, −114.454).

(ix) Salmon River/Slate Creek Watershed 1706020113. Outlet(s) = Salmon River (Lat 44.249, Long −114.454) upstream to endpoint(s) in: Holman Creek (44.250, −114.529); Salmon River (44.254, −114.675); Silver Rule Creek (44.198, −114.588); Slate Creek (44.168, −114.626); Thompson Creek (44.318, −114.588).

(x) Warm Springs Creek Watershed 1706020114. Outlet(s) = Warm Springs Creek (Lat 44.254, Long −114.675) upstream to endpoint(s) in: Warm Springs Creek (44.151, −114.718).

(xi) Salmon River/Big Casino Creek Watershed 1706020115. Outlet(s) = Salmon River (Lat 44.254, Long −114.675) upstream to endpoint(s) in: Big Casino Creek (44.216, −114.830); Little Casino Creek (44.224, −114.861); Lower Harden Creek (44.274, −114.778); Nip Tuck Creek (44.234, −114.929); Salmon River (44.169, −114.898); Upper Harden Creek (44.272, −114.791).

(xii) Salmon River/Fisher Creek Watershed 1706020117. Outlet(s) = Salmon River (Lat 44.169, Long −114.898) upstream to endpoint(s) in: Decker Creek (44.072, −114.879); Gold Creek (44.114, −114.846); Huckleberry Creek (44.061, −114.875); Salmon River (44.032, −114.836); Williams Creek (44.096, −114.852).

(xiii) Salmon River/Fourth of July Creek Watershed 1706020118. Outlet(s) = Salmon River (Lat 44.032, Long −114.836) upstream to endpoint(s) in: Champion Creek (44.019, −114.825); Fourth of July Creek (44.035, −114.784); Hell Roaring Creek (44.031, −114.856); Salmon River (44.004, −114.836); Unnamed (44.017, −114.879).

(xiv) Upper Salmon River Watershed 1706020119. Outlet(s) = Salmon River (Lat 44.004, Long −114.836) upstream to endpoint(s) in: Beaver Creek (43.919, −114.813); Camp Creek (43.876, −114.738); Frenchman Creek (43.822, −114.792); Pole Creek (43.940, −114.686); Salmon River (43.837, −114.759); Smiley Creek (43.829, −114.823); Twin Creek (43.935, −114.723); Unnamed (43.843, −114.742); Unnamed (43.990, −114.803).

(xv) Alturas Lake Creek Watershed 1706020120. Outlet(s) = Alturas Lake Creek (Lat 44.004, Long −114.836) upstream to endpoint(s) in: Alpine Creek (43.905, −114.923); Alturas Lake Creek (43.895, −114.910); Cabin Creek (43.937, −114.856); Pettit Lake Creek (43.961, −114.916); Unnamed (43.952, −114.858); Vat Creek (43.967, −114.871); Yellowbelly Creek (43.995, −114.847).

(xvi) Redfish Lake Creek Watershed 1706020121. Outlet(s) = Redfish Lake Creek (Lat 44.169, Long −114.898) upstream to endpoint(s) in: Fishhook Creek (44.137, −114.966); Redfish Lake Creek (44.097, −114.959).

(xvii) Valley Creek/Iron Creek Watershed 1706020122. Outlet(s) = Valley Creek (Lat 44.225, Long −114.927) upstream to endpoint(s) in: Crooked Creek (44.214, −115.034); Goat Creek (44.179, −115.008); Iron Creek (44.191, −115.025); Job Creek (44.242, −115.027); Meadow Creek (44.190, −114.961); Park Creek (44.281, −115.036); Stanley Creek (44.276, −114.938); Valley Creek (44.291, −115.018).

(xviii) Upper Valley Creek Watershed 1706020123. Outlet(s) = Valley Creek (Lat 44.291, Long −115.018); Stanley Lake Creek (44.2535, −115.0040) upstream to endpoint(s) in: East Fork Valley Creek (44.347, −114.999); Elk Creek (44.227, −115.145); Hanna Creek (44.314, −115.041); Meadow Creek (44.291, −115.119); Stanley Lake Creek (44.248, −115.045); Trap Creek (44.311, −115.121); Valley Creek (44.392, −114.980).

(xix) Basin Creek Watershed 1706020124. Outlet(s) = Basin Creek (Lat 44.264, Long −114.817) upstream to endpoint(s) in: Basin Creek (44.361, −114.902); East Basin Creek (44.314, −114.823).

(xx) Yankee Fork/Jordan Creek Watershed 1706020125. Outlet(s) = Yankee Fork (Lat 44.270, Long −114.734) upstream to endpoint(s) in: Eightmile Creek (44.448, −114.639); Fivemile Creek (44.355, −114.615); Jordan Creek (44.457, −114.752); Ramey Creek (44.355, −114.641); Sevenmile Creek (44.423, −114.608); Sixmile Creek (44.394, −114.585); Yankee Fork (44.426, −114.619).

(xxi) West Fork Yankee Fork Watershed 1706020126. Outlet(s) = West Fork Yankee Fork (Lat 44.351, Long −114.727) upstream to endpoint(s) in: Cabin Creek (44.428, −114.881); Deadwood Creek (44.356, −114.834); Lightning Creek (44.466, −114.787); Sawmill Creek (44.341, −114.765); West Fork Yankee Fork (44.386, −114.919).

(xxii) Upper Yankee Fork Watershed 1706020127. Outlet(s) = Yankee Fork (Lat 44.426, Long −114.619) upstream to endpoint(s) in: Elevenmile Creek (44.436, −114.544); McKay Creek (44.475, −114.491); Ninemile Creek (44.439, −114.590); Tenmile Creek (44.484, −114.646); Twelvemile Creek (44.497, −114.614); Yankee Fork (44.510, −114.588).

(xxiii) Squaw Creek Watershed 1706020128. Outlet(s) = Squaw Creek (Lat 44.249, Long −114.454) upstream to endpoint(s) in: Cash Creek (44.353, −114.473); Cinnabar Creek (44.359, −114.503); Squaw Creek (44.420, −114.489).

(xxiv) Garden Creek Watershed 1706020129. Outlet(s) = Garden Creek (Lat 44.511, Long −114.203) upstream to endpoint(s) in: Garden Creek (44.468, −114.325).

(xxv) Challis Creek/Mill Creek Watershed 1706020130. Outlet(s) = Challis Creek (Lat 44.563, Long −114.246) upstream to endpoint(s) in: Challis Creek (44.573, −114.309); Darling Creek (44.572, −114.252).

(xxvi) Morgan Creek Watershed 1706020132. Outlet(s) = Morgan Creek (Lat 44.612, Long −114.168) upstream to endpoint(s) in: Blowfly Creek (44.714, −114.326); Morgan Creek (44.681, −114.243); West Fork Morgan Creek (44.710, −114.335).

(10) Unit 10. Pahsimeroi Subbasin 17060202—*(i) Lower Pahsimeroi River Watershed 1706020201.* Outlet(s) = Pahsimeroi River (Lat 44.692, Long −114.049) upstream to endpoint(s) in: Pahsimeroi River (44.559, −113.900); Patterson Creek (44.561, −113.897).

(ii) Paterson Creek Watershed 1706020203. Outlet(s) = Patterson Creek (Lat 44.534, Long −113.837) upstream to endpoint(s) in: Patterson Creek (44.566, −113.670).

(11) Unit 11. Middle Salmon-Panther Subbasin 17060203—*(i) Salmon River/Colson Creek Watershed 1706020301.* Outlet(s) = Salmon River (Lat 45.297, Long −114.591) upstream to endpoint(s) in: Colson Creek (45.307, −114.531); Owl Creek (45.340, −114.462); Salmon River (45.316, −114.405).

(ii) Owl Creek Watershed 1706020302. Outlet(s) = Owl Creek (Lat 45.340, Long −114.462) upstream to endpoint(s) in: East Fork Owl Creek (45.367, −114.430); Owl Creek (45.382, −114.469).

(iii) Salmon River/Pine Creek Watershed 1706020303. Outlet(s) = Salmon River (Lat 45.316, Long −114.405) upstream to endpoint(s) in: Boulder Creek (45.385, −114.297); Pine Creek (45.307, −114.186); Salmon River (45.399, −114.168); Spring Creek (45.421, −114.278); Squaw Creek (45.449, −114.215).

(iv) Indian Creek Watershed 1706020304. Outlet(s) = Indian Creek (Lat 45.400, Long −114.167) upstream to endpoint(s) in: Indian Creek (45.523, −114.151); McConn Creek (45.519, −114.185); West Fork Indian Creek (45.481, −114.168).

(v) Salmon River/Moose Creek Watershed 1706020305. Outlet(s) = Salmon River (Lat 45.399, Long −114.168) upstream to endpoint(s) in: Dump Creek (45.369, −114.035); Fourth of July Creek (45.417, −113.857); Little Fourth of July Creek (45.396, −113.912); Moose Creek (45.346, −114.080); Salmon River (45.320, −113.909); Wagonhammer Creek (45.395, −113.945).

(vi) North Fork Salmon River Watershed 1706020306. Outlet(s) = North Fork Salmon River (Lat 45.405, Long −113.994) upstream to endpoint(s) in: Anderson Creek (45.577, −113.918); Dahlonega Creek (45.559, −113.845); Ditch Creek (45.534, −113.994); Hughes Creek (45.541, −114.069); Hull Creek (45.471, −114.016); Moose Creek (45.674, −113.951); Pierce Creek (45.640, −113.937); Sheep Creek (45.502, −113.889); Smithy Creek (45.575, −113.889); Threemile Creek (45.577, −113.866); Twin Creek (45.591, −114.081).

(vii) Salmon River/Tower Creek Watershed 1706020307. Outlet(s) = Salmon River (Lat 45.320, Long −113.909) upstream to endpoint(s) in: Salmon River (45.250, −113.899); Tower Creek (45.367, −113.857); Wallace Creek (45.2645, −113.9035).

(viii) Carmen Creek Watershed 1706020308. Outlet(s) = Carmen Creek (Lat 45.250, Long −113.899) upstream to endpoint(s) in: Carmen Creek (45.316, −113.800); Freeman Creek (45.269, −113.752).

(ix) Salmon River/Jesse Creek Watershed 1706020309. Outlet(s) = Salmon River (Lat 45.250, Long −113.899) upstream to endpoint(s) in: Salmon River (45.109, −113.901); Unnamed (45.180, −113.930).

(x) Salmon River/Williams Creek Watershed 1706020310. Outlet(s) = Salmon River (Lat 45.109, Long −113.901) upstream to endpoint(s) in: Salmon River (45.011, −113.932); Williams Creek (45.081, −113.935).

(xi) Salmon River/Twelvemile Creek Watershed 1706020311. Outlet(s) = Salmon River (Lat 45.011, Long −113.932) upstream to endpoint(s) in: Lake Creek (45.015, −113.959); Salmon River (44.896, −113.963); Twelvemile Creek (45.011, −113.927).

(xii) Salmon River/Cow Creek Watershed 1706020312. Outlet(s) = Salmon River (Lat 44.896, Long −113.963) upstream to endpoint(s) in: Cow Creek (44.730, −113.940); McKim Creek (44.810, −114.008); Poison Creek (44.876, −113.934); Salmon River (44.692, −114.049); Warm Spring Creek (44.913, −113.914).

(xiii) Hat Creek Watershed 1706020313. Outlet(s) = Hat Creek (Lat 44.795, Long −114.001) upstream to endpoint(s) in: Hat Creek (44.785, −114.040).

(xiv) Iron Creek Watershed 1706020314. Outlet(s) = Iron Creek (Lat 44.887, Long −113.968) upstream to endpoint(s) in: Iron Creek (44.921, −114.124).

(xv) Upper Panther Creek Watershed 1706020315. Outlet(s) = Panther Creek (Lat 45.022, Long −114.313) upstream to endpoint(s) in: Cabin Creek (44.957, −114.365); Opal Creek (44.901, −114.307); Panther Creek (44.887, −114.305); Porphyry Creek (45.034, −114.388).

(xvi) Moyer Creek Watershed 1706020316. Outlet(s) = Moyer Creek (Lat 45.024, Long −114.311) upstream to endpoint(s) in: Moyer Creek (44.949, −114.265); South Fork Moyer Creek (44.944, −114.305).

(xvii) Panther Creek/Woodtick Creek Watershed 1706020317. Outlet(s) = Panther Creek (Lat 45.079, Long −114.251) upstream to endpoint(s) in: Copper Creek (45.060, −114.258); Fawn Creek (45.073, −114.247); Musgrove Creek (45.054, −114.368); Panther Creek (45.022, −114.313); Woodtick Creek (45.008, −114.235).

(xviii) Deep Creek Watershed 1706020318. Outlet(s) = Deep Creek (Lat 45.126, Long −114.215) upstream to endpoint(s) in: Deep Creek (45.108, −114.179).

(xix) Panther Creek/Spring Creek Watershed 1706020320. Outlet(s) = Panther Creek (45.176, Long −114.314) upstream to endpoint(s) in: Little Deer Creek (45.156, −114.298); Panther Creek (45.079, −114.251); Spring Creek (45.088, −114.223).

(xx) Panther Creek/Trail Creek Watershed 1706020322. Outlet(s) = Panther Creek (Lat 45.316, Long −114.405) upstream to endpoint(s) in: Beaver Creek (45.2816, −114.2744); Garden Creek (45.2959, −114.4293); Trail Creek (45.2318, −114.2663); Panther Creek (45.176, −114.314).

(xxi) Clear Creek Watershed 1706020323. Outlet(s) = Clear Creek (Lat 45.295, Long −114.351) upstream to endpoint(s) in: Clear Creek (45.210, −114.485).

(12) Unit 12. Lemhi Subbasin 17060204—*(i) Lemhi River/Bohannon Creek Watershed 1706020401.* Outlet(s) = Lemhi River (Lat 45.188, Long −113.889) upstream to endpoint(s) in: Bohannon Creek (45.189, −113.692); Lemhi River (45.098, −113.720).

(ii) Lemhi River/Whimpey Creek Watershed 1706020402. Outlet(s) = Lemhi River (Lat 45.098, Long −113.720) upstream to endpoint(s) in: Lemhi River (45.032, −113.662); Wimpey Creek (45.131, −113.678); Withington Creek (45.058, −113.750).

(iii) Lemhi River/Kenney Creek Watershed 1706020403. Outlet(s) = Lemhi River (Lat 45.032, Long −113.662) upstream to endpoint(s) in: Kenney Creek (45.087, −113.551); Lemhi River (44.940, −113.639).

(iv) Agency Creek Watershed 1706020404. Outlet(s) = Agency Creek (Lat 44.964, Long −113.647) upstream to endpoint(s) in: Agency Creek (44.949, −113.600).

(v) Lemhi River/McDevitt Creek Watershed 1706020405. Outlet(s) = Lemhi River (Lat 44.940, Long −113.639) upstream to endpoint(s) in: Lemhi River (44.870, −113.626).

(vi) Lemhi River/Yearian Creek Watershed 1706020406. Outlet(s) = Lemhi River (Lat 44.867, Long −113.626) upstream to endpoint(s) in: Lemhi River (44.778, −113.535).

(vii) Peterson Creek Watershed 1706020407. Outlet(s) = Lemhi River (Lat 44.778, Long −113.535) upstream to endpoint(s) in: Lemhi River (44.739, −113.459).

(viii) Big Eight Mile Creek Watershed 1706020408. Outlet(s) = Lemhi River (Lat 44.739, Long −113.459) upstream to endpoint(s) in: Lemhi River (44.692, −113.366).

(ix) Canyon Creek Watershed 1706020409. Outlet(s) = Lemhi River (Lat 44.692, Long −113.366) upstream to endpoint(s) in: Lemhi River (44.682, −113.355).

(x) Hayden Creek Watershed 1706020414. Outlet(s) = Hayden Creek (Lat 44.870, Long −113.626) upstream to endpoint(s) in: Bear Valley Creek (44.796, −113.790); East Fork Hayden Creek (44.708, −113.661); Hayden Creek (44.726, −113.769); Kadletz Creek (44.761, −113.767); West Fork Hayden Creek (44.706, −113.768); Wright Creek (44.759, −113.794).

(13) Unit 13. Upper Middle Fork Salmon Subbasin 17060205—*(i) Lower Loon Creek Watershed 1706020501.* Outlet(s) = Loon Creek (Lat 44.808, Long −114.811) upstream to endpoint(s) in: Cabin Creek (44.742, −114.708); Loon Creek (44.552, −114.849).

(ii) Warm Springs Watershed 1706020502. Outlet(s) = Warm Spring Creek (Lat 44.653, Long −114.736) upstream to endpoint(s) in: Trapper Creek (44.504, −114.617); Warm Spring Creek (44.609, −114.481).

(iii) Upper Loon Creek Watershed 1706020503. Outlet(s) = Loon Creek (Lat 44.552, Long −114.849) upstream to endpoint(s) in: Cottonwood Creek (44.593, −114.679); East Fork Mayfield Creek (44.494, −114.700); Loon Creek (44.469, −114.923); Pioneer Creek (44.466, −114.873); South Fork Cottonwood Creek (44.563, −114.780); Trail Creek (44.506, −114.959); West Fork Mayfield Creek (44.473, −114.730).

(iv) Little Loon Creek Watershed 1706020504. Outlet(s) = Little Loon Creek (Lat 44.731, Long −114.940) upstream to endpoint(s) in: Little Loon Creek (44.615, −114.963).

(v) Rapid River Watershed 1706020505. Outlet(s) = Rapid River (Lat 44.680, Long −115.152) upstream to endpoint(s) in: Float Creek (44.546, −115.148); North Fork Sheep Creek (44.656, −114.997); Rapid River (44.551, −115.007); South Fork Sheep Creek (44.628, −114.988); Vanity Creek (44.500, −115.072).

(vi) Marsh Creek Watershed 1706020506. Outlet(s) = Marsh Creek (Lat 44.449, Long −115.230) upstream to endpoint(s) in: Asher Creek (44.374, −115.126); Banner Creek (44.291, −115.187); Bear Creek (44.490, −115.098); Beaver Creek (44.494, −114.964); Camp Creek (44.384, −115.144); Cape Horn Creek (44.333, −115.287); Knapp Creek (44.424, −114.915); Marsh Creek (44.329, −115.091); Swamp Creek (44.300, −115.175); Winnemucca Creek (44.479, −114.972).

(vii) Middle Fork Salmon River/ Soldier Creek Watershed 1706020507. Outlet(s) = Middle Fork Salmon River (Lat 44.680, Long −115.152) upstream to endpoint(s) in: Boundary Creek (44.507, −115.328); Dagger Creek (44.498, −115.307); Elkhorn Creek (44.582, −115.369); Greyhound Creek (44.626, −115.158); Middle Fork Salmon River (44.449, −115.230); Soldier Creek (44.528, −115.201).

(viii) Bear Valley Creek Watershed 1706020508. Outlet(s) = Bear Valley Creek (Lat 44.449, Long −115.230) upstream to endpoint(s) in: Ayers Creek (44.454, −115.330); Bear Valley Creek (44.236, −115.499); Bearskin Creek (44.331, −115.528); Cache Creek (44.286, −115.409); Cold Creek (44.371, −115.317); Cook Creek (44.389, −115.438); East Fork Elk Creek (44.481, −115.359); Fir Creek (44.354, −115.296); Little Beaver Creek (44.415, −115.504); Little East Fork Elk Creek (44.479, −115.407); Mace Creek (44.289, −115.443); North Fork Elk Creek (44.527, −115.458); Poker Creek (44.444, −115.345); Pole Creek (44.361, −115.366); Porter Creek (44.466, −115.529); Sack Creek (44.320, −115.351); Sheep Trail Creek (44.360, −115.451); West Fork Elk Creek (44.485, −115.499); Wyoming Creek (44.362, −115.335).

(ix) Sulphur Creek Watershed 1706020509. Outlet(s) = Sulphur Creek (Lat 44.555, Long −115.297) upstream to endpoint(s) in: Blue Moon Creek (44.572, −115.364); Full Moon Creek (44.535, −115.400); Honeymoon Creek (44.605, −115.399); North Fork Sulphur Creek (44.583, −115.467); Sulphur Creek (44.510, −115.518).

(x) Pistol Creek Watershed 1706020510. Outlet(s) = Pistol Creek (Lat 44.724, Long −115.149) upstream to endpoint(s) in: Little Pistol Creek (44.721, −115.404); Luger Creek (44.636, −115.386); Pistol Creek (44.644, −115.442).

(xi) Indian Creek Watershed 1706020511. Outlet(s) = Indian Creek (Lat 44.770, Long −115.089) upstream to endpoint(s) in: Big Chief Creek (44.817, −115.368); Indian Creek (44.803, −115.383); Little Indian Creek (44.879, −115.226).

(xii) Upper Marble Creek Watershed 1706020512. Outlet(s) = Marble Creek (Lat 44.797, Long −114.971) upstream to endpoint(s) in: Big Cottonwood Creek (44.879, −115.206); Canyon Creek (44.822, −114.943); Cornish Creek (44.933, −115.127); Dynamite Creek (44.871, −115.207); Marble Creek (44.983, −115.079); Trail Creek (44.917, −114.930).

(xiii) Middle Fork Salmon River/ Lower Marble Creek Watershed 1706020513. Outlet(s) = Middle Fork Salmon River (Lat 44.808, Long −114.811) upstream to endpoint(s) in: Marble Creek (44.797, −114.971);

Middle Fork Salmon River (44.680, −115.152).

(14) Unit 14. Lower Middle Fork Salmon Subbasin 17060206—*(i) Lower Middle Fork Salmon River Watershed 1706020601.* Outlet(s) = Middle Fork Salmon River (Lat 45.297, Long −114.591) upstream to endpoint(s) in: Middle Fork Salmon River (45.095, −114.732); Roaring Creek (45.186, −114.574); Stoddard Creek (45.244, −114.702).

(ii) Wilson Creek Watershed 1706020602. Outlet(s) = Wilson Creek (Lat 45.033, Long −114.723) upstream to endpoint(s) in: Wilson Creek (45.032, −114.659).

(iii) Middle Fork Salmon River/Brush Creek Watershed 1706020603. Outlet(s) = Middle Fork Salmon River (Lat 45.095, Long −114.732) upstream to endpoint(s) in: Brush Creek (44.955, −114.733); Middle Fork Salmon River (44.958, −114.747).

(iv) Yellow Jacket Creek Watershed 1706020604. Outlet(s) = Yellowjacket Creek (Lat 44.892, Long −114.644) upstream to endpoint(s) in: Beagle Creek (44.993, −114.466); Hoodoo Creek (44.993, −114.568); Lake Creek (44.967, −114.603); Little Jacket Creek (44.931, −114.505); Meadow Creek (44.984, −114.481); Shovel Creek (45.006, −114.463); Trail Creek (44.939, −114.461); Yellowjacket Creek (45.050, −114.480).

(v) Silver Creek Watershed 1706020605. Outlet(s) = Silver Creek (Lat 44.830, Long −114.501) upstream to endpoint(s) in: Silver Creek (44.856, −114.458).

(vi) Upper Camas Creek Watershed 1706020606. Outlet(s) = Camas Creek (Lat 44.830, Long −114.501) upstream to endpoint(s) in: Castle Creek (44.825, −114.415); Fly Creek (44.703, −114.509); Furnace Creek (44.767, −114.421); J Fell Creek (44.669, −114.459); South Fork Camas Creek (44.731, −114.553); Spider Creek (44.688, −114.495); White Goat Creek (44.731, −114.460).

(vii) West Fork Camas Creek Watershed 1706020607. Outlet(s) = West Fork Camas Creek (Lat 44.831, Long −114.504) upstream to endpoint(s) in: Flume Creek (44.806, −114.526); Martindale Creek (44.822, −114.560); West Fork Camas Creek (44.795, −114.595).

(viii) Lower Camas Creek Watershed 1706020608. Outlet(s) = Camas Creek (Lat 44.892, Long −114.722) upstream to endpoint(s) in: Camas Creek (44.830, −114.501); Duck Creek (44.852, −114.521); Woodtick Creek (44.870, −114.636).

(ix) Middle Fork Salmon River/Sheep Creek Watershed 1706020609. Outlet(s) = Middle Fork Salmon River (Lat 44.955, Long −114.733) upstream to endpoint(s) in: Middle Fork Salmon River (44.808, −114.811); Sheep Creek (44.923, −114.873).

(x) Rush Creek Watershed 1706020610. Outlet(s)=Rush Creek (Lat 45.105, Long −114.861) upstream to endpoint(s) in: Rush Creek (44.958, −114.992); South Fork Rush Creek (45.013, −114.972); Two Point Creek (45.027, −114.947).

(xi) Monumental Creek Watershed 1706020611. Outlet(s)=Monumental Creek (Lat 45.160, Long −115.129) upstream to endpoint(s) in: Monumental Creek (44.952, −115.179); Snowslide Creek (45.055, −115.266); West Fork Monumental Creek (45.011, −115.244).

(xii) Big Creek/Little Marble Creek Watershed 1706020612. Outlet(s) = Big Creek (Lat 45.163, Long −115.128) upstream to endpoint(s) in: Big Creek (45.153, −115.297); Little Marble Creek (45.062, −115.276).

(xiii) Upper Big Creek Watershed 1706020613. Outlet(s) = Big Creek (Lat 45.153, Long −115.297) upstream to endpoint(s) in: Big Creek (45.075, −115.342); Jacobs Ladder Creek (45.063, −115.322); Middle Fork Smith Creek (45.166, −115.411); Smith Creek (45.170, −115.380); Unnamed (45.129, −115.422).

(xiv) Beaver Creek Watershed 1706020614. Outlet(s) = Beaver Creek (Lat 45.163, Long −115.242) upstream to endpoint(s) in: Beaver Creek (45.242, −115.314); Coin Creek (45.218, −115.328); HCreek (45.266, −115.270).

(xv) Big Ramey Creek Watershed 1706020615. Outlet(s) = Big Ramey Creek (Lat 45.177, Long −115.159) upstream to endpoint(s) in: Big Ramey Creek (45.279, −115.243).

(xvi) Big Creek/Crooked Creek Watershed 1706020616. Outlet(s) = Big Creek (Lat 45.127, Long −114.935) upstream to endpoint(s) in: Big Creek (45.163, −115.128); Cave Creek (45.219, −114.916); Coxey Creek (45.181, −115.022); East Fork Crooked Creek (45.250, −114.975); Fawn Creek (45.125, −115.032); West Fork Crooked Creek (45.251, −115.117).

(xvii) Lower Big Creek Watershed 1706020617. Outlet(s) = Big Creek (Lat 45.095, Long −114.732) upstream to endpoint(s) in: Big Creek (45.127, −114.935); Cabin Creek (45.195, −114.837); Canyon Creek (45.087, −114.997); Cliff Creek (45.127, −114.857); Cougar Creek (45.138, −114.813); Pioneer Creek (45.066, −114.842).

(15) Unit 15. Middle Salmon−Chamberlain Subbasin 17060207—*(i) Salmon River/Fall Creek Watershed 1706020701.* Outlet(s) = Salmon River (Lat 45.426, Long −116.025) upstream to endpoint(s) in: Carey Creek (45.4242, −115.9343); Fall Creek (45.4153, −115.9755); Salmon River (45.455, −115.941).

(ii) Salmon River/California Creek Watershed 1706020703. Outlet(s) = Salmon River (Lat 45.455, Long −115.941) upstream to endpoint(s) in: Bear Creek (45.435, −115.852); Bull Creek (45.482, −115.716); California Creek (45.341, −115.850); Cottontail Creek (45.388, −115.752); Maxwell Creek (45.392, −115.841); Salmon River (45.434, −115.666).

(iii) Sheep Creek Watershed 1706020704. Outlet(s) = Sheep Creek (Lat 45.468, Long −115.810) upstream to endpoint(s) in: East Fork Sheep Creek (45.546, −115.769); Meadow Creek (45.544, −115.792); Plummer Creek (45.531, −115.807); Porcupine Creek (45.506, −115.817); Sheep Creek (45.591, −115.705).

(iv) Crooked Creek Watershed 1706020705. Outlet(s) = Crooked Creek (Lat 45.434, Long −115.666) upstream to endpoint(s) in: Arlington Creek (45.491, −115.678); Crooked Creek (45.515, −115.554); Lake Creek (45.616, −115.686).

(v) Salmon River/Rabbit Creek Watershed 1706020706. Outlet(s) = Salmon River (Lat 45.434, Long −115.666) upstream to endpoint(s) in: Indian Creek (45.409, −115.608); Rabbit Creek (45.416, −115.667); Salmon River (45.378, −115.512).

(vi) Salmon River/Trout Creek Watershed 1706020708. Outlet(s) = Salmon River (Lat 45.378, Long −115.512) upstream to endpoint(s) in: Big Blowout Creek (45.468, −115.432); Big Elkhorn Creek (45.521, −115.331); Fivemile Creek (45.391, −115.452); Jersey Creek (45.494, −115.531); Little Fivemile Creek (45.416, −115.425); Little Mallard Creek (45.538, −115.317); Rhett Creek (45.483, −115.410); Richardson Creek (45.499, −115.265); Salmon River (45.567, −115.191); Trout Creek (45.396, −115.315).

(vii) Bargamin Creek Watershed 1706020709. Outlet(s) = Bargamin Creek (Lat 45.567, Long −115.191) upstream to endpoint(s) in: Bargamin Creek (45.706, −115.046); Cache Creek (45.691, −115.180); Porcupine Creek (45.725, −115.128); Prospector Creek (45.688, −115.153); Rainey Creek (45.617, −115.210); Salt Creek (45.643, −115.189).

(viii) Salmon River/Rattlesnake Creek Watershed 1706020710. Outlet(s) = Salmon River (Lat 45.567, Long −115.191) upstream to endpoint(s) in: Rattlesnake Creek (45.560, −115.143); Salmon River (45.511, −115.041).

(ix) Sabe Creek Watershed 1706020711. Outlet(s) = Sabe Creek (Lat 45.507, Long −115.024) upstream to endpoint(s) in: Center Creek (45.573, −115.040); Hamilton Creek (45.544, −114.826).

(x) Salmon River/Hot Springs Creek Watershed 1706020712. Outlet(s) = Salmon River (Lat 45.511, Long −115.041) upstream to endpoint(s) in: Big Harrington Creek (45.498, −114.895); Hot Springs Creek (45.465, −115.135); Salmon River (45.454, −114.931).

(xi) Salmon River/Disappointment Creek Watershed 1706020713. Outlet(s) = Salmon River (Lat 45.454, Long −114.931) upstream to endpoint(s) in: Salmon River (45.395, −114.732).

(xii) Horse Creek Watershed 1706020714. Outlet(s) = Horse Creek (Lat 45.395, Long −114.732) upstream to endpoint(s) in: East Fork Reynolds Creek (45.541, −114.493); Horse Creek (45.498, −114.421); Reynolds Creek (45.555, −114.558); West Horse Creek (45.494, −114.754).

(xiii) Salmon River/Kitchen Creek Watershed 1706020715. Outlet(s) = Salmon River (Lat 45.395, Long −114.732) upstream to endpoint(s) in: Corn Creek (45.370, −114.681); Kitchen Creek (45.295, −114.752); Salmon River (45.297, −114.591).

(xiv) Cottonwood Creek Watershed 1706020716. Outlet(s) = Cottonwood Creek (Lat 45.394, Long −114.802) upstream to endpoint(s) in: Cottonwood Creek (45.354, −114.823).

(xv) Lower Chamberlain/McCalla Creek Watershed 1706020717. Outlet(s) = Chamberlain Creek (Lat 45.454, Long −114.931) upstream to endpoint(s) in: McCalla Creek (45.321, −115.115); Unnamed (45.433, −114.935); Whimstick Creek (45.241, −115.053).

(xvi) Upper Chamberlain Creek Watershed 1706020718. Outlet(s) = Chamberlain Creek (Lat 45.414, Long −114.981) upstream to endpoint(s) in: Flossie Creek (45.384, −115.248); Lodgepole Creek (45.305, −115.254); Moose Creek (45.283, −115.292); South Fork Chamberlain Creek (45.288, −115.342).

(xvii) Warren Creek Watershed 1706020719. Outlet(s) = Warren Creek (Lat 45.397, Long −115.592) upstream to endpoint(s) in: Richardson Creek (45.372, −115.625); Slaughter Creek (45.269, −115.648); Steamboat Creek (45.259, −115.722); Warren Creek (45.248, −115.653).

(16) Unit 16. South Fork Salmon Subbasin 17060208—*(i) Lower South Fork Salmon River Watershed 1706020801.* Outlet(s) = South Fork Salmon River (Lat 45.378, Long −115.512) upstream to endpoint(s) in: Big Buck Creek (45.253, −115.554); Pony Creek (45.209, −115.663); Porphyry Creek (45.255, −115.462); Smith Creek (45.265, −115.550); South Fork Salmon River (45.156, −115.585).

(ii) South Fork Salmon River/Sheep Creek Watershed 1706020802. Outlet(s) = South Fork Salmon River (Lat 45.156, Long −115.585) upstream to endpoint(s) in: Bear Creek (45.124, −115.643); Contux Creek (45.155, −115.620); Deer Creek (45.162, −115.606); Elk Creek (45.149, −115.506); Sheep Creek (45.039, −115.583); South Fork Salmon River (45.025, −115.706).

(iii) Lower East Fork South Fork Salmon River Watershed 1706020803. Outlet(s) = East Fork South Fork Salmon River (Lat 45.015, Long −115.713) upstream to endpoint(s) in: Caton Creek (44.900, −115.584); East Fork South Fork Salmon River (44.963, −115.501); Loosum Creek (44.918, −115.529); Parks Creek (44.969, −115.530).

(iv) Upper East Fork South Fork Salmon River Watershed 1706020804. Outlet(s) = East Fork South Fork Salmon River (Lat 44.963, Long −115.501) upstream to endpoint(s) in: East Fork South Fork Salmon River (44.934, −115.336); Profile Creek (45.035, −115.409); Quartz Creek (45.048, −115.496); Salt Creek (44.962, −115.329); Sugar Creek (44.975, −115.245); Tamarack Creek (44.995, −115.318).

(v) Lower Johnson Creek Watershed 1706020805. Outlet(s) = Johnson Creek (Lat 44.963, Long −115.501) upstream to endpoint(s) in: Johnson Creek (44.803, −115.518); Riordan Creek (44.898, −115.472); Trapper Creek (44.829, −115.508).

(vi) Burntlog Creek Watershed 1706020806. Outlet(s) = Burntlog Creek (Lat 44.803, Long −115.518) upstream to endpoint(s) in: Burntlog Creek (44.718, −115.419).

(vii) Upper Johnson Creek Watershed 1706020807. Outlet(s) = Johnson Creek (Lat 44.803, Long −115.518) upstream to endpoint(s) in: Boulder Creek (44.565, −115.595); Johnson Creek (44.550, −115.590); Landmark Creek (44.630, −115.574); Rock Creek (44.600, −115.592); S Creek (44.609, −115.413); Whiskey Creek (44.563, −115.486).

(viii) Upper South Fork Salmon River Watershed 1706020808. Outlet(s) = South Fork Salmon River (Lat 44.652, Long −115.703) upstream to endpoint(s) in: Bear Creek (44.607, −115.600); Camp Creek (44.605, −115.633); Curtis Creek (44.593, −115.752); Lodgepole Creek (44.576, −115.610); Mormon Creek (44.499, −115.654); Rice Creek (44.510, −115.644); South Fork Salmon River (44.480, −115.688); Tyndall Creek (44.568, −115.736).

(ix) South Fork Salmon River/Cabin Creek Watershed 1706020809. Outlet(s) = South Fork Salmon River (Lat 44.759, Long −115.684) upstream to endpoint(s) in: Cabin Creek (44.713, −115.638); Dollar Creek (44.759, −115.751); North Fork Dollar Creek (44.755, −115.745); Six-Bit Creek (44.684, −115.724); South Fork Salmon River (44.652, −115.703); Two-Bit Creek (44.655, −115.747); Warm Lake Creek (44.653, −115.662).

(x) South Fork Salmon River/ Blackmare Creek Watershed 1706020810. Outlet(s) = South Fork Salmon River (Lat 44.898, Long −115.715) upstream to endpoint(s) in: Blackmare Creek (44.809, −115.795); Camp Creek (44.889, −115.691); Cougar Creek (44.823, −115.804); Phoebe Creek (44.910, −115.705); South Fork Salmon River (44.759, −115.684).

(xii) Buckhorn Creek Watershed 1706020811. Outlet(s) = Buckhorn Creek (Lat 44.922, Long −115.736) upstream to endpoint(s) in: Buckhorn Creek (44.881, −115.856); Little Buckhorn Creek (44.902, −115.756); West Fork Buckhorn Creek (44.909, −115.832).

(xiii) South Fork Salmon River/Fitsum Creek Watershed 1706020812. Outlet(s) = South Fork Salmon River (Lat 45.025, Long −115.706) upstream to endpoint(s) in: Fitsum Creek (44.996, −115.784); North Fork Fitsum Creek (44.992, −115.870); South Fork Fitsum Creek (44.981, −115.768); South Fork Salmon River (44.898, −115.715).

(xiv) Lower Secesh River Watershed 1706020813. Outlet(s) = Secesh River (Lat 45.025, Long −115.706) upstream to endpoint(s) in: Cly Creek (45.031, −115.911); Hum Creek (45.070, −115.903); Lick Creek (45.049, −115.906); Secesh River (45.183, −115.821); Split Creek (45.109, −115.805); Zena Creek (45.057, −115.732).

(xv) Middle Secesh River Watershed 1706020814. Outlet(s) = Secesh River (Lat 45.183, Long −115.821) upstream to endpoint(s) in: Grouse Creek (45.289, −115.835); Secesh River (45.257, −115.895); Victor Creek (45.186, −115.831).

(xiv) Upper Secesh River Watershed 1706020815. Outlet(s) = Secesh River (Lat 45.257, Long −115.895) upstream to endpoint(s) in: Lake Creek (45.374, −115.867); Threemile Creek (45.334, −115.891).

(17) Unit 17. Lower Salmon Subbasin 17060209—*(i) Salmon River/China Creek Watershed 1706020901.* Outlet(s) = Salmon River (Lat 45.857, Long −116.794) upstream to endpoint(s) in: China Creek (46.004, −116.817); Flynn

Creek (45.911, −116.714); Salmon River (45.999, −116.695); Wapshilla Creek (45.945, −116.766).

(ii) Eagle Creek Watershed 1706020902. Outlet(s) = Eagle Creek (Lat 45.997, Long −116.700) upstream to endpoint(s) in: Eagle Creek (46.057, −116.814).

(iii) Deer Creek Watershed 1706020903. Outlet(s) = Deer Creek (Lat 45.999, Long −116.695) upstream to endpoint(s) in: Deer Creek (46.051, −116.702).

(iv) Salmon River/Cottonwood Creek Watershed 1706020904. Outlet(s) = Salmon River (Lat 45.999, Long −116.695) upstream to endpoint(s) in: Billy Creek (45.990, −116.643); Cottonwood Creek (45.932, −116.598); Maloney Creek (46.068, −116.625); Salmon River (46.038, −116.625); West Fork Maloney Creek (46.061, −116.632).

(v) Salmon River/Deep Creek Watershed 1706020905. Outlet(s) = Salmon River (Lat 46.038, Long −116.625) upstream to endpoint(s) in: Burnt Creek (45.966, −116.548); Deep Creek (46.005, −116.547); Round Spring Creek (45.972, −116.501); Salmon River (45.911, −116.410); Telcher Creek (45.978, −116.443).

(vi) Rock Creek Watershed 1706020906. Outlet(s) = Rock Creek (Lat 45.905, Long −116.396) upstream to endpoint(s) in: Grave Creek (45.978, −116.359); Johns Creek (45.930, −116.245); Rock Creek (45.919, −116.245).

(vii) Salmon River/Hammer Creek Watershed 1706020907. Outlet(s) = Salmon River (Lat 45.911, Long −116.410) upstream to endpoint(s) in: Salmon River (45.752, −116.322).

(viii) White Bird Creek Watershed 1706020908. White Bird Creek (Lat 45.752, Long −116.322) upstream to endpoint(s) in: Asbestos Creek (45.722, −116.050); Cabin Creek (45.842, −116.110); Chapman Creek (45.841, −116.216); Cold Springs Creek (45.716, −116.037); Fish Creek (45.865, −116.084); Jungle Creek (45.739, −116.063); Little White Bird Creek (45.740, −116.087); North Fork White Bird Creek (45.797, −116.089); Pinnacle Creek (45.779, −116.086); South Fork White Bird Creek (45.772, −116.028); Twin Cabins Creek (45.782, −116.048); Unnamed (45.809, −116.086); Unnamed (45.841, −116.114); Unnamed (45.858, −116.105).

(ix) Salmon River/McKinzie Creek Watershed 1706020909. Outlet(s) = Salmon River (Lat 45.752, Long −116.322) upstream to endpoint(s) in: Deer Creek (45.706, −116.332); McKinzie Creek (45.676, −116.260); Salmon River (45.640, −116.284); Sotin Creek (45.725, −116.341).

(x) Skookumchuck Creek Watershed 1706020910. Outlet(s) = Skookumchuck Creek (Lat 45.700, Long −116.317) upstream to endpoint(s) in: North Fork Skookumchuck Creek (45.728, −116.114); South Fork Skookumchuck Creek (45.711, −116.197).

(xi) Slate Creek Watershed 1706020911. Outlet(s) = Slate Creek (Lat 45.640, Long −116.284) upstream to endpoint(s) in: Deadhorse Creek (45.603, −116.093); Little Slate Creek (45.587, −116.075); North Fork Slate Creek (45.671, −116.095); Slate Creek (45.634, −116.000); Slide Creek (45.662, −116.146); Waterspout Creek (45.631, −116.115).

(xii) Salmon River/John Day Creek Watershed 1706020912. Outlet(s) = Salmon River (Lat 45.640, Long −116.284) upstream to endpoint(s) in: China Creek (45.547, −116.310); Cow Creek (45.539, −116.330); East Fork John Day Creek (45.575, −116.221); Fiddle Creek (45.495, −116.269); John Day Creek (45.564, −116.220); Race Creek (45.437, −116.316); South Fork Race Creek (45.440, −116.403); West Fork Race Creek (45.464, −116.352).

(xiii) Salmon River/Lake Creek Watershed 1706020913. Outlet(s) = Salmon River (Lat 45.437, Long −116.316) upstream to endpoint(s) in: Allison Creek (45.507, −116.156); Berg Creek (45.426, −116.244); Lake Creek (45.294, −116.219); Salmon River (45.418, −116.162); West Fork Allison Creek (45.457, −116.184); West Fork Lake Creek (45.370, −116.241).

(xiv) Salmon River/Van Creek Watershed 1706020914. Outlet(s) = Salmon River (Lat 45.418, Long −116.162) upstream to endpoint(s) in: Robbins Creek (45.430, −116.026); Salmon River (45.426, −116.025); Van Creek (45.431, −116.138).

(xv) French Creek Watershed 1706020915. Outlet(s) = French Creek (Lat 45.425, Long −116.030) upstream to endpoint(s) in: French Creek (45.375, −116.040).

(xvi) Partridge Creek Watershed 1706020916. Outlet(s) = Elkhorn Creek (Lat 45.4043, Long −116.0941); Partridge Creek (45.408, −116.126) upstream to endpoint(s) in: Elkhorn Creek (45.369, −116.092); Partridge Creek (45.369, −116.146).

(18) Unit 18. Little Salmon Subbasin 17060210—*(i) Lower Little Salmon River Watershed 1706021001.* Outlet(s) = Little Salmon River (Lat 45.417, Long −116.313) upstream to endpoint(s) in: Denny Creek (45.306, −116.359); Elk Creek (45.218, −116.311); Hat Creek (45.313, −116.354); Little Salmon River (45.204, −116.310); Lockwood Creek (45.254, −116.366); Rattlesnake Creek (45.268, −116.339); Sheep Creek (45.344, −116.336); Squaw Creek (45.418, −116.423).

(ii) Little Salmon River/Hard Creek Watershed 1706021002. Outlet(s) = Little Salmon River (Lat 45.204, Long -116.310) upstream to endpoint(s) in: Bascum Canyon (45.145, −116.248); Hard Creek (45.125, −116.239); Little Salmon River (45.123, −116.298); Trail Creek (45.164, −116.338).

(iii) Hazard Creek Watershed 1706021003. Outlet(s) = Hazard Creek (Lat 45.183, Long −116.283) upstream to endpoint(s) in: Hazard Creek (45.201, −116.248).

(iv) Boulder Creek Watershed 1706021006. Outlet(s) = Boulder Creek (Lat 45.204, Long −116.310) upstream to endpoint(s) in: Ant Basin Creek (45.128, −116.447); Boulder Creek (45.103, −116.479); Bull Horn Creek (45.159, −116.407); Pollock Creek (45.168, −116.395); Pony Creek (45.190, −116.374); Squirrel Creek (45.198, −116.368); Star Creek (45.152, −116.418); Unnamed (45.095, −116.461); Unnamed (45.116, −116.455); Yellow Jacket Creek (45.141, −116.426).

(v) Rapid River Watershed 1706021007. Outlet(s) = Rapid River (Lat 45.375, Long −116.355) upstream to endpoint(s) in: Granite Fork Lake Fork Rapid River (45.179, −116.526); Paradise Creek (45.223, −116.550); Rapid River (45.157, −116.489); Shingle Creek (45.369, −116.409); West Fork Rapid River (45.306, −116.425).

(19) Unit 19. Upper Selway Subbasin 17060301—*(i) Selway River/Pettibone Creek Watershed 1706030101.* Outlet(s) = Selway River (Lat 46.122, Long −114.935) upstream to endpoint(s) in: Ditch Creek (46.022, −114.900); Elk Creek (45.987, −114.872); Pettibone Creek (46.105, −114.745); Selway River (45.962, −114.828).

(ii) Bear Creek Watershed 1706030102. Outlet(s) = Bear Creek (Lat 46.019, Long −114.844) upstream to endpoint(s) in: Bear Creek (46.104, −114.588); Brushy Fork Creek (45.978, −114.602); Cub Creek (46.021, −114.662); Granite Creek (46.102, −114.619); Paradise Creek (46.036, −114.710); Wahoo Creek (46.104, −114.633).

(iii) Selway River/Gardner Creek Watershed 1706030103. Outlet(s) = Selway River (Lat 45.962, Long −114.828) upstream to endpoint(s) in: Bad Luck Creek (45.899, −114.752); Crooked Creek (45.865, −114.764); Gardner Creek (45.937, −114.772); Magruder Creek (45.702, −114.795); North Star Creek (45.950, −114.806); Selway River (45.707, −114.719); Sheep

Creek (45.821, −114.741); Snake Creek (45.855, −114.728).

(iv) White Cap Creek Watershed 1706030104. Outlet(s) = White Cap Creek (Lat 45.860, Long −114.744) upstream to endpoint(s) in: Barefoot Creek (45.886, −114.639); Canyon Creek (45.878, −114.422); Cedar Creek (45.895, −114.668); Cooper Creek (45.861, −114.557); Elk Creek (45.928, −114.574); Fox Creek (45.898, −114.597); Granite Creek (45.931, −114.506); Lookout Creek (45.959, −114.626); Paloma Creek (45.918, −114.592); Peach Creek (45.868, −114.607); South Fork Lookout Creek (45.929, −114.649); Unnamed (45.855, −114.557); White Cap Creek (45.947, −114.534).

(v) Indian Creek Watershed 1706030105. Outlet(s) = Indian Creek (Lat 45.792, Long −114.764) upstream to endpoint(s) in: Indian Creek (45.786, −114.581); Jack Creek (45.789, −114.681); Saddle Gulch (45.766, −114.641); Schofield Creek (45.818, −114.586).

(vi) Upper Selway River Watershed 1706030106. Outlet(s) = Selway River (Lat 45.707, Long −114.719) upstream to endpoint(s) in: Cayuse Creek (45.752, −114.572); Deep Creek (45.703, −114.517); French Creek (45.609, −114.561); Gabe Creek (45.714, −114.666); Hells Half Acre Creek (45.689, −114.708); Lazy Creek (45.670, −114.553); Line Creek (45.590, −114.585); Mist Creek (45.561, −114.629); Pete Creek (45.720, −114.557); Selway River (45.502, −114.702); Slow Gulch Creek (45.678, −114.520); Storm Creek (45.641, −114.596); Surprise Creek (45.533, −114.672); Swet Creek (45.516, −114.804); Three Lakes Creek (45.620, −114.803); Unnamed (45.569, −114.642); Vance Creek (45.681, −114.594); Wilkerson Creek (45.561, −114.601).

(vii) Little Clearwater River Watershed 1706030107. Outlet(s) = Little Clearwater River (Lat 45.754, Long −114.775) upstream to endpoint(s) in: Burnt Knob Creek (45.697, −114.950); FCreek (45.644, −114.847); Little Clearwater River (45.740, −114.949); Lonely Creek (45.727, −114.865); Salamander Creek (45.655, −114.883); Short Creek (45.759, −114.859); Throng Creek (45.736, −114.904).

(viii) Running Creek Watershed 1706030108. Outlet(s) = Running Creek (Lat 45.919, Long −114.832) upstream to endpoint(s) in: Eagle Creek (45.844, −114.886); Lynx Creek (45.794, −114.993); Running Creek (45.910, −115.027); South Fork Running Creek (45.820, −115.024).

(ix) Goat Creek Watershed 1706030109. Outlet(s) = Goat Creek (Lat 45.962, Long −114.828) upstream to endpoint(s) in: Goat Creek (45.940, −115.038).

(20) Unit 20. Lower Selway Subbasin 17060302—*(i) Selway River/Goddard Creek Watershed 1706030201.* Outlet(s) = Selway River (Lat 46.140, Long −115.599) upstream to endpoint(s) in: Boyd Creek (46.092, −115.431); Glover Creek (46.082, −115.361); Goddard Creek (46.059, −115.610); Johnson Creek (46.139, −115.514); Rackliff Creek (46.110, −115.494); Selway River (46.046, −115.295).

(ii) Gedney Creek Watershed 1706030202. Outlet(s) = Gedney Creek (Lat 46.056, Long −115.313) upstream to endpoint(s) in: Gedney Creek (46.111, −115.268).

(iii) Selway River/Three Links Creek Watershed 1706030203. Outlet(s) = Selway River (Lat 46.046, Long −115.295) upstream to endpoint(s) in: Mink Creek (46.041, −115.087); Otter Creek (46.042, −115.216); Pinchot Creek (46.120, −115.108); Selway River (46.098, −115.071); Three Links Creek (46.143, −115.093).

(iv) Upper Three Links Creek Watershed 1706030204. Outlet(s) = Three Links Creek (Lat 46.143, Long −115.093) upstream to endpoint(s) in: Three Links Creek (46.155, −115.100).

(v) Rhoda Creek Watershed 1706030205. Outlet(s) = Rhoda Creek (Lat 46.234, Long −114.960) upstream to endpoint(s) in: Lizard Creek (46.220, −115.136); Rhoda Creek (46.252, −115.164); Wounded Doe Creek (46.299, −115.078).

(vi) North Fork Moose Creek Watershed 1706030207. Outlet(s) = North Fork Moose Creek (Lat 46.165, Long −114.897) upstream to endpoint(s) in: North Fork Moose Creek (46.305, −114.853); West Moose Creek (46.322, −114.970).

(vii) East Fork Moose Creek/Trout Creek Watershed 1706030208. Outlet(s) = Selway River (Lat 46.098, Long −115.071) upstream to endpoint(s) in: Double Creek (46.230, −114.837); East Fork Moose Creek (46.204, −114.722); Elbow Creek (46.200, −114.716); Fitting Creek (46.231, −114.861); Maple Creek (46.218, −114.785); Monument Creek (46.189, −114.728); Selway River (46.122, −114.935); Trout Creek (46.141, −114.861).

(viii) Upper East Fork Moose Creek Watershed 1706030209. Outlet(s) = East Fork Moose Creek (Lat 46.204, Long −114.722) upstream to endpoint(s) in: Cedar Creek (46.291, −114.708); East Fork Moose Creek (46.253, −114.700).

(ix) Marten Creek Watershed 1706030210. Outlet(s) = Marten Creek (Lat 46.099, Long −115.052) upstream to endpoint(s) in: Marten Creek (45.988, −115.029).

(x) Upper Meadow Creek Watershed 1706030211. Outlet(s) = Meadow Creek (Lat 45.88043738, Long −115.1034371) upstream to endpoint(s) in: Butter Creek (45.804, −115.149); Meadow Creek (45.698, −115.217); Three Prong Creek (45.790, −115.062).

(xi) Middle Meadow Creek Watershed 1706030212. Outlet(s) = Meadow Creek (Lat 45.88157325, Long −115.2178401) upstream to endpoint(s) in: East Fork Meadow Creek (45.868, −115.067); Meadow Creek (45.880, −115.103); Sable Creek (45.853, −115.219); Schwar Creek (45.905, −115.108); Simmons Creek (45.856, −115.247).

(xii) Lower Meadow Creek Watershed 1706030213. Outlet(s) = Meadow Creek (Lat 46.04563958, Long −115.2953459) upstream to endpoint(s) in: Buck Lake Creek (45.992, −115.084); Butte Creek (45.878, −115.248); Fivemile Creek (45.953, −115.310); Little Boulder Creek (45.935, −115.293); Meadow Creek (45.882, −115.218).

(xiii) O'Hara Creek Watershed 1706030214. Outlet(s) = O'Hara Creek (Lat 46.08603027, Long −115.5170987) upstream to endpoint(s) in: East Fork O'Hara Creek (45.995, −115.521); West Fork O'Hara Creek (45.995, −115.543).

(21) Unit 21. Lochsa Subbasin 17060303—*(i) Lower Lochsa River Watershed 1706030301.* Outlet(s) = Lochsa River (Lat 46.14004554, Long −115.5986467) upstream to endpoint(s) in: Canyon Creek (46.227, −115.580); Coolwater Creek (46.215, −115.464); Deadman Creek (46.262, −115.517); East Fork Deadman Creek (46.275, −115.505); Fire Creek (46.203, −115.411); Kerr Creek (46.162, −115.579); Lochsa River (46.338, −115.314); Nut Creek (46.180, −115.601); Pete King Creek (46.182, −115.697); Placer Creek (46.196, −115.631); South Fork Canyon Creek (46.211, −115.556); Split Creek (46.207, −115.364); Walde Creek (46.193, −115.662).

(ii) Fish Creek Watershed 1706030302. Outlet(s) = Fish Creek (Lat 46.33337703, Long −115.3449332) upstream to endpoint(s) in: Alder Creek (46.319, −115.460); Ceanothus Creek (46.341, −115.470); Fish Creek (46.341, −115.575); Frenchman Creek (46.330, −115.544); Gass Creek (46.390, −115.511); Ham Creek (46.391, −115.365); Hungery Creek (46.377, −115.542); Myrtle Creek (46.343, −115.569); Poker Creek (46.346, −115.447); Willow Creek (46.396, −115.369).

(iii) Lochsa River/Stanley Creek Watershed 1706030303. Outlet(s) =

Lochsa River (Lat 46.33815653, Long −115.3141495) upstream to endpoint(s) in: Bald Mountain Creek (46.406, −115.254); Dutch Creek (46.377, −115.211); Eagle Mountain Creek (46.428, −115.130); Indian Grave Creek (46.472, −115.103); Indian Meadow Creek (46.450, −115.060); Lochsa River (46.466, −114.985); Lost Creek (46.432, −115.116); Sherman Creek (46.352, −115.320); Stanley Creek (46.387, −115.144); Unnamed (46.453, −115.028); Unnamed (46.460, −115.006); Unnamed (46.502, −115.050); Weir Creek (46.490, −115.035).

(iv) Lochsa River/Squaw Creek Watershed 1706030304. Outlet(s) = Lochsa River (Lat 46.4656626, Long −114.9848623) upstream to endpoint(s) in: Badger Creek (46.535, −114.833); Bear Mtn. Creek (46.471, −114.962); Cliff Creek (46.482, −114.708); Colgate Creek (46.455, −114.914); Doe Creek (46.534, −114.914); East Fork Papoose Creek (46.555, −114.743); Jay Creek (46.513, −114.739); Lochsa River (46.508, −114.681); Postoffice Creek (46.529, −114.948); Squaw Creek (46.567, −114.859); Unnamed (46.463, −114.923); Wendover Creek (46.521, −114.788); West Fork Papoose Creek (46.576, −114.758); West Fork Postoffice Creek (46.493, −114.985); West Fork Squaw Creek (46.545, −114.884).

(v) Lower Crooked Fork Watershed 1706030305. Outlet(s) = Crooked Fork Lochsa River (Lat 46.50828495, Long −114.680785) upstream to endpoint(s) in: Crooked Fork Lochsa River (46.578, −114.612).

(vi) Upper Crooked Fork Watershed 1706030306. Outlet(s) = Crooked Fork Lochsa River (Lat 46.57831788, Long −114.6115072) upstream to endpoint(s) in: Boulder Creek (46.636, −114.703); Crooked Fork Lochsa River (46.653, −114.670); Haskell Creek (46.605, −114.596); Shotgun Creek (46.601, −114.667).

(vii) Brushy Fork Watershed 1706030307. Outlet(s) = Brushy Fork (Lat 46.57831788, Long −114.6115072) upstream to endpoint(s) in: Brushy Fork (46.619, −114.450); Pack Creek (46.580, −114.588); Spruce Creek (46.609, −114.433).

(viii) Lower White Sands Creek Watershed 1706030308. Outlet(s) = White Sands Creek (Lat 46.50828495, Long −114.680785) upstream to endpoint(s) in: Beaver Creek (46.509, −114.619); Cabin Creek (46.518, −114.641); Walton Creek (46.500, −114.673); White Sands Creek (46.433, −114.540).

(ix) Storm Creek Watershed 1706030309. Outlet(s) = Storm Creek (Lat 46.46307502, Long −114.5482819) upstream to endpoint(s) in: Maud Creek (46.495, −114.511); Storm Creek (46.540, −114.424).

(x) Upper White Sands Creek Watershed 1706030310. Outlet(s) = White Sands Creek (Lat 46.4330966, Long −114.5395027) upstream to endpoint(s) in: Big F Creek (46.401, −114.475); Big S Creek (46.407, −114.534); Colt Creek (46.403, −114.726); White Sands Creek (46.422, −114.462).

(xi) Warm Springs Creek Watershed 1706030311. Outlet(s) = Warm Springs Creek (Lat 46.4733796, Long −114.8872254) upstream to endpoint(s) in: Cooperation Creek (46.453, −114.866); Warm Springs Creek (46.426, −114.868).

(xii) Fish Lake Creek Watershed 1706030312. Outlet(s) = Fish Lake Creek (Lat 46.46336343, Long −114.9957028) upstream to endpoint(s) in: Fish Lake Creek (46.405, −115.000); Heslip Creek (46.393, −115.027); Sponge Creek (46.384, −115.048).

(xiii) Boulder Creek Watershed 1706030313. Outlet(s) = Boulder Creek (Lat 46.33815653, Long −115.3141495) upstream to endpoint(s) in: Boulder Creek (46.320, −115.199).

(xiv) Old Man Creek Watershed 1706030314. Outlet(s) = Old Man Creek (Lat 46.2524595, Long −115.3988563) upstream to endpoint(s) in: Old Man Creek (46.256, −115.343).

(22) Unit 22. Middle Fork Clearwater Subbasin 17060304—*(i) Middle Fork Clearwater River/Maggie Creek Watershed 1706030401.* Outlet(s) = Middle Fork Clearwater River (Lat 46.1459, Long −115.9797) upstream to endpoint(s) in: Maggie Creek (46.195, −115.801); Middle Fork Clearwater River (46.140, −115.599).

(ii) Clear Creek Watershed 1706030402. Outlet(s) = Clear Creek (Lat 46.1349, Long −115.9515) upstream to endpoint(s) in: Browns Spring Creek (46.067, −115.658); Clear Creek (46.056, −115.659); Kay Creek (46.005, −115.725); Middle Fork Clear Creek (46.030, −115.739); Pine Knob Creek (46.093, −115.702); South Fork Clear Creek (45.941, −115.769); West Fork Clear Creek (46.013, −115.821).

(23) Unit 23. South Fork Clearwater Subbasin 17060305—*(i) Lower South Fork Clearwater River Watershed 1706030501.* Outlet(s) = South Fork Clearwater River (Lat 46.1459, Long −115.9797) upstream to endpoint(s) in: Butcher Creek (45.945, −116.064); Castle Creek (45.834, −115.966); Earthquake Creek (45.853, −116.005); Green Creek (45.957, −115.937); Lightning Creek (45.936, −115.946); Mill Creek (45.934, −116.010); Rabbit Creek (46.028, −115.877); Sally Ann Creek (46.019, −115.893); Schwartz Creek (45.914, −116.000); South Fork Clearwater River (45.830, −115.931); Wall Creek (45.998, −115.926).

(ii) South Fork Clearwater River/Meadow Creek Watershed 1706030502. Outlet(s) = South Fork Clearwater River (Lat 45.8299, Long −115.9312) upstream to endpoint(s) in: Covert Creek (45.890, −115.933); North Meadow Creek (45.923, −115.890); South Fork Clearwater River (45.824, −115.889); Storm Creek (45.952, −115.848); Whitman Creek (45.914, −115.919).

(iii) South Fork Clearwater River/Peasley Creek Watershed 1706030503. Outlet(s) = South Fork Clearwater River (Lat 45.8239, Long −115.8892) upstream to endpoint(s) in: South Fork Clearwater River (45.795, −115.763).

(iv) South Fork Clearwater River/Leggett Creek Watershed 1706030504. Outlet(s) = South Fork Clearwater River (Lat 45.7952, Long −115.7628) upstream to endpoint(s) in: Allison Creek (45.832, −115.588); Buckhorn Creek (45.807, −115.658); Fall Creek (45.833, −115.696); Leggett Creek (45.862, −115.685); Maurice Creek (45.856, −115.514); Moose Creek (45.835, −115.578); Rabbit Creek (45.822, −115.603); Santiam Creek (45.811, −115.624); South Fork Clearwater River (45.808, −115.474); Twentymile Creek (45.791, −115.765); Whiskey Creek (45.869, −115.544).

(v) Newsome Creek Watershed 1706030505. Outlet(s) = Newsome Creek (Lat 45.8284, Long −115.6147) upstream to endpoint(s) in: Baldy Creek (45.944, −115.681); Bear Creek (45.887, −115.580); Beaver Creek (45.943, −115.568); Haysfork Creek (45.953, −115.678); Mule Creek (45.985, −115.606); Newsome Creek (45.972, −115.654); Nuggett Creek (45.897, −115.600); Pilot Creek (45.939, −115.716); Sawmill Creek (45.904, −115.701); Sing Lee Creek (45.898, −115.677); West Fork Newsome Creek (45.880, −115.661).

(vi) American River Watershed 1706030506. Outlet(s) = American River (Lat 45.8082, Long −115.4740) upstream to endpoint(s) in: American River (45.996, −115.445); Big Elk Creek (45.902, −115.513); Box Sing Creek (45.850, −115.386); Buffalo Gulch (45.873, −115.522); East Fork American River (45.905, −115.381); Flint Creek (45.913, −115.423); Kirks Fork American River (45.842, −115.385); Lick Creek (45.945, −115.477); Little Elk Creek (45.894, −115.476); Monroe Creek (45.871, −115.495); Unnamed (45.884, −115.510); West Fork American River (45.934, −115.510);

West Fork Big Elk Creek (45.883, −115.515).

(vii) Red River Watershed 1706030507. Outlet(s) = Red River (Lat 45.8082, Long −115.4740) upstream to endpoint(s) in: Bridge Creek (45.814, −115.163); Campbell Creek (45.792, −115.486); Dawson Creek (45.728, −115.393); Deadwood Creek (45.794, −115.471); Ditch Creek (45.758, −115.309); Jungle Creek (45.710, −115.286); Little Campbell Creek (45.801, −115.478); Little Moose Creek (45.710, −115.399); Moose Butte Creek (45.695, −115.365); Otterson Creek (45.803, −115.222); Red Horse Creek (45.822, −115.355); Red River (45.788, −115.174); Siegel Creek (45.800, −115.323); Soda Creek (45.741, −115.257); South Fork Red River (45.646, −115.407); Trail Creek (45.784, −115.265); Trapper Creek (45.672, −115.311); Unnamed (45.788, −115.199); West Fork Red River (45.662, −115.447).

(viii) Crooked River Watershed 1706030508. Outlet(s) = Crooked River (Lat 45.8241, Long −115.5291) upstream to endpoint(s) in: East Fork Crooked River (45.655, −115.562); East Fork Relief Creek (45.759, −115.477); Fivemile Creek (45.721, −115.568); Quartz Creek (45.702, −115.536); Relief Creek (45.712, −115.472); Silver Creek (45.713, −115.535); West Fork Crooked River (45.666, −115.596).

(ix) Ten Mile Creek Watershed 1706030509. Outlet(s) = Tenmile Creek (Lat 45.8064, Long −115.6833) upstream to endpoint(s) in: Mackey Creek (45.754, −115.683); Morgan Creek (45.731, −115.672); Sixmile Creek (45.762, −115.641); Tenmile Creek (45.694, −115.694); Williams Creek (45.703, −115.636).

(x) John's Creek Watershed 1706030510. Outlet(s) = Johns Creek (Lat 45.8239, Long −115.8892) upstream to endpoint(s) in: American Creek (45.750, −115.961); Frank Brown Creek (45.708, −115.785); Gospel Creek (45.637, −115.915); Johns Creek (45.665, −115.827); Trout Creek (45.750, −115.909); West Fork Gospel Creek (45.657, −115.949).

(xi) Mill Creek Watershed 1706030511. Outlet(s) = Mill Creek (Lat 45.8299, Long −115.9312) upstream to endpoint(s) in: Camp Creek (45.670, −116.001); Corral Creek (45.678, −115.999); Hunt Creek (45.695, −116.001); Melton Creek (45.725, −115.980); Mill Creek (45.641, −116.008).

(xii) Cottonwood Creek Watershed 1706030513. Outlet(s) = Cottonwood Creek (Lat 46.0810, Long −115.9764) upstream to endpoint(s) in: Cottonwood Creek (46.090, −115.999).

(24) Unit 24. Clearwater Subbasin 17060306—*(i) Lower Clearwater River Watershed 1706030601.* Outlet(s) = Clearwater River (Lat 46.4281, Long −117.0380) upstream to endpoint(s) in: Clearwater River (46.447, −116.837).

(ii) Clearwater River/Lower Potlatch River Watershed 1706030602. Outlet(s) = Clearwater River (Lat 46.4467, Long −116.8366) upstream to endpoint(s) in: Catholic Creek (46.489, −116.841); Clearwater River (46.474, −116.765); Potlatch River (46.523, −116.728).

(iii) Potlatch River/Middle Potlatch Creek Watershed 1706030603. Outlet(s) = Potlatch River (Lat 46.5231, Long −116.7284) upstream to endpoint(s) in: Middle Potlatch Creek (46.669, −116.796); Potlatch River (46.583, −116.700).

(iv) Lower Big Bear Creek Watershed 1706030604. Outlet(s) = Big Bear Creek (Lat 46.6180, Long −116.6439) upstream to endpoint(s) in: Big Bear Creek (46.642, −116.658).

(v) Potlatch River/Pine Creek Watershed 1706030606. Outlet(s) = Potlatch River (Lat 46.5830, Long −116.6998) upstream to endpoint(s) in: Boulder Creek (46.711, −116.450); Cedar Creek (46.635, −116.510); Pine Creek (46.706, −116.554); Potlatch River (46.699, −116.504).

(vi) Upper Potlatch River Watershed 1706030607. Outlet(s) = Potlatch River (Lat 46.6987, Long −116.5036) upstream to endpoint(s) in: Corral Creek (46.787, −116.477); East Fork Potlatch River (46.876, −116.247); Feather Creek (46.938, −116.411); Head Creek (46.942, −116.366); Little Boulder Creek (46.768, −116.414); Nat Brown Creek (46.911, −116.375); Pasture Creek (46.940, −116.371); Porcupine Creek (46.937, −116.379); Potlatch River (46.941, −116.359); Unnamed (46.922, −116.449); West Fork Potlatch River (46.931, −116.458).

(vii) Clearwater River/Bedrock Creek Watershed 1706030608. Outlet(s) = Clearwater River (Lat 46.4741, Long −116.7652) upstream to endpoint(s) in: Bedrock Creek (46.564, −116.540); Clearwater River (46.516, −116.590); Pine Creek (46.579, −116.615).

(viii) Clearwater River/Jack's Creek Watershed 1706030609. Outlet(s) = Clearwater River (Lat 46.5159, Long −116.5903) upstream to endpoint(s) in: Clearwater River (46.498, −116.433); Jacks Creek (46.435, −116.462).

(ix) Big Canyon Creek Watershed 1706030610. Outlet(s) = Big Canyon Creek (Lat 46.4984, Long −116.4326) upstream to endpoint(s) in: Big Canyon Creek (46.319, −116.500); Posthole Canyon (46.318, −116.450); Sixmile Canyon (46.372, −116.441).

(x) Little Canyon Creek Watershed 1706030611. Outlet(s) = Little Canyon Creek (Lat 46.4681, Long −116.4172) upstream to endpoint(s) in: Little Canyon Creek (46.295, −116.279).

(xi) Clearwater River/Lower Orofino Creek Watershed 1706030612. Outlet(s) = Clearwater River (Lat 46.4984, Long −116.4326) upstream to endpoint(s) in: Clearwater River (46.476, −116.254); Orofino Creek (46.485, −116.196); Whiskey Creek (46.5214, −116.1753).

(xii) Upper Orofino Creek Watershed 1706030613. Outlet(s) = Orofino Creek (Lat 46.4854, Long −116.1964) upstream to endpoint(s) in: Orofino Creek (46.472, −116.176).

(xiii) Jim Ford Creek Watershed 1706030614. Outlet(s) = Jim Ford Creek (Lat 46.4394, Long −116.2115) upstream to endpoint(s) in: Jim Ford Creek (46.427, −116.059).

(xiv) Lower Lolo Creek Watershed 1706030615. Outlet(s) = Lolo Creek (Lat 46.3718, Long −116.1697) upstream to endpoint(s) in: Big Creek (46.392, −116.118); Lolo Creek (46.284, −115.882).

(xv) Middle Lolo Creek Watershed 1706030616. Outlet(s) = Lolo Creek (Lat 46.2844, Long −115.8818) upstream to endpoint(s) in: Crocker Creek (46.254, −115.859); Lolo Creek (46.381, −115.708); Mud Creek (46.274, −115.759); Nevada Creek (46.322, −115.735); Pete Charlie Creek (46.289, −115.823); Yakus Creek (46.238, −115.763).

(xvi) Musselshell Creek Watershed 1706030617. Outlet(s) = Jim Brown Creek (Lat 46.3098, Long −115.7531) upstream to endpoint(s) in: Gold Creek (46.376, −115.735); Jim Brown Creek (46.357, −115.790); Musselshell Creek (46.394, −115.744).

(xvii) Upper Lolo Creek Watershed 1706030618. Outlet(s) = Lolo Creek (Lat 46.3815, Long −115.7078) upstream to endpoint(s) in: Camp Creek (46.416, −115.624); Lolo Creek (46.425, −115.648); Max Creek (46.384, −115.679); Relaskon Creek (46.394, −115.647); Siberia Creek (46.384, −115.707); Yoosa Creek (46.408, −115.589).

(xviii) Eldorado Creek Watershed 1706030619. Outlet(s) = Eldorado Creek (Lat 46.2947, Long −115.7500) upstream to endpoint(s) in: Cedar Creek (46.298, −115.711); Dollar Creek (46.301, −115.640); Eldorado Creek (46.300, −115.645); Four Bit Creek (46.294, −115.644).

(xix) Clearwater River/Fivemile Creek Watershed 1706030620. Outlet(s) = Clearwater River (Lat 46.4759, Long −116.2543) upstream to endpoint(s) in: Clearwater River (46.350, −116.154).

(xx) Clearwater River/Sixmile Creek Watershed 1706030621. Outlet(s) = Clearwater River (Lat 46.3500, Long −116.1541) upstream to endpoint(s) in: Clearwater River (46.257, −116.067); Sixmile Creek (46.269, −116.213).

(xxi) Clearwater River/Tom Taha Creek Watershed 1706030622. Outlet(s) = Clearwater River (Lat 46.2565, Long −116.067) upstream to endpoint(s) in: Clearwater River (46.146, −115.980); Tom Taha Creek (46.244, −115.993).

(xxii) Lower Lawyer Creek Watershed 1706030623. Outlet(s) = Lawyer Creek (Lat 46.2257, Long −116.0116) upstream to endpoint(s) in: Lawyer Creek (46.155, −116.190).

(xxiii) Middle Lawyer Creek Watershed 1706030624. Outlet(s) = Lawyer Creek (Lat 46.1546, Long −116.1899) upstream to endpoint(s) in: Lawyer Creek (46.188, −116.380).

(xiv) Cottonwood Creek Watershed 1706030627. Outlet(s) = Cottonwood Creek (Lat 46.5023, Long −116.7127) upstream to endpoint(s) in: Cottonwood Creek (46.387, −116.622).

(xv) Upper Sweetwater Creek Watershed 1706030630. Outlet(s) = Webb Creek (Lat 46.3310, Long −116.8369) upstream to endpoint(s) in: Sweetwater Creek (46.2751, −116.8513); Webb Creek (46.2500, −116.7541).

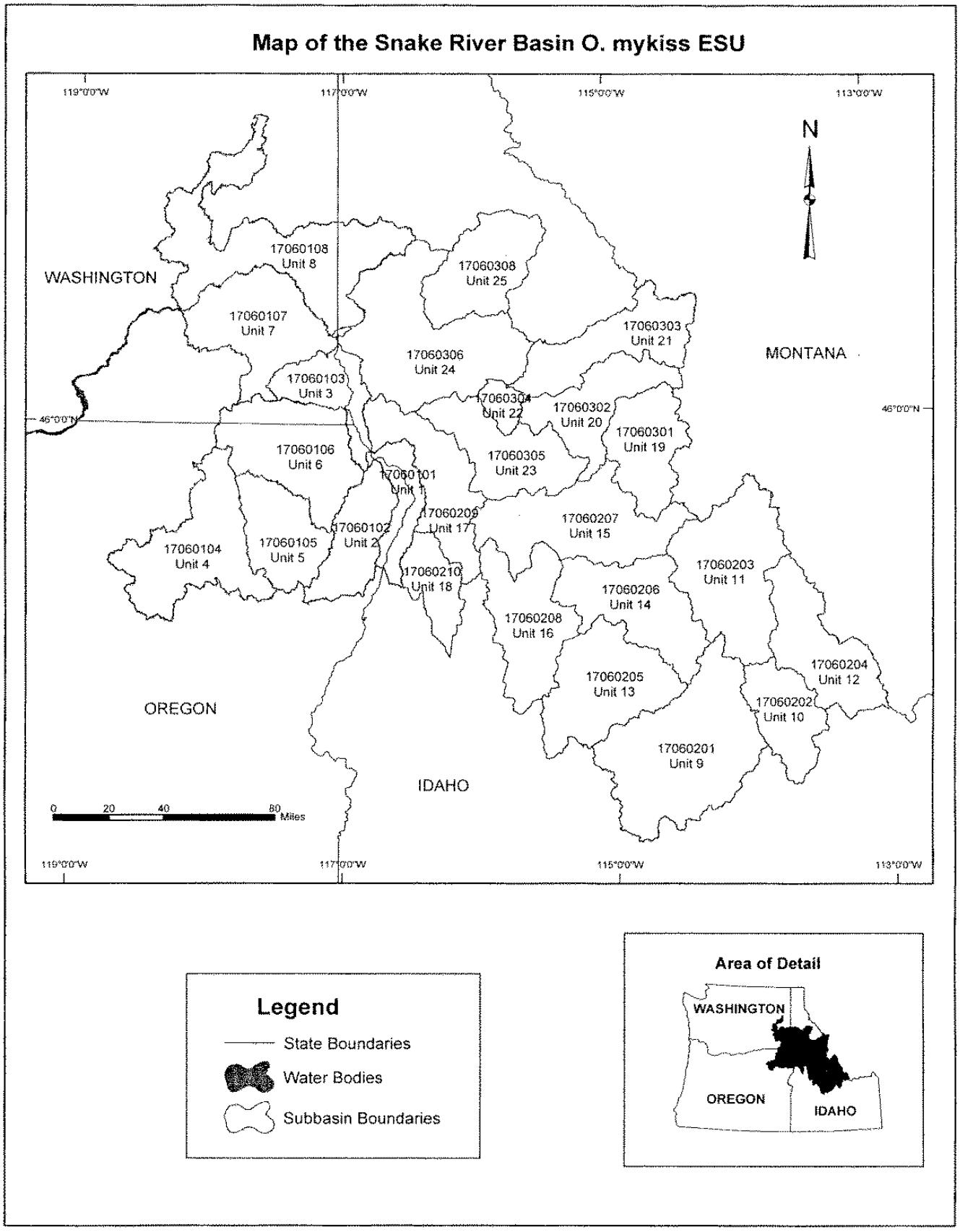
(xvi) Lower Sweetwater Creek Watershed 1706030631. Outlet(s) = Lapwai Creek (Lat 46.4512, Long −116.8182) upstream to endpoint(s) in: Lapwai Creek (46.364, −116.750); Sweetwater Creek (46.331, −116.837).

(25) Unit 25. Lower North Fork Clearwater Subbasin 17060308—*(i) Lower North Fork Clearwater River Watershed 1706030801.* Outlet(s) = North Fork Clearwater River (Lat 46.5027, Long −116.3309) upstream to endpoint(s) in: North Fork Clearwater River (46.514, −116.295).

(26) Unit 26. Lower Snake/Columbia River Corridor—*(i) Lower Snake/Columbia River Corridor.* Outlet(s) = Columbia River mouth (Lat 46.2485, Long −124.0782) upstream to endpoint at the confluence of the Palouse River (46.589, −117.215).

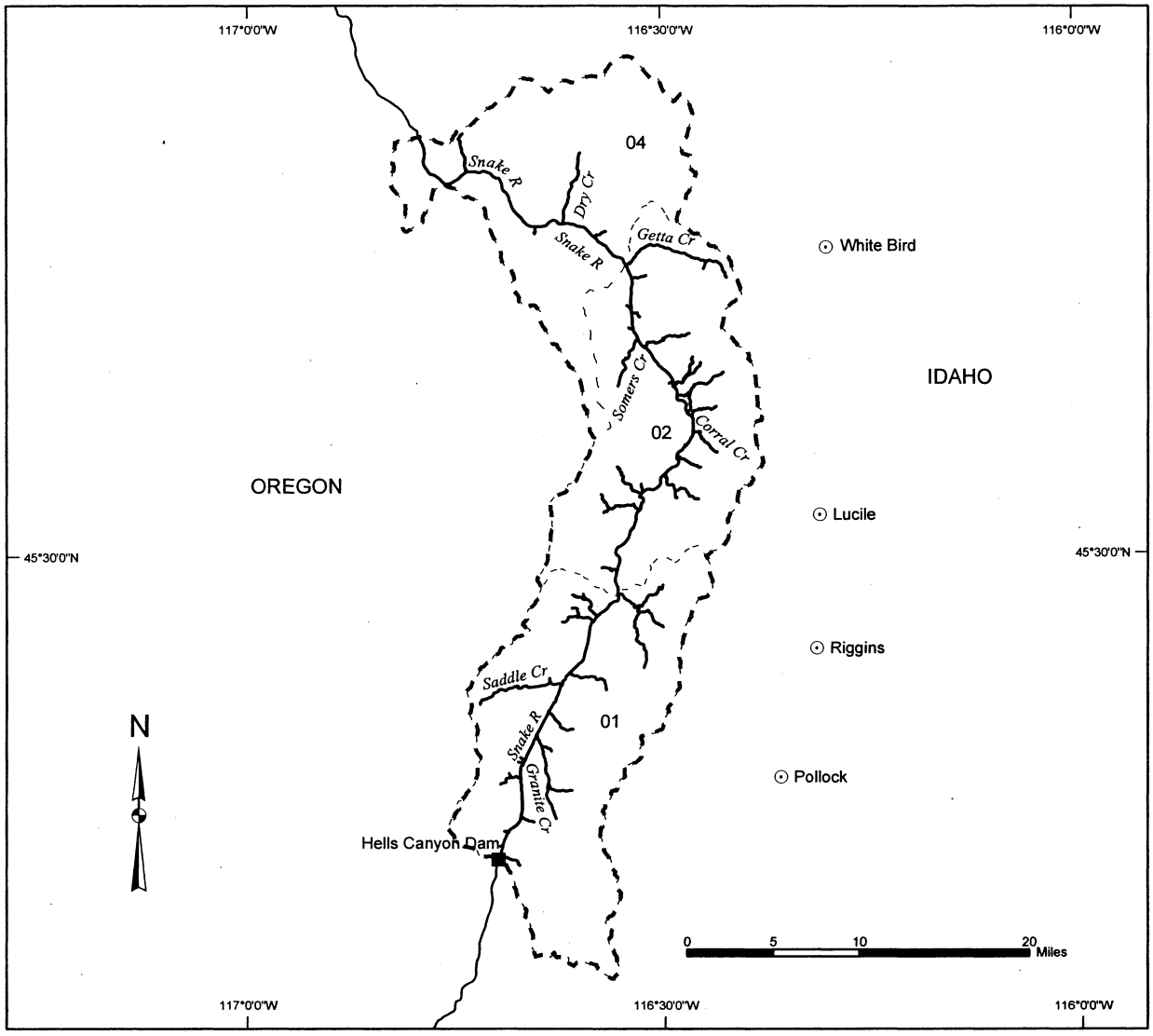
(27) Maps of proposed critical habitat for the Snake River Basin *O. mykiss* ESU follow:

BILLING CODE 3510–22–P


Map of the Snake River Basin O. mykiss ESU
119°0'0"W
117°0'0"W
115°0'0"W
113°0'0"W
46°0'0"N
N
WASHINGTON
MONTANA
OREGON
IDAHO
17060108 Unit 8
17060107 Unit 7
17060308 Unit 25
17060303 Unit 21
17060306 Unit 24
17060103 Unit 3
17060304 Unit 22
17060302 Unit 20
17060301 Unit 19
17060106 Unit 6
17060305 Unit 23
17060101 Unit 1
17060209 Unit 17
17060207 Unit 15
17060104 Unit 4
17060105 Unit 5
17060102 Unit 2
17060210 Unit 18
17060203 Unit 11
17060206 Unit 14
17060208 Unit 16
17060204 Unit 12
17060205 Unit 13
17060202 Unit 10
17060201 Unit 9
0 20 40 80 Miles
Legend
State Boundaries
Water Bodies
Subbasin Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

HELLS CANYON SUBBASIN 17060101, Unit 1

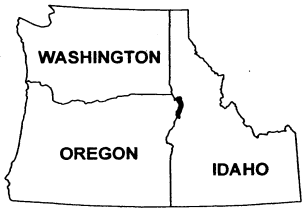


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries
- Dams

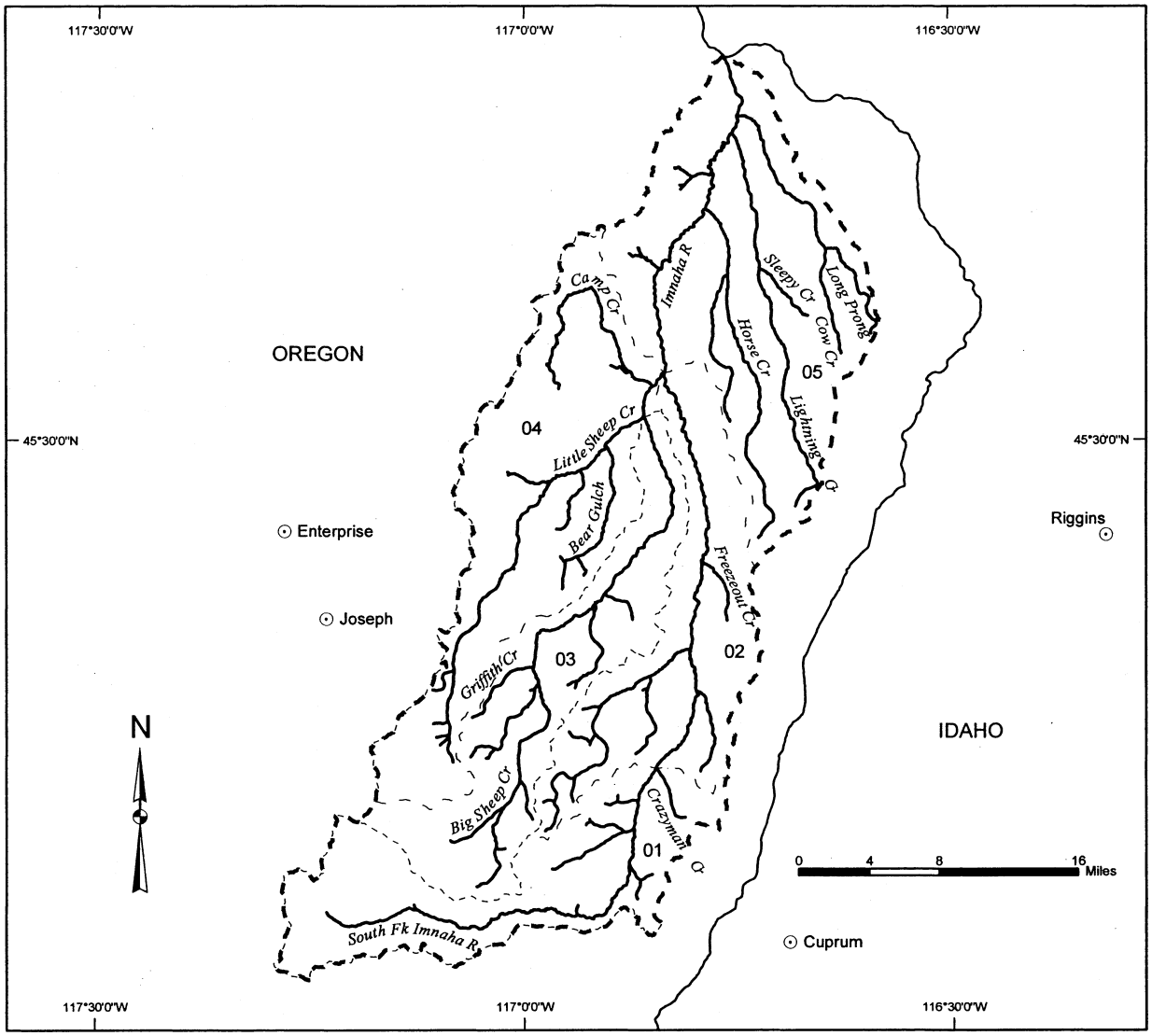
01 - 02, 04 = Watershed code - last 2 digits of 17060101xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

IMNAHA RIVER SUBBASIN 17060102, Unit 2

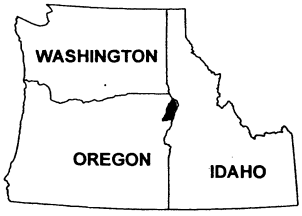


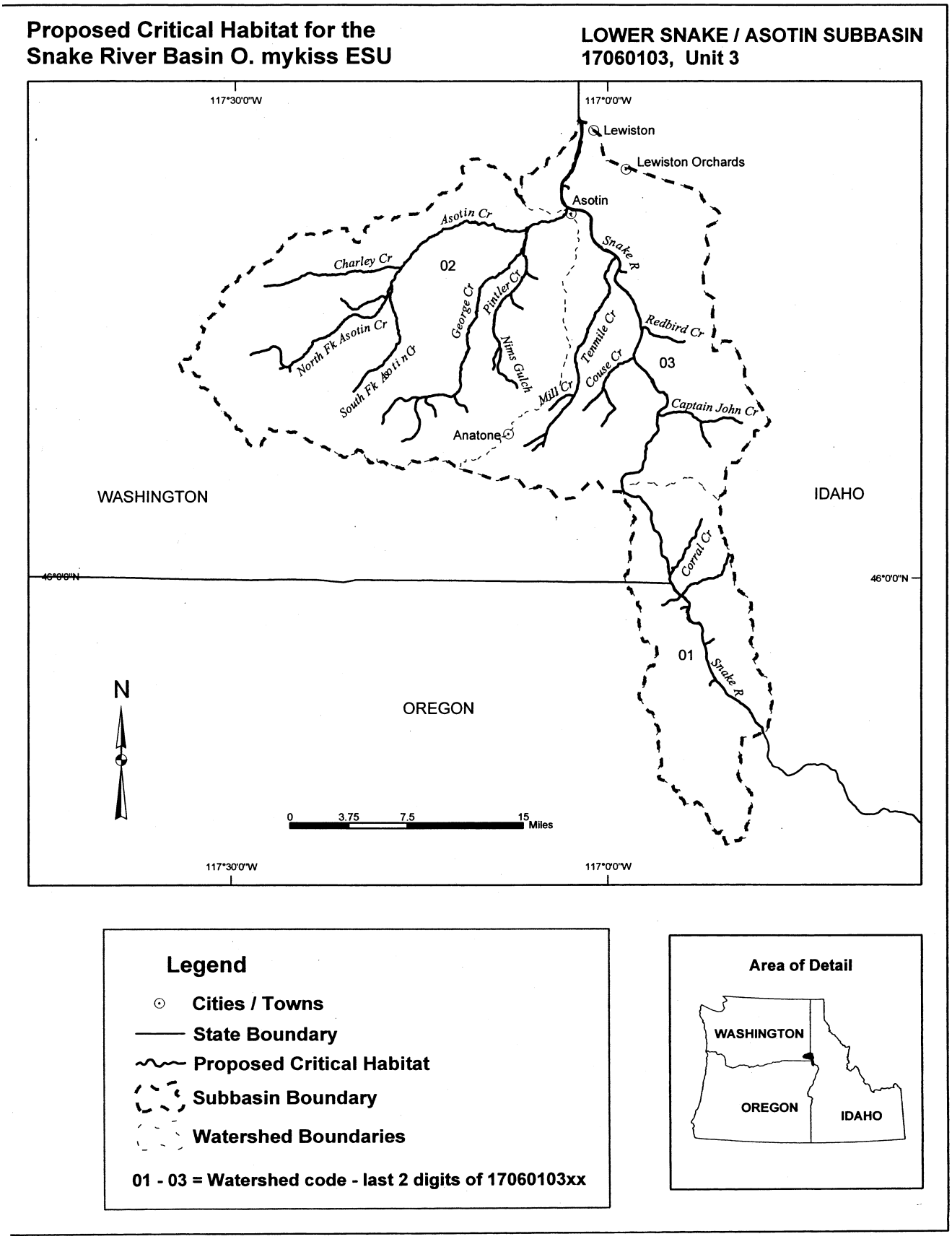
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 05 = Watershed code - last 2 digits of 17060102xx

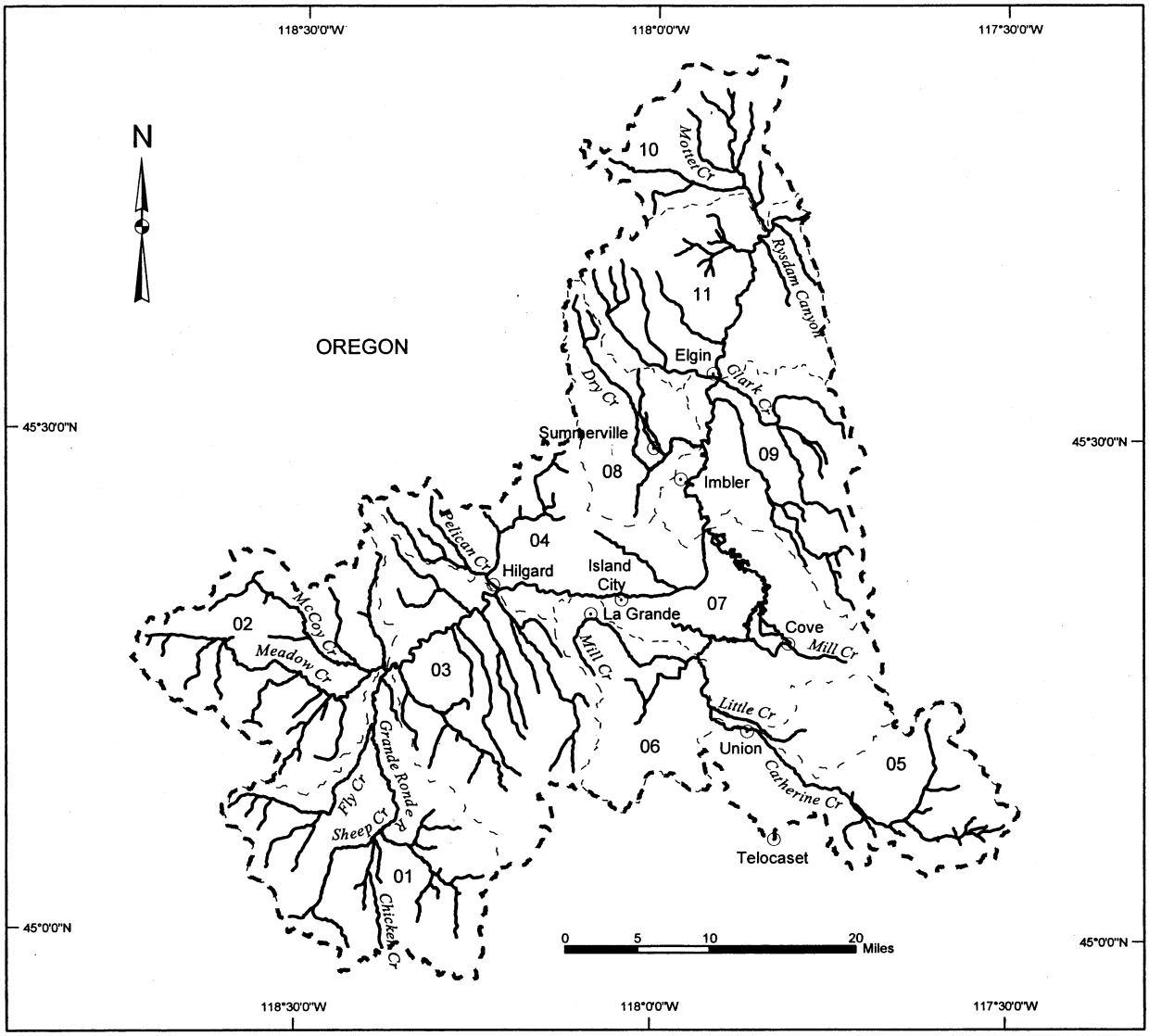
Area of Detail




Proposed Critical Habitat for the
Snake River Basin O. mykiss ESU
LOWER SNAKE / ASOTIN SUBBASIN
17060103, Unit 3
117°30'0"W
117°0'0"W
Lewiston
Lewiston Orchards
Asotin
Asotin Cr
Charley Cr
02
Snake R
George Cr
Pintler Cr
Nims Gulch
Tenmile Cr
Redbird Cr
North Fk Asotin Cr
South Fk Asotin Cr
Mill Cr
Couse Cr
03
Captain John Cr
Anatone
WASHINGTON
IDAHO
Corral Cr
46°0'0"N
01
Snake R
N
OREGON
0
3.75
7.5
15
Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17060103xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

UPPER GRANDE RONDE RIVER SUBBASIN 17060104, Unit 4

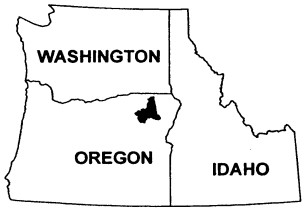


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

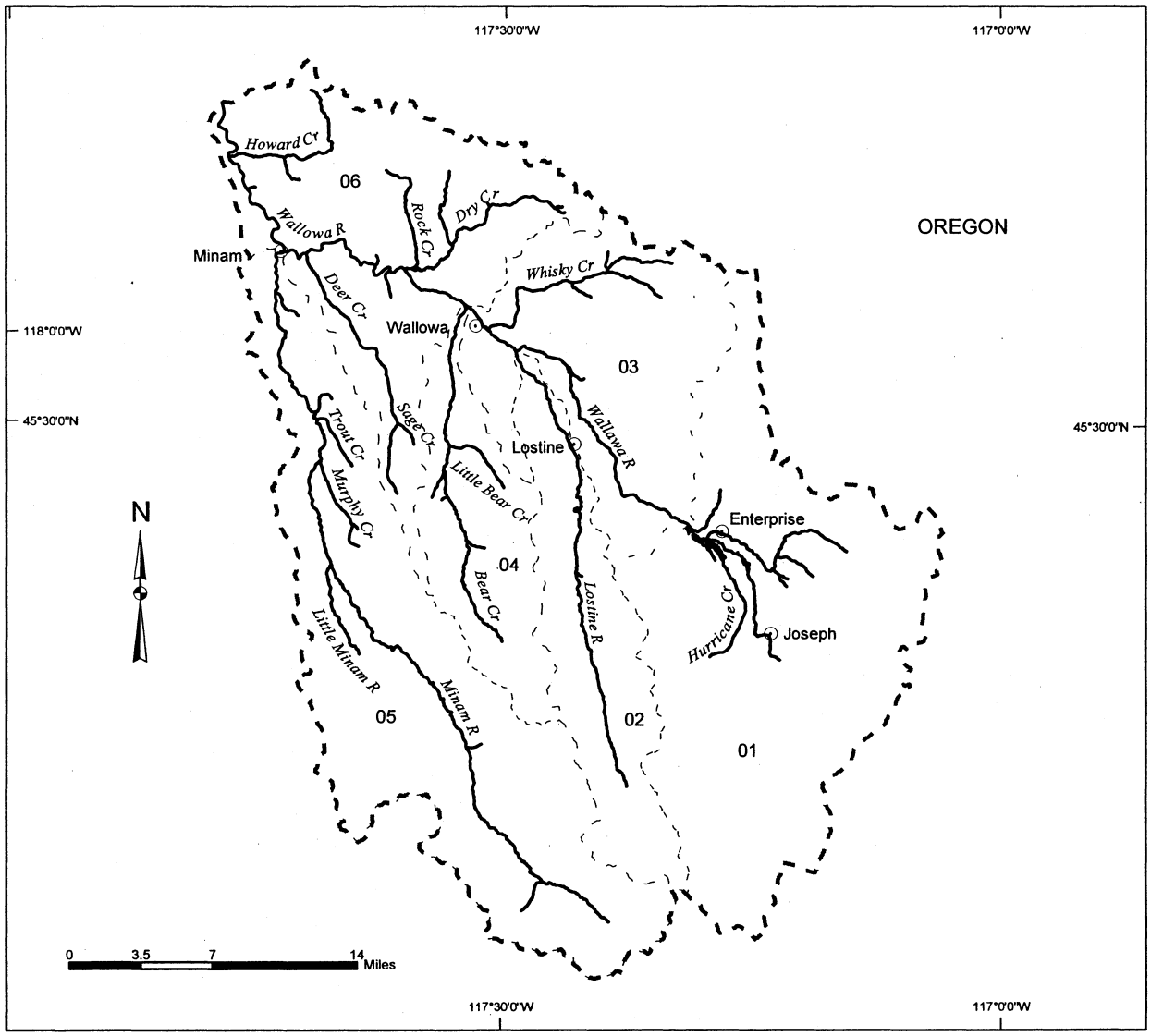
04, 08 - 11 = Watershed code - last 2 digits of 17060104xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

WALLOWA RIVER SUBBASIN 17060105, Unit 5

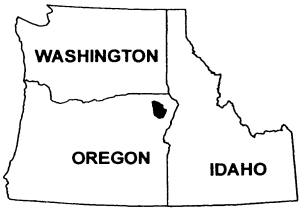


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundaries
- Watershed Boundaries

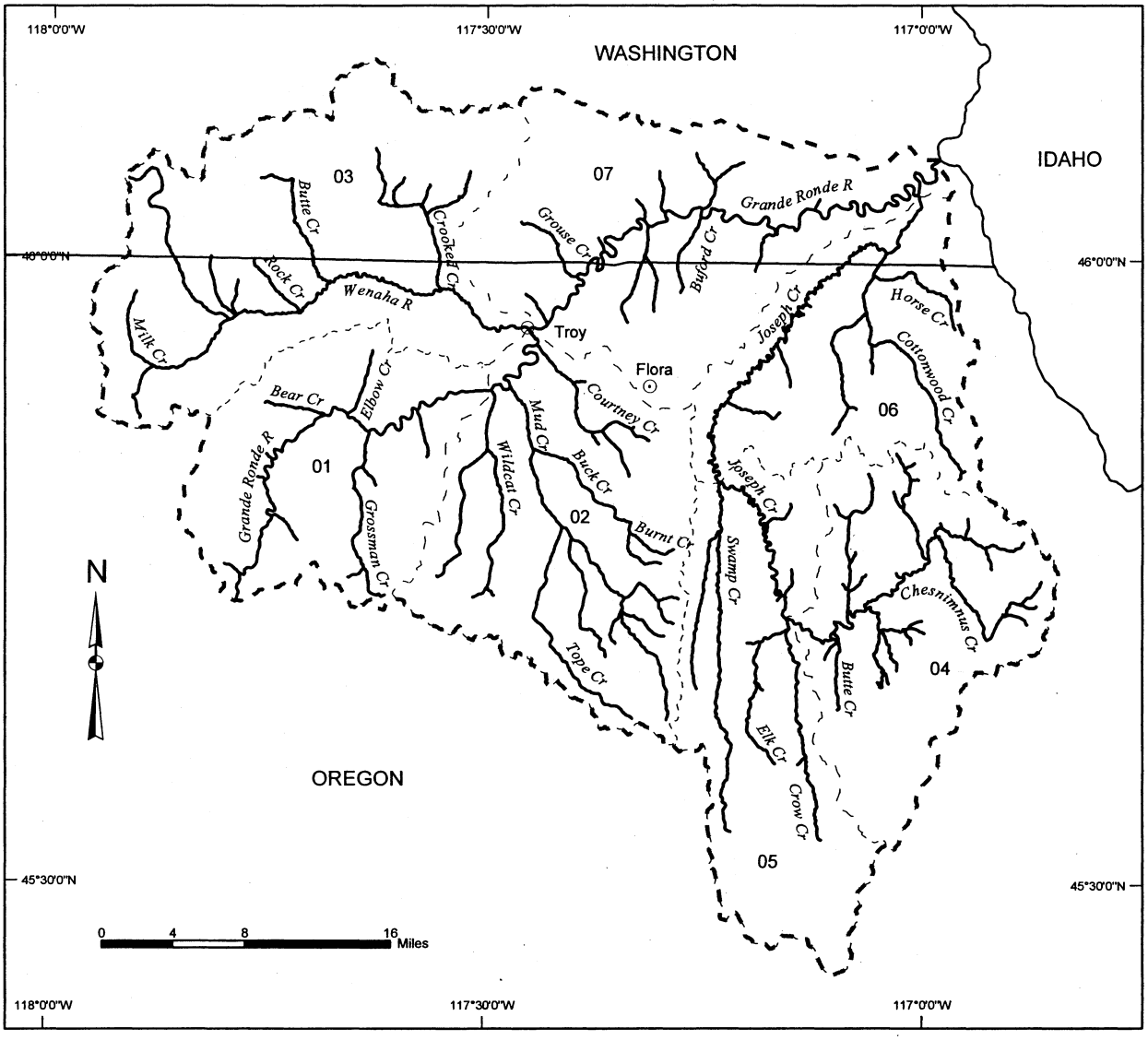
01 - 06 = Watershed code - last 2 digits of 17060105xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LOWER GRANDE RONDE SUBBASIN 17060106, Unit 6

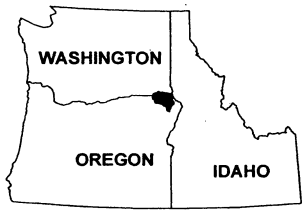


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

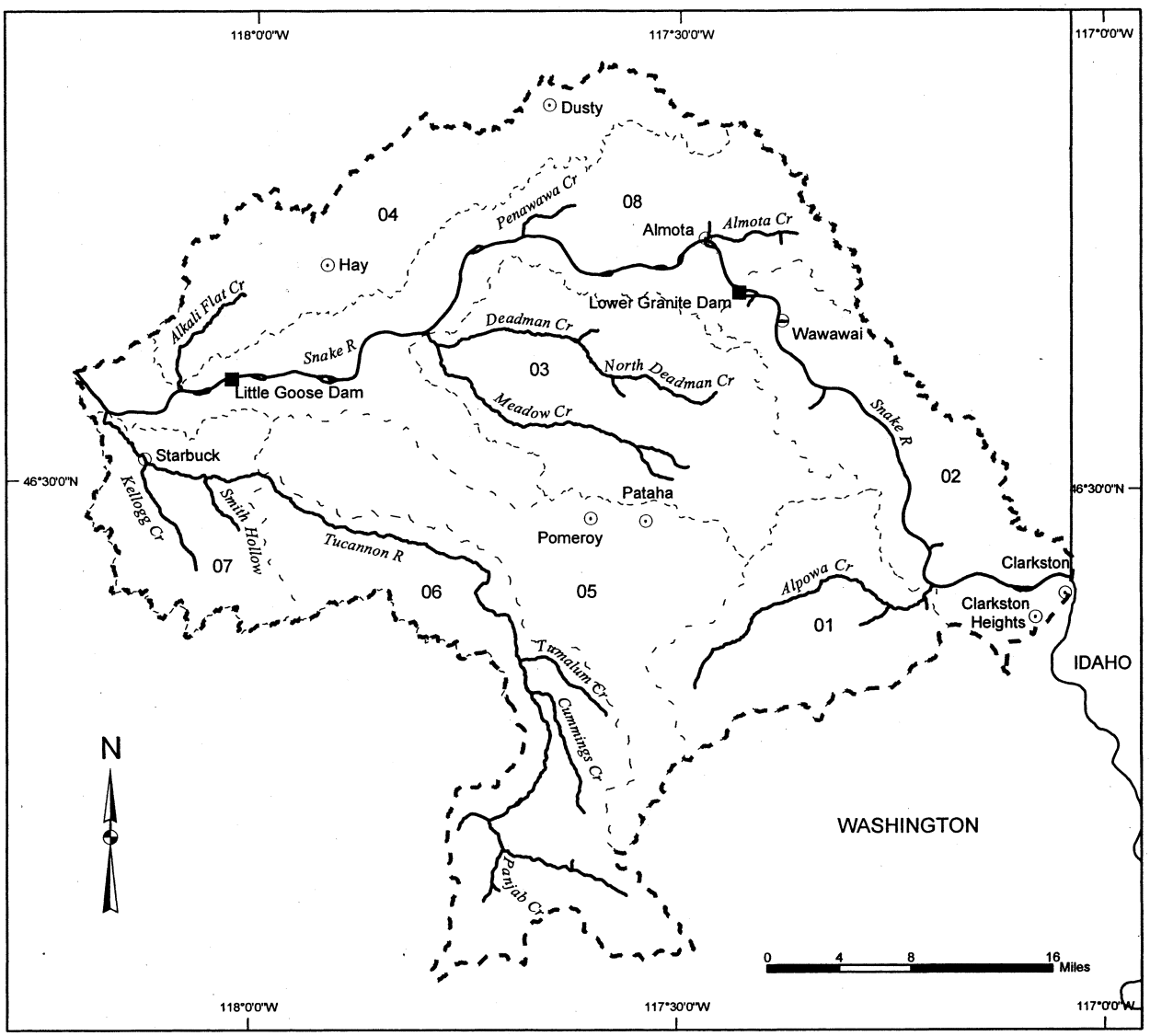
01 - 07 = Watershed code - last 2 digits of 17060106xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LOWER SNAKE / TUCANNON SUBBASIN 17060107, Unit 7

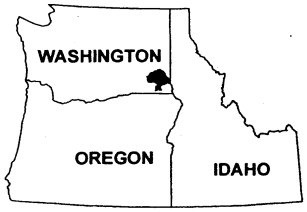


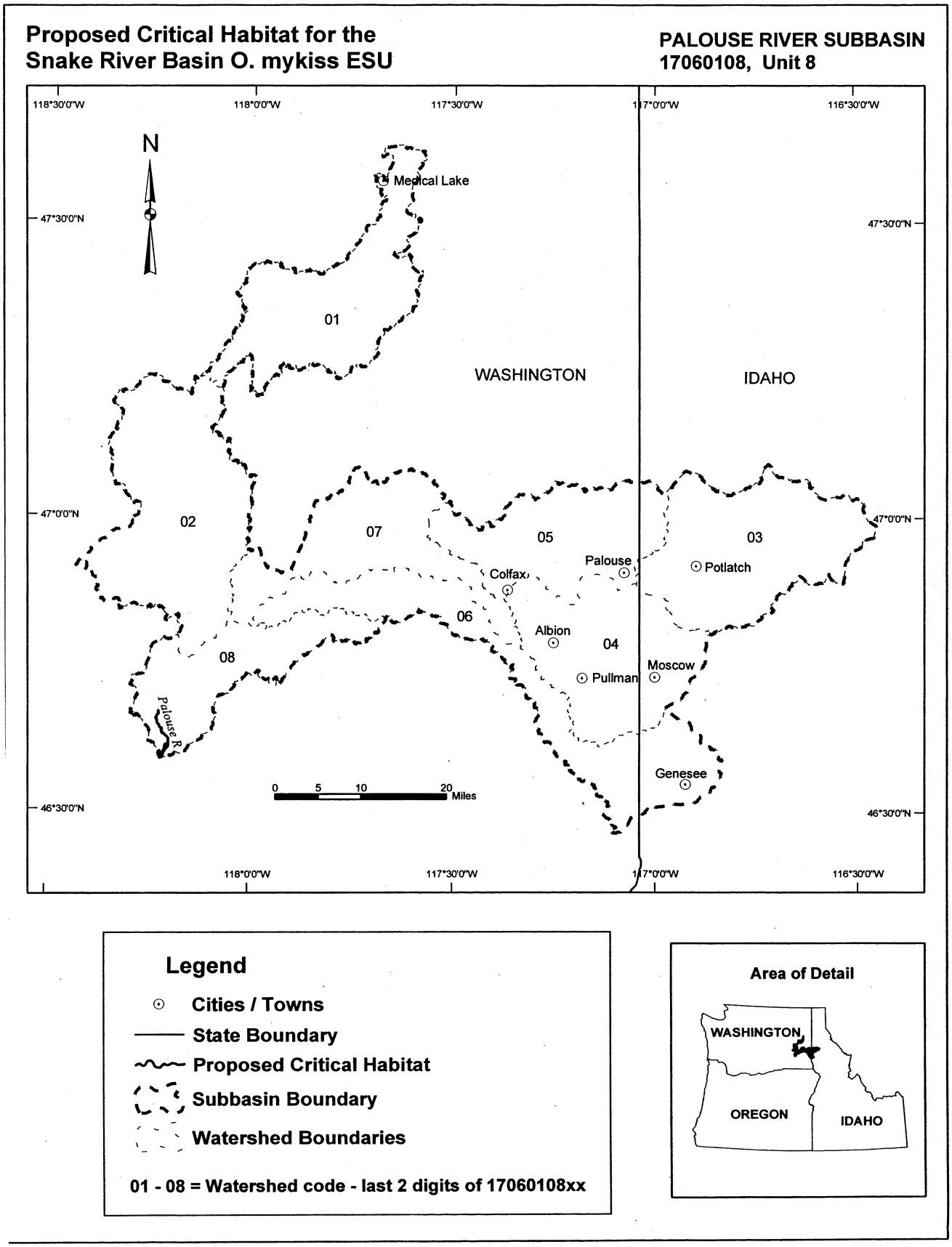
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries
- Dams

01 - 08 = Watershed code - last 2 digits of 17060107xx

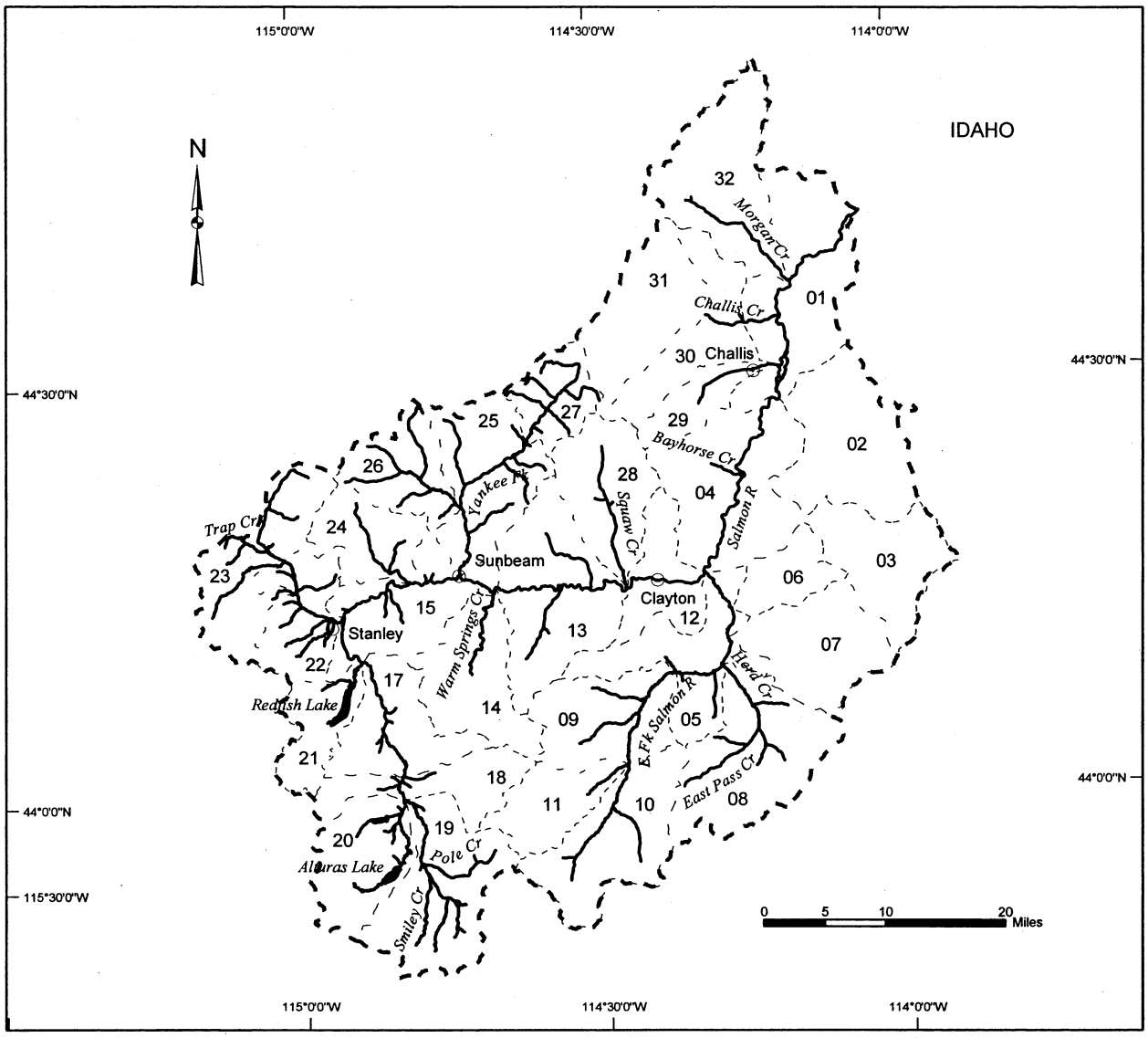
Area of Detail




Proposed Critical Habitat for the
Snake River Basin O. mykiss ESU
PALOUSE RIVER SUBBASIN
17060108, Unit 8
118°30'0"W
118°0'0"W
117°30'0"W
117°0'0"W
116°30'0"W
47°30'0"N
47°0'0"N
46°30'0"N
N
Medical Lake
01
WASHINGTON
IDAHO
02
07
05
03
Palouse
Potlatch
Colfax
06
Albion
04
08
Moscow
Pullman
Palouse R.
Genesee
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 08 = Watershed code - last 2 digits of 17060108xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

UPPER SALMON SUBBASIN 17060201, Unit 9

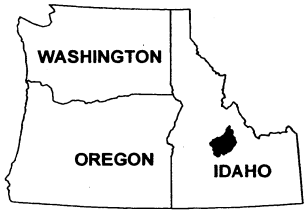


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

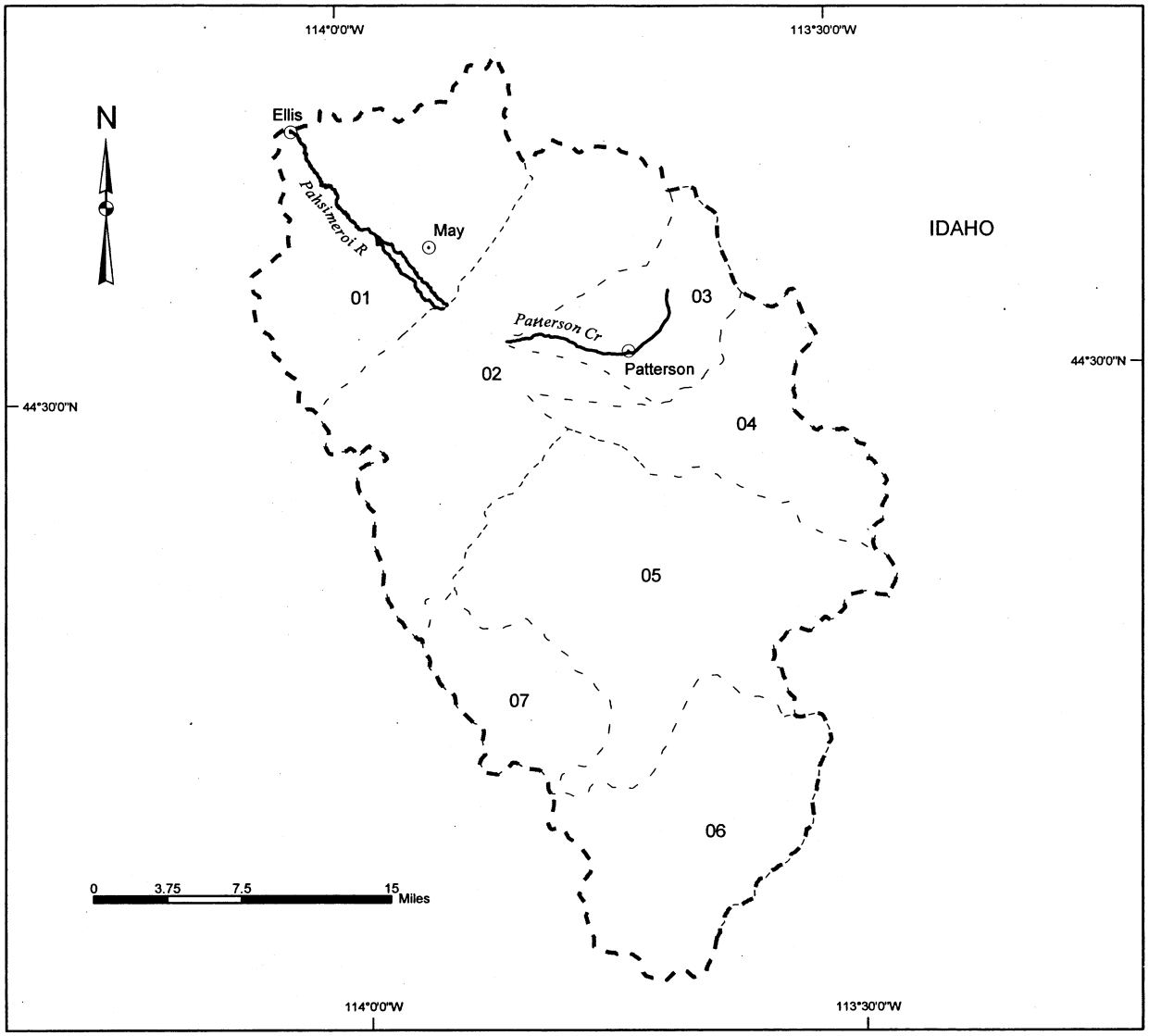
01 - 32 = Watershed code - last 2 digits of 17060201xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

PAHSIMEROI SUBBASIN 17060202, Unit 10

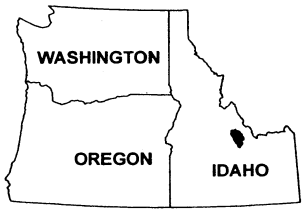


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

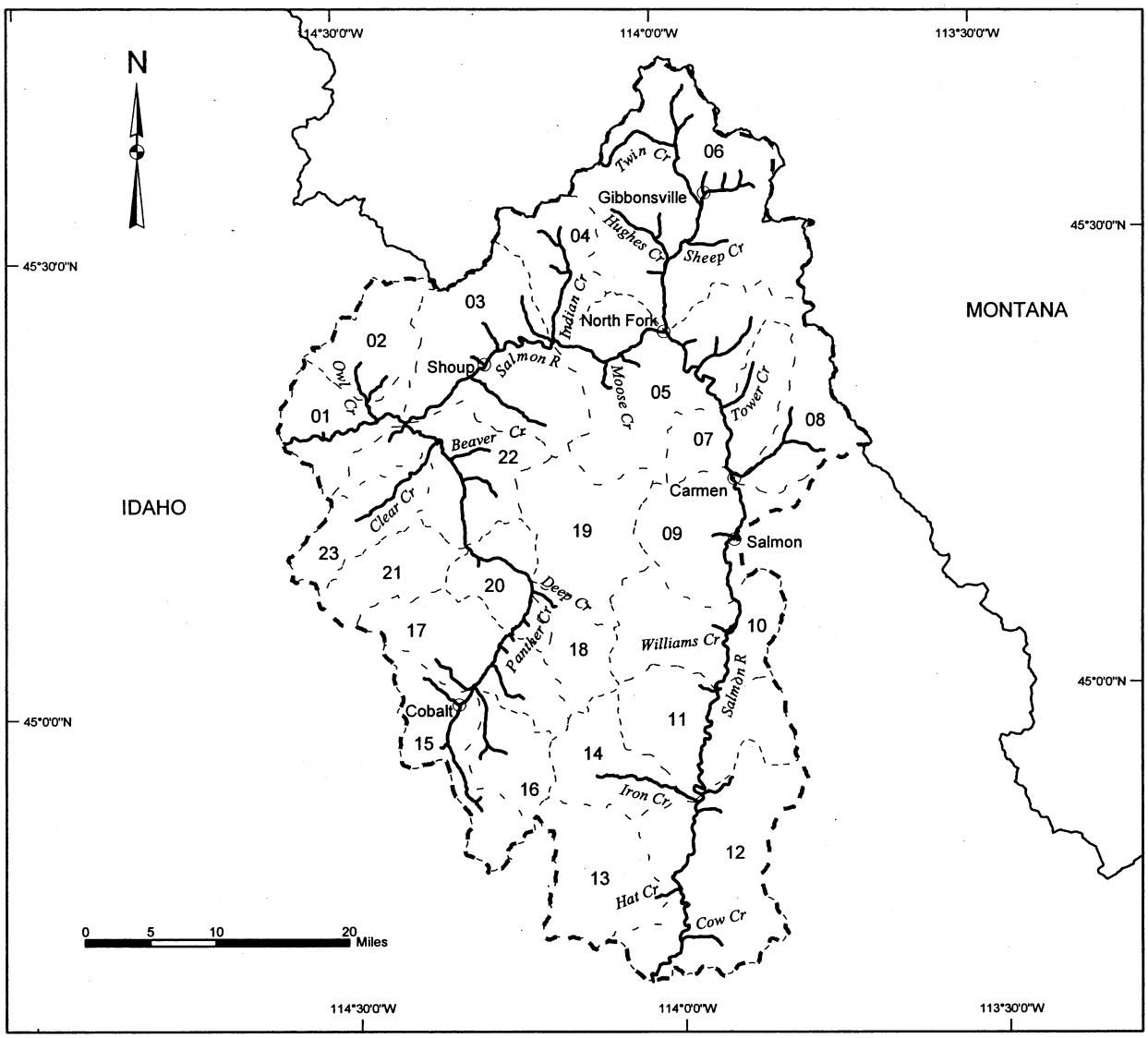
01 - 07 = Watershed code - last 2 digits of 17060202xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

MIDDLE SALMON-PANTHER SUBBASIN 17060203, Unit 11

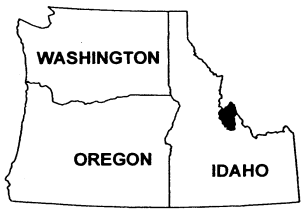


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

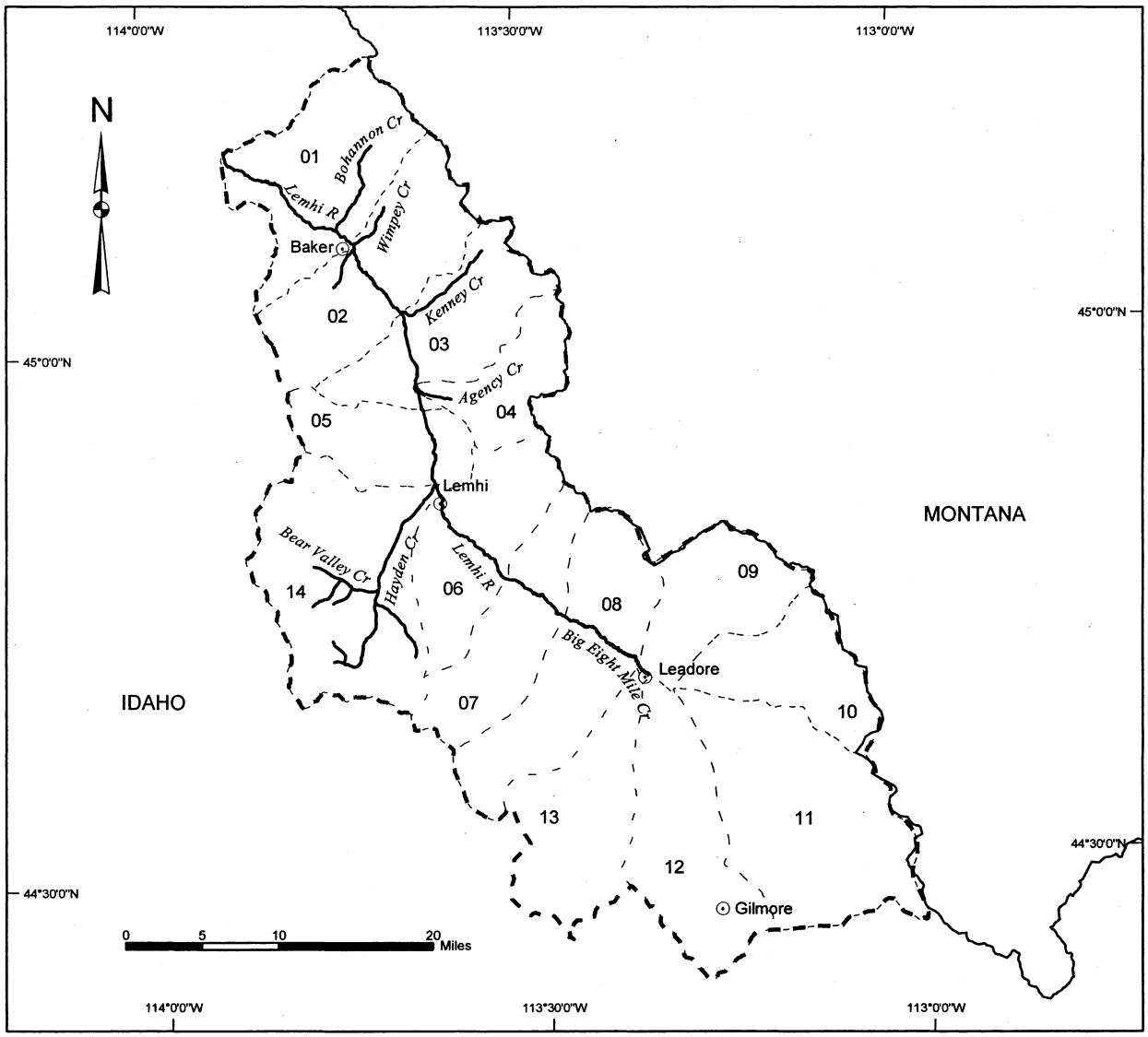
01 - 23 = Watershed code - last 2 digits of 17060203xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LEMHI SUBBASIN 17060204, Unit 12

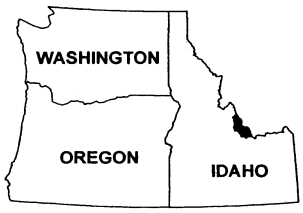


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

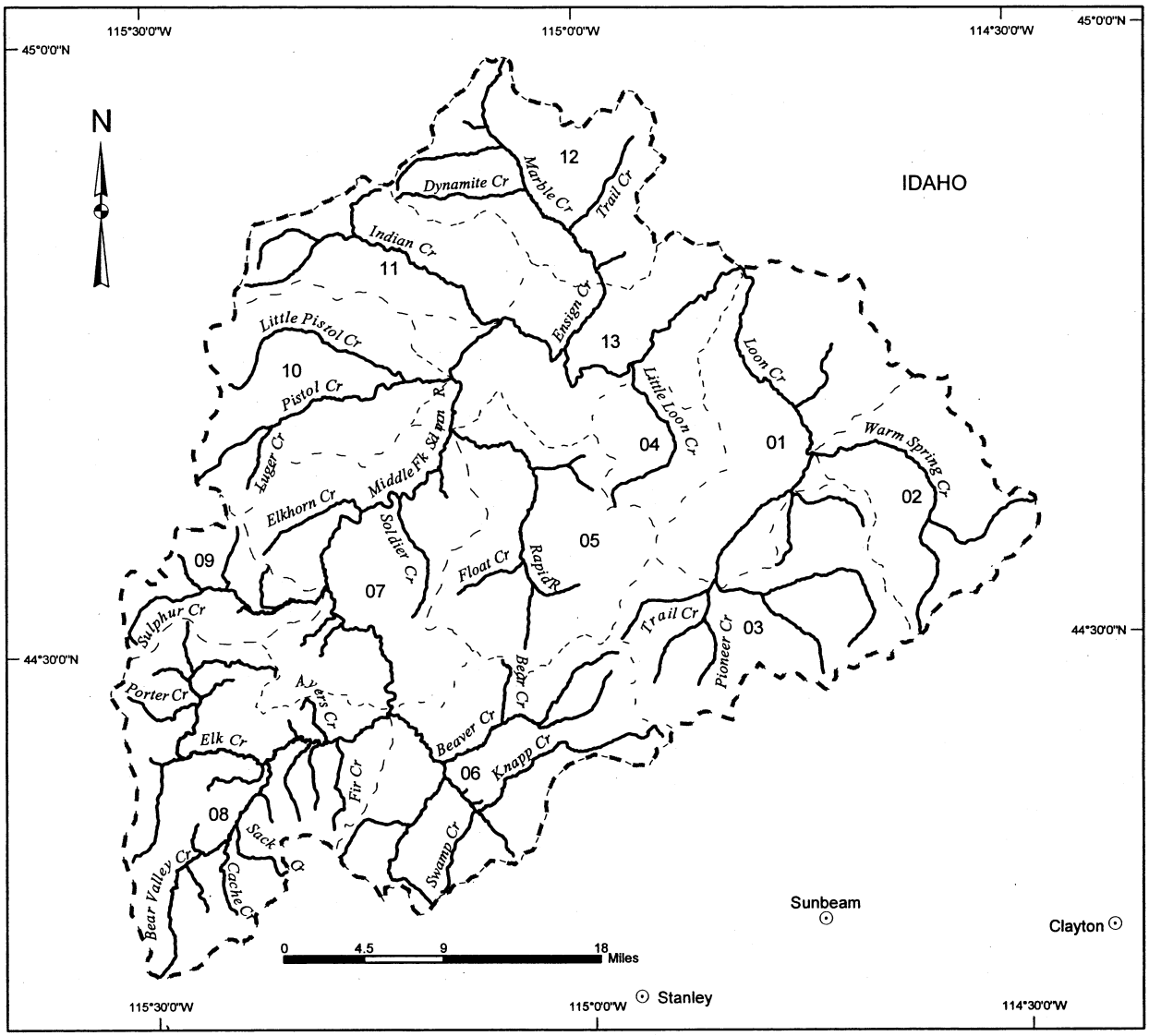
01 - 14 = Watershed code - last 2 digits of 17060204xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

UPPER MIDDLE FORK SALMON SUBBASIN 17060205, Unit 13

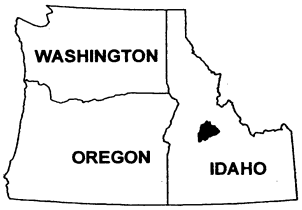


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

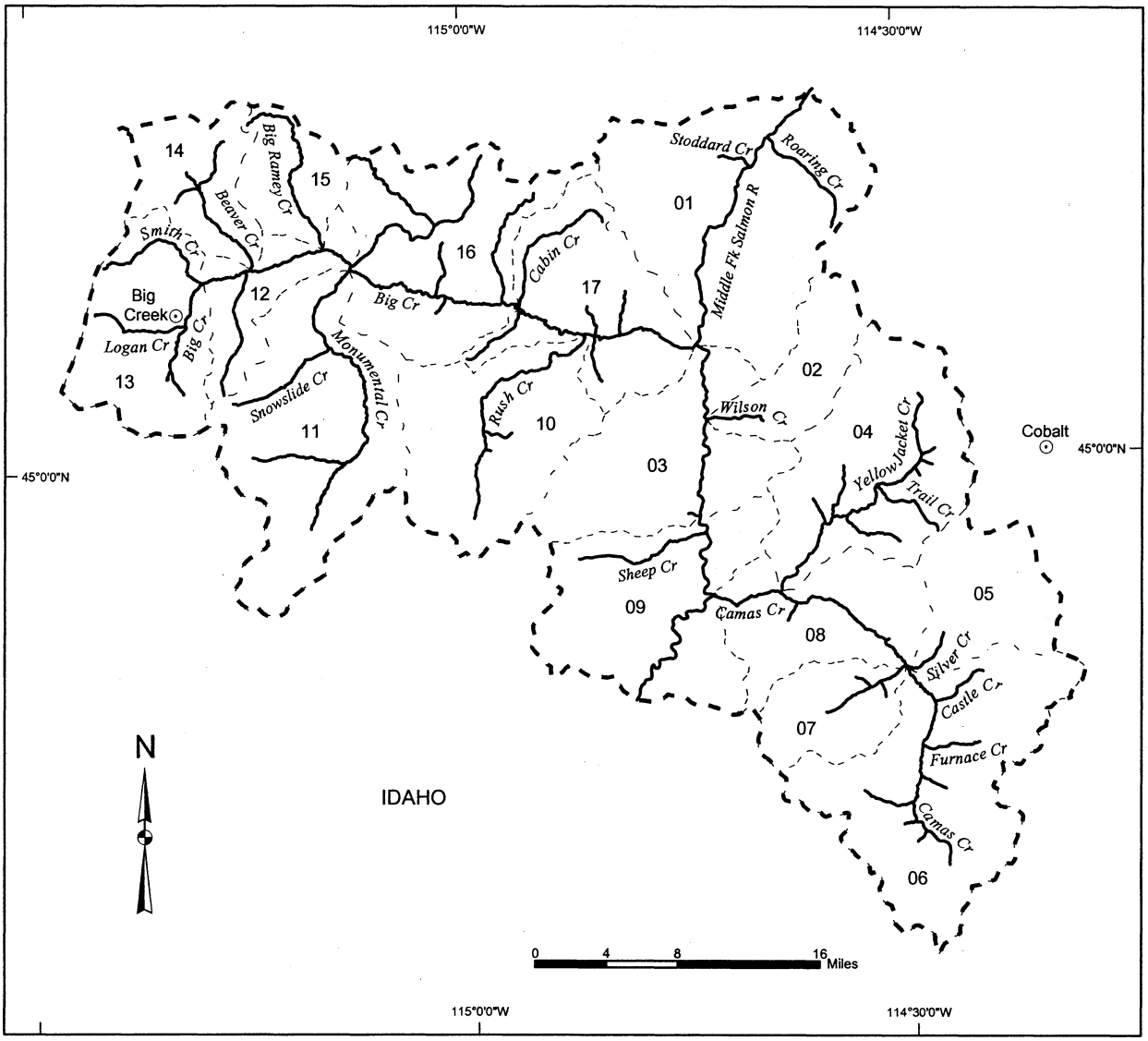
01 - 13 = Watershed code - last 2 digits of 17060205xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LOWER MIDDLE FORK SALMON SUBBASIN 17060206, Unit 14

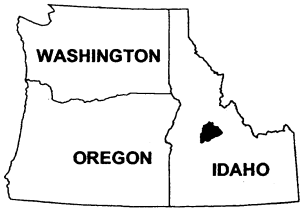


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

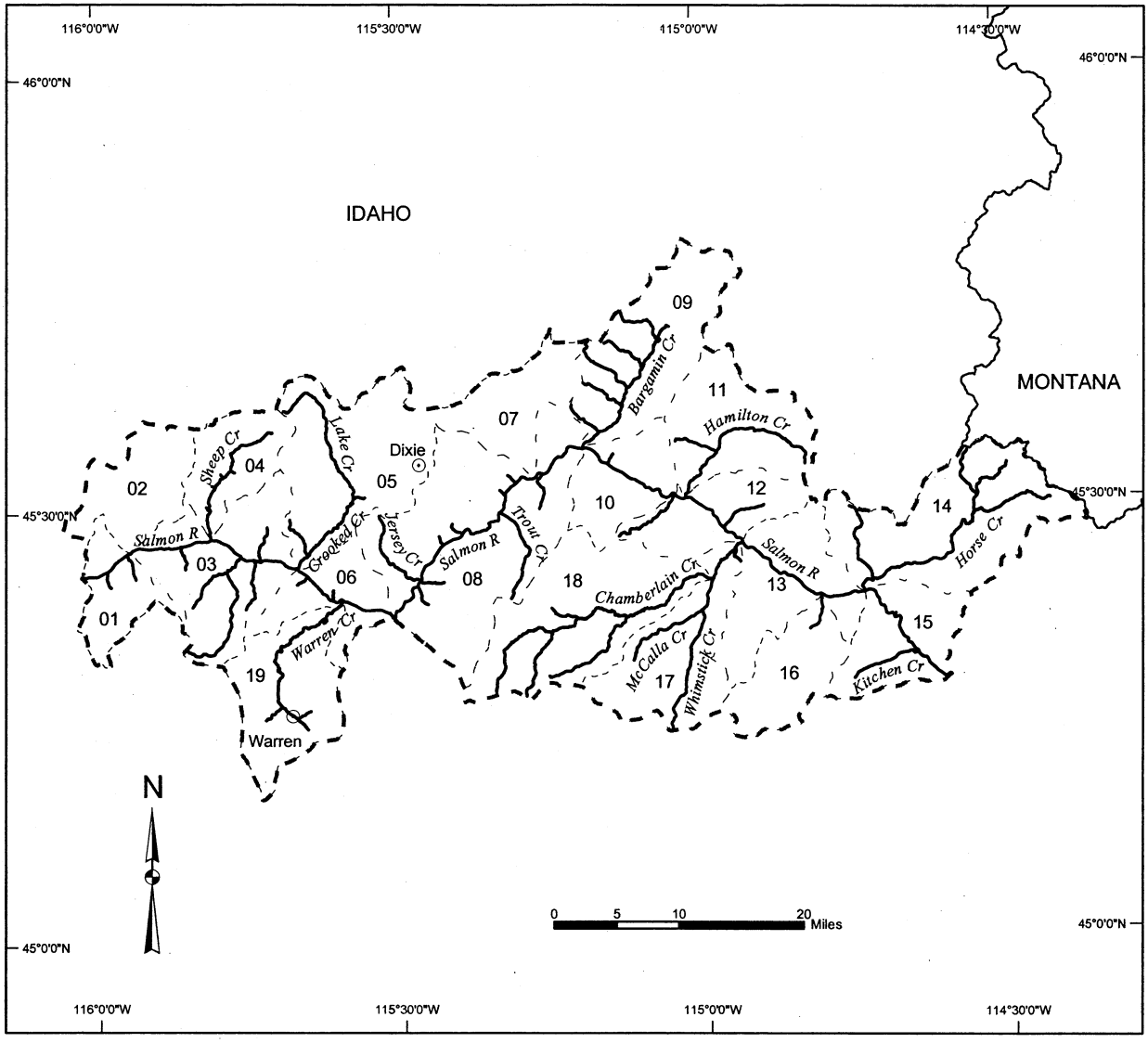
01 - 17 = Watershed code - last 2 digits of 17060206xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

MIDDLE SALMON-CHAMBERLAIN SUBBASIN 17060207, Unit 15

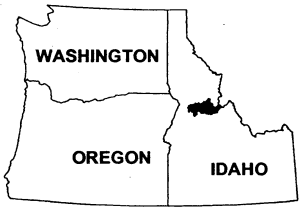


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

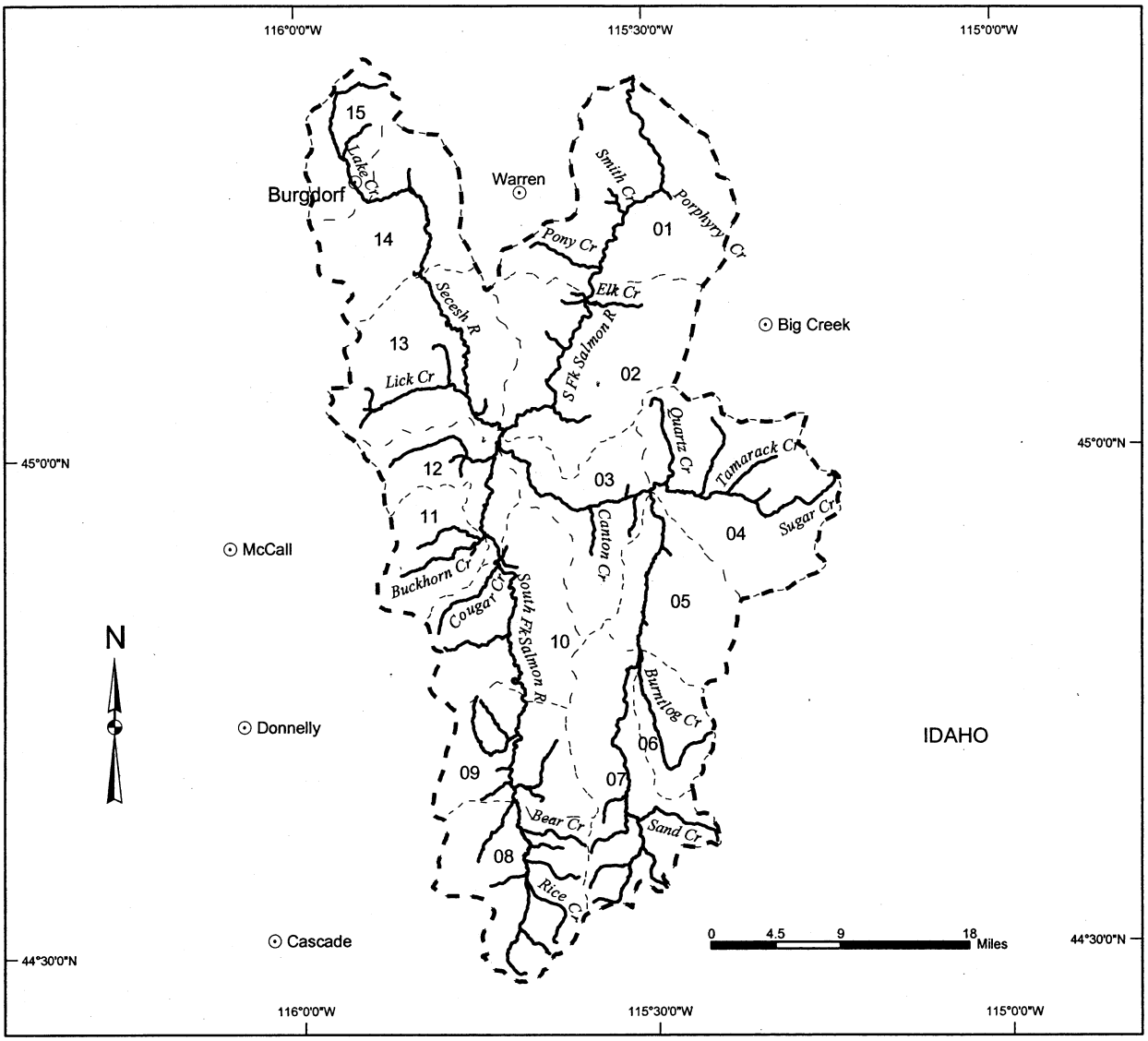
01 - 19 = Watershed code - last 2 digits of 17060207xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

SOUTH FORK SALMON SUBBASIN 17060208, Unit 16

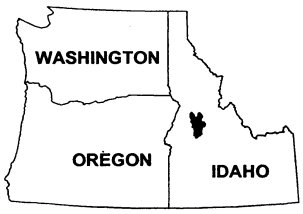


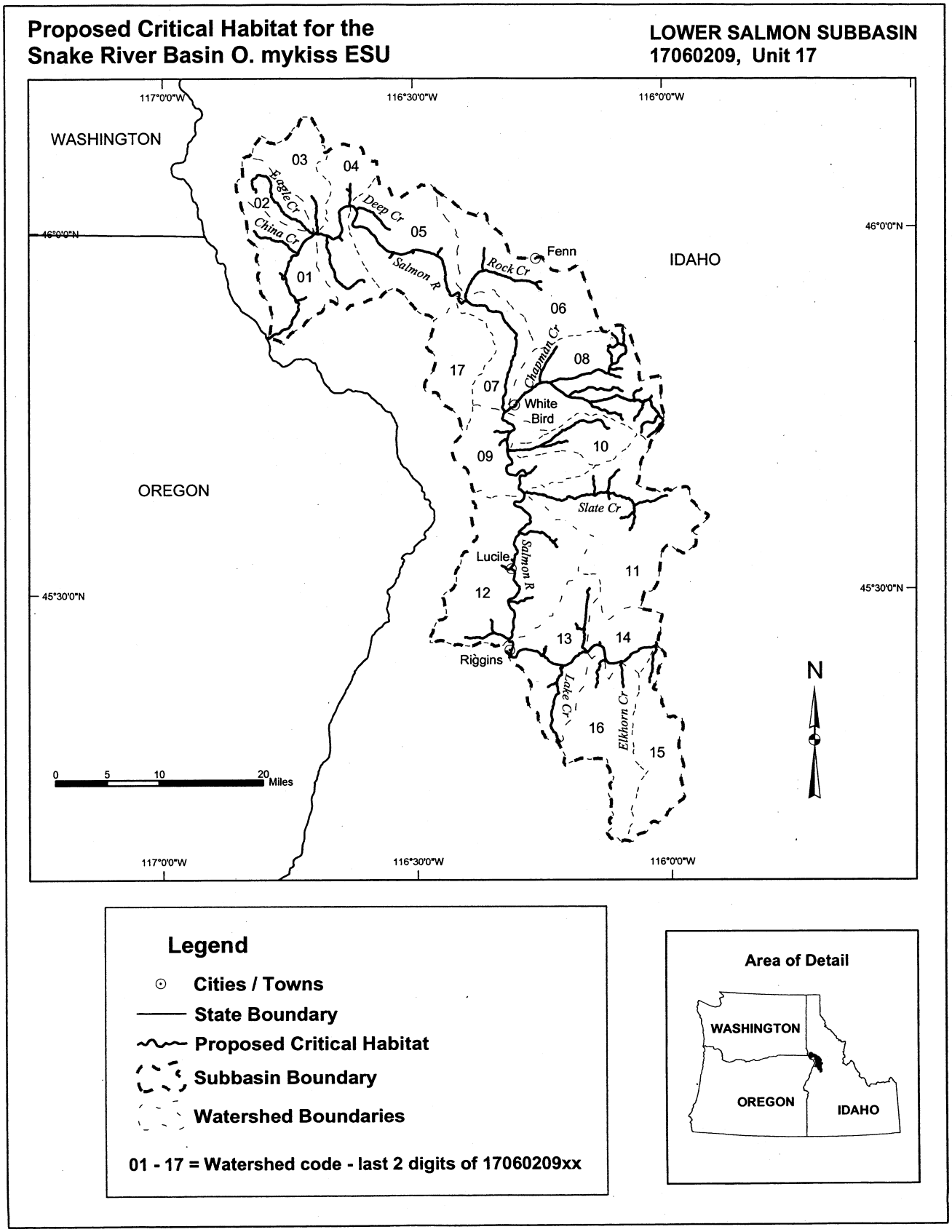
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 15 = Watershed code - last 2 digits of 17060208xx

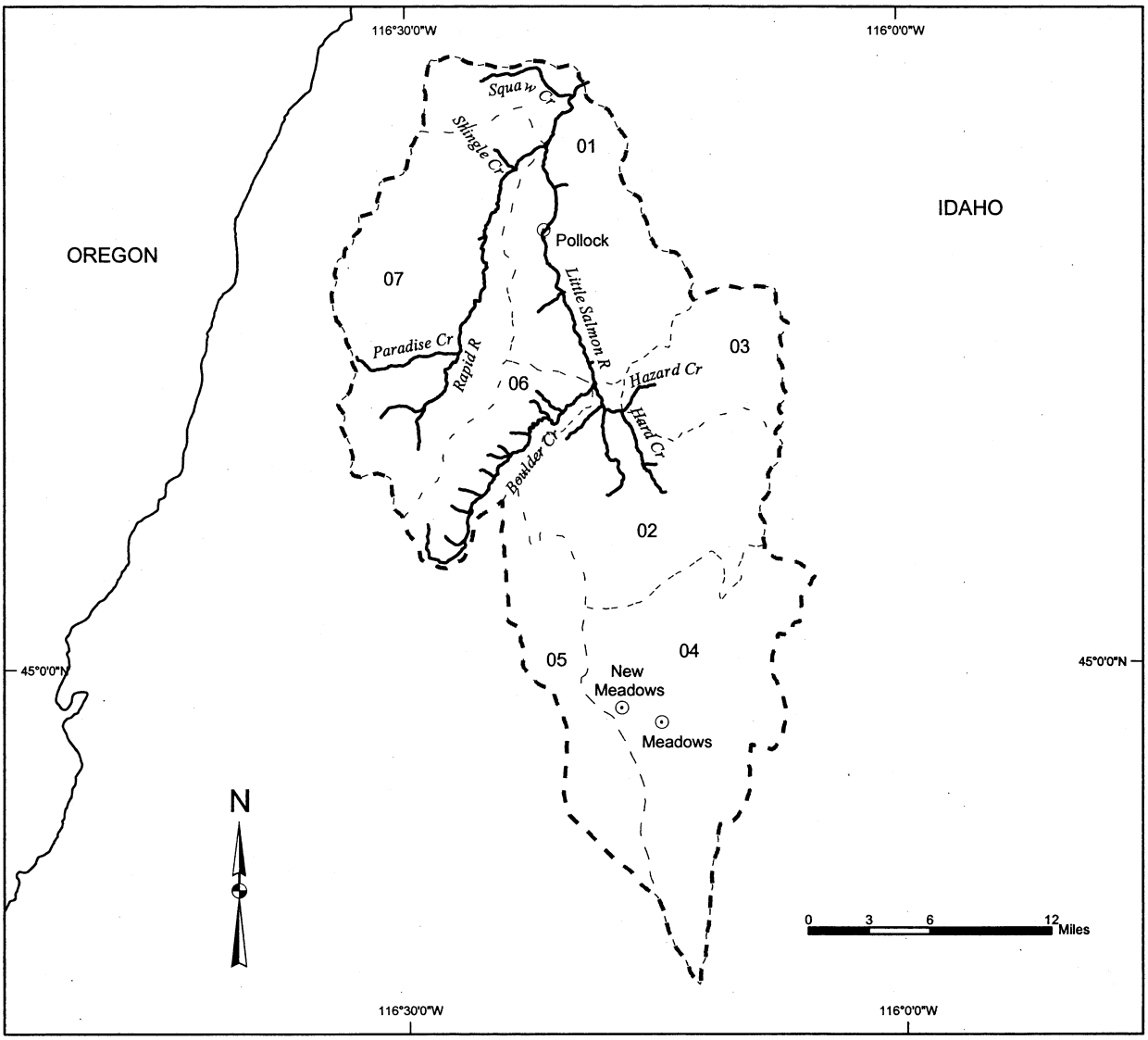
Area of Detail




Proposed Critical Habitat for the
Snake River Basin O. mykiss ESU
LOWER SALMON SUBBASIN
17060209, Unit 17
117°0'0"W
116°30'0"W
116°0'0"W
46°0'0"N
45°30'0"N
WASHINGTON
IDAHO
OREGON
03
04
02
01
05
06
08
07
17
09
10
11
12
13
14
15
16
Eagle Cr
China Cr
Deep Cr
Salmon R
Rock Cr
Fenn
Chapman Cr
White Bird
Slate Cr
Lucile
Salmon R
Riggins
Lake Cr
Elkhorn Cr
N
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 17 = Watershed code - last 2 digits of 17060209xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LITTLE SALMON SUBBASIN 17060210, Unit 18



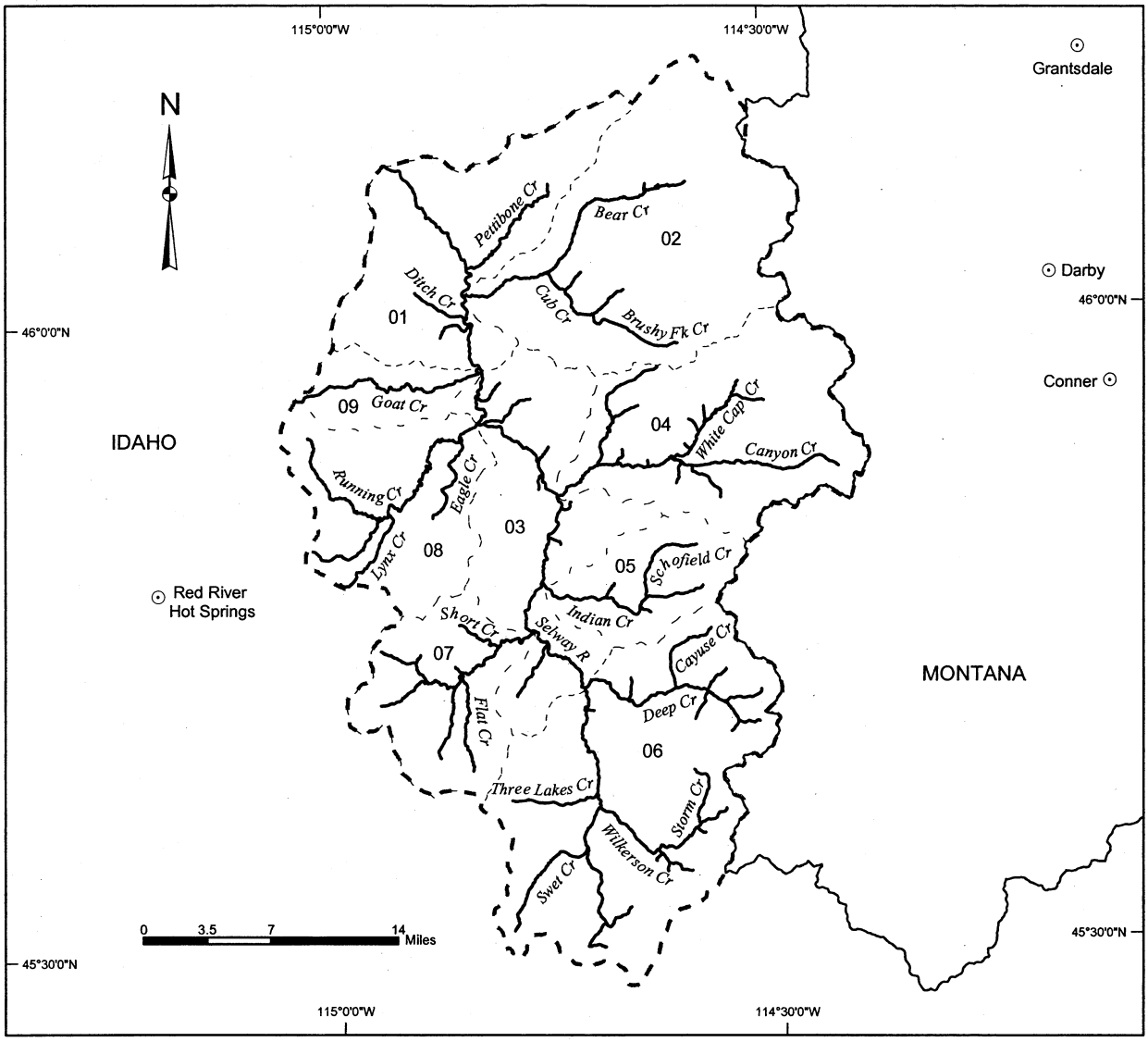
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 07 = Watershed code - last 2 digits of 17060210xx

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

UPPER SELWAY SUBBASIN 17060301, Unit 19

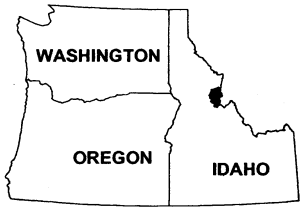


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

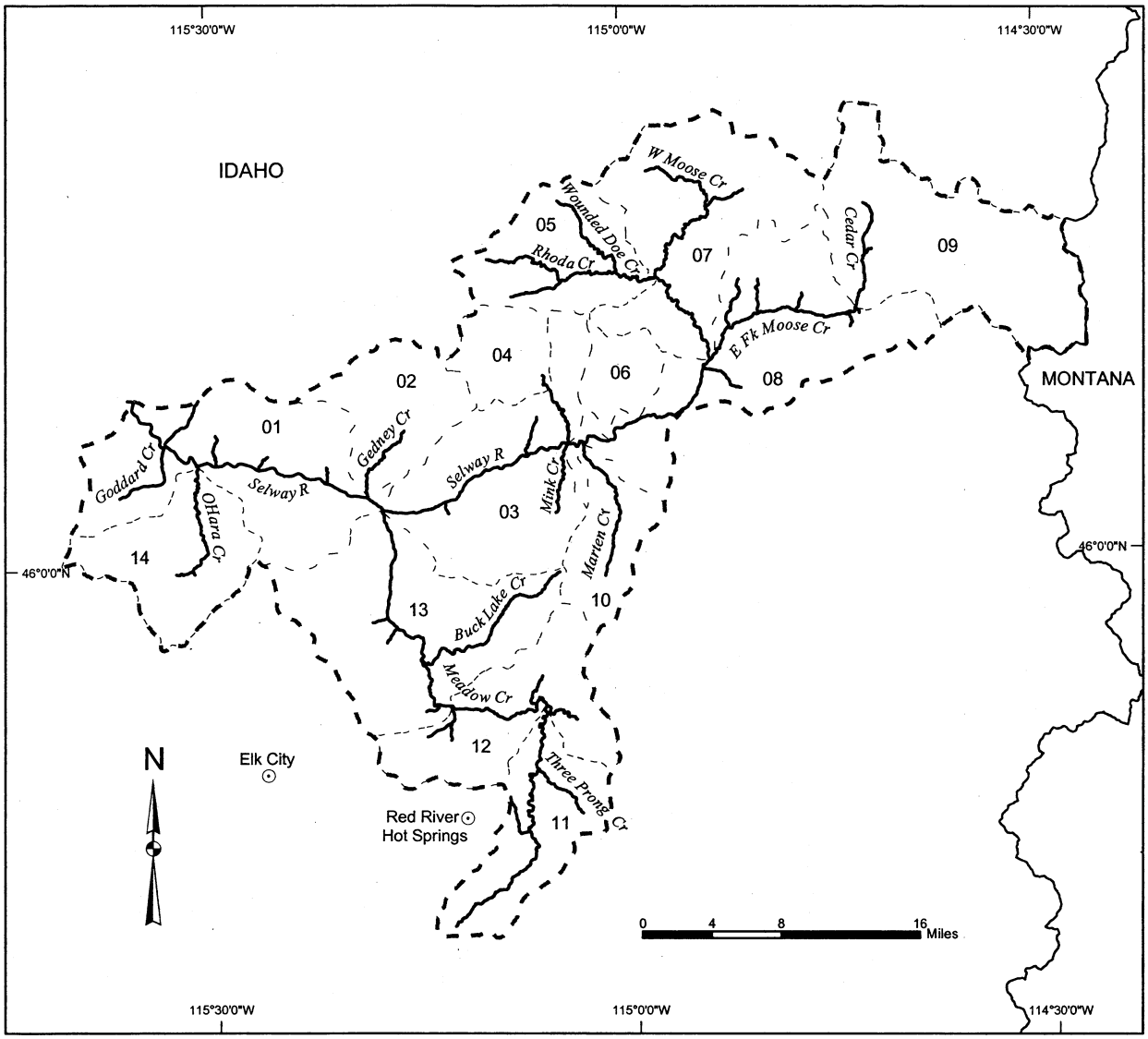
01 - 09 = Watershed code - last 2 digits of 17060301xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

LOWER SELWAY SUBBASIN 17060302, Unit 20

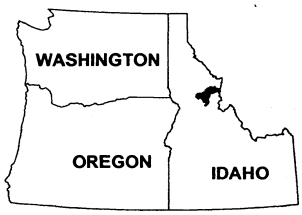


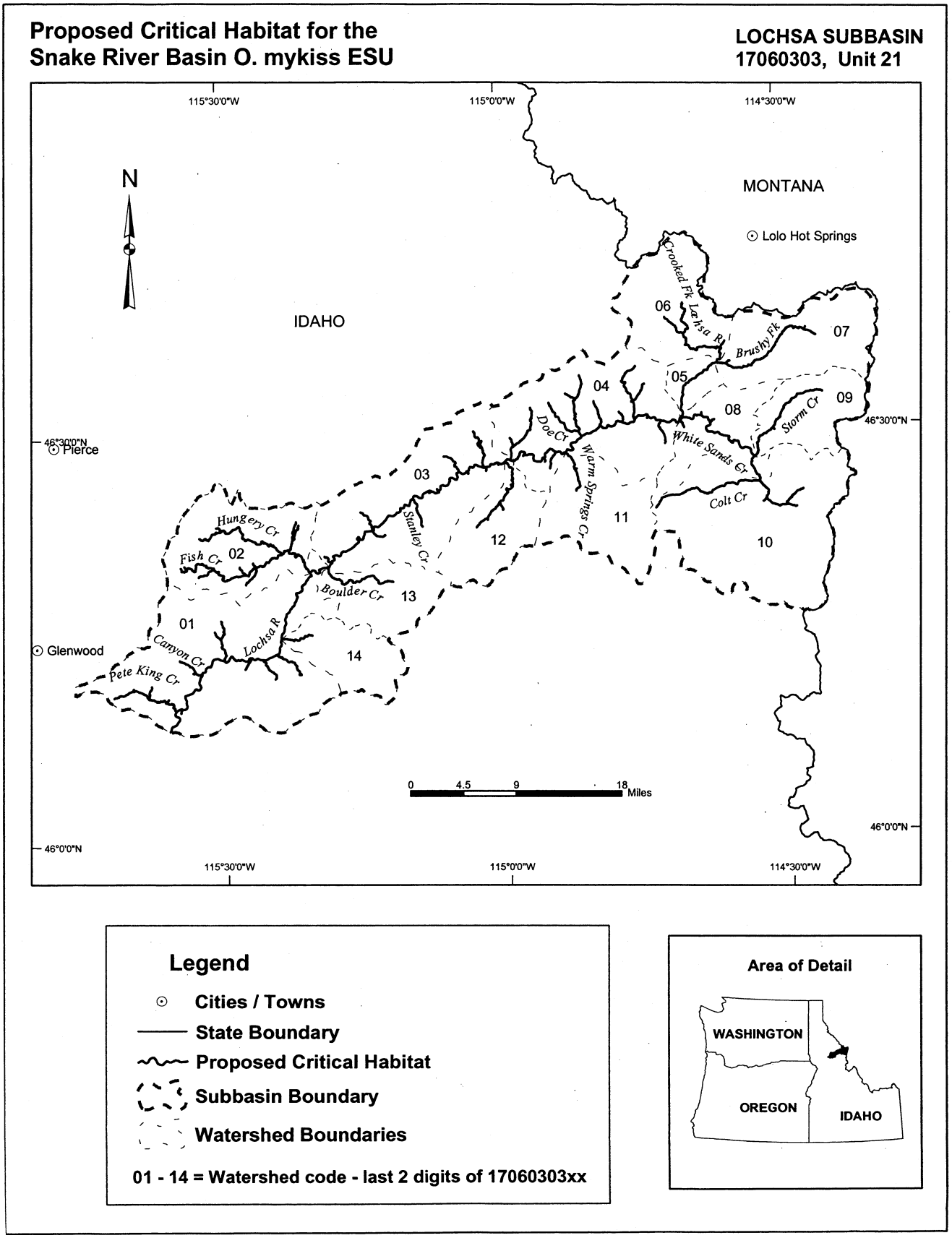
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 14 = Watershed code - last 2 digits of 17060302xx

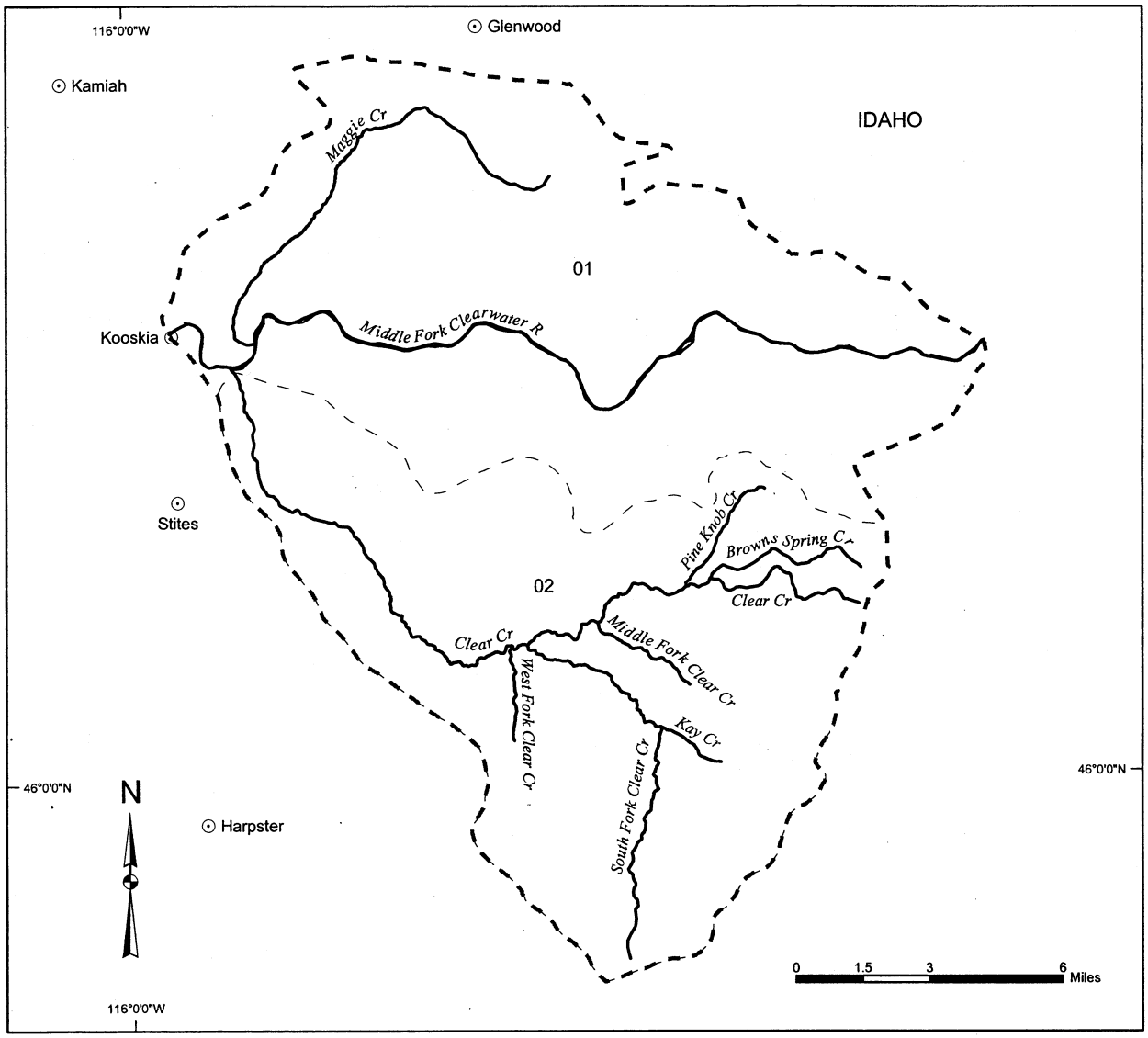
Area of Detail




Proposed Critical Habitat for the
Snake River Basin O. mykiss ESU
LOCHSA SUBBASIN
17060303, Unit 21
115°30'0"W
115°0'0"W
114°30'0"W
N
MONTANA
Lolo Hot Springs
IDAHO
Crooked Fk
Lochsa R
Brushy Fk
06
07
05
04
08
09
Storm Cr
Doe Cr
Warm Springs Cr
White Sands Cr
46°30'0"N
Pierce
03
Colt Cr
11
10
Hungery Cr
Stanley Cr
12
Fish Cr
02
Boulder Cr
13
01
Canyon Cr
Lochsa R
14
Glenwood
Pete King Cr
0 4.5 9 18 Miles
46°0'0"N
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 14 = Watershed code - last 2 digits of 17060303xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

MIDDLE FORK CLEARWATER SUBBASIN 17060304, Unit 22

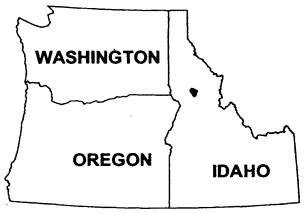


Legend

- citiesx020alb point selection
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

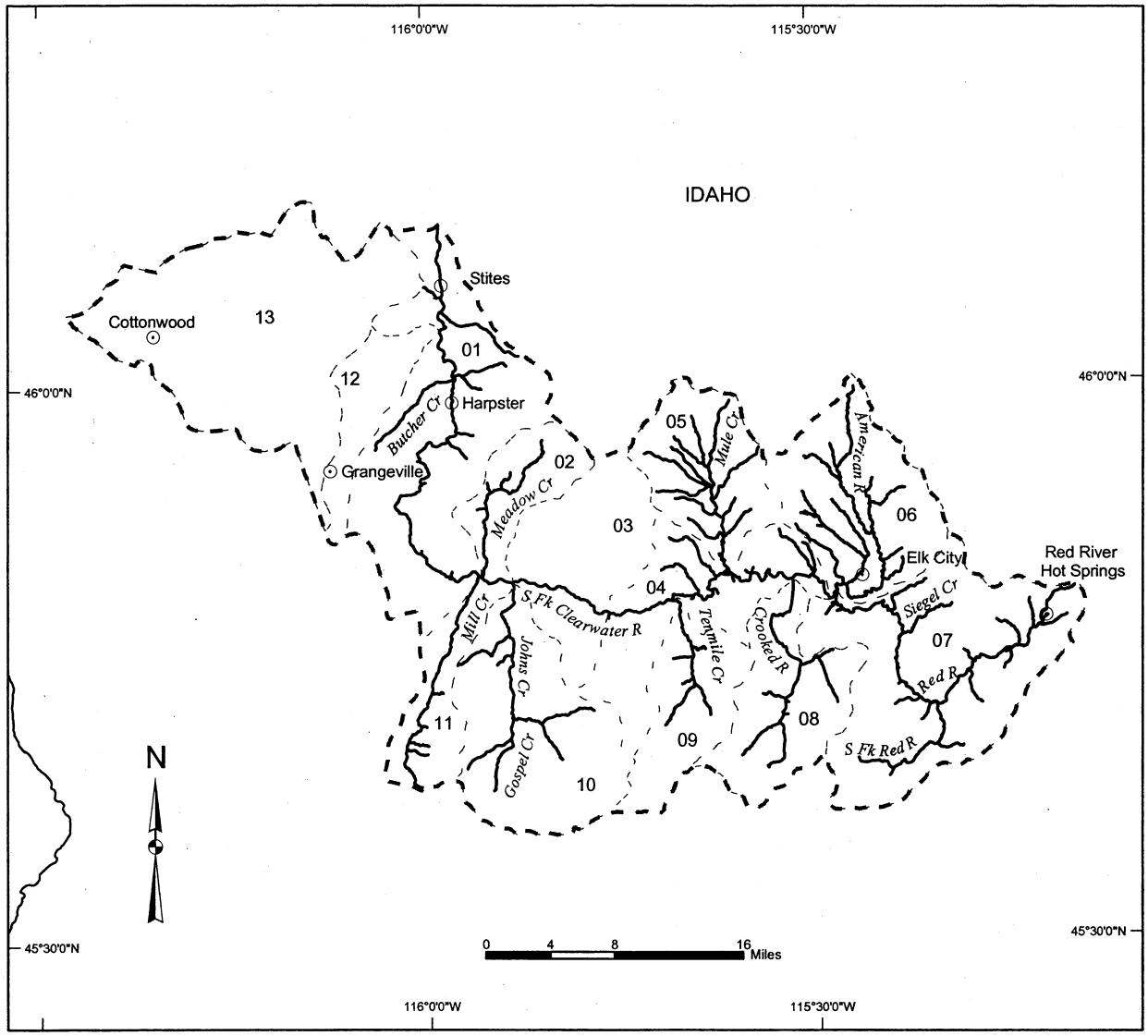
01 - 02 = Watershed code - last 2 digits of 17060304xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

SOUTH FORK CLEARWATER SUBBASIN 17060305, Unit 23

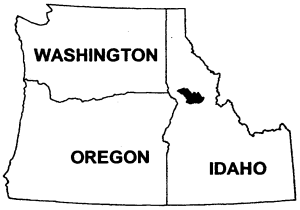


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

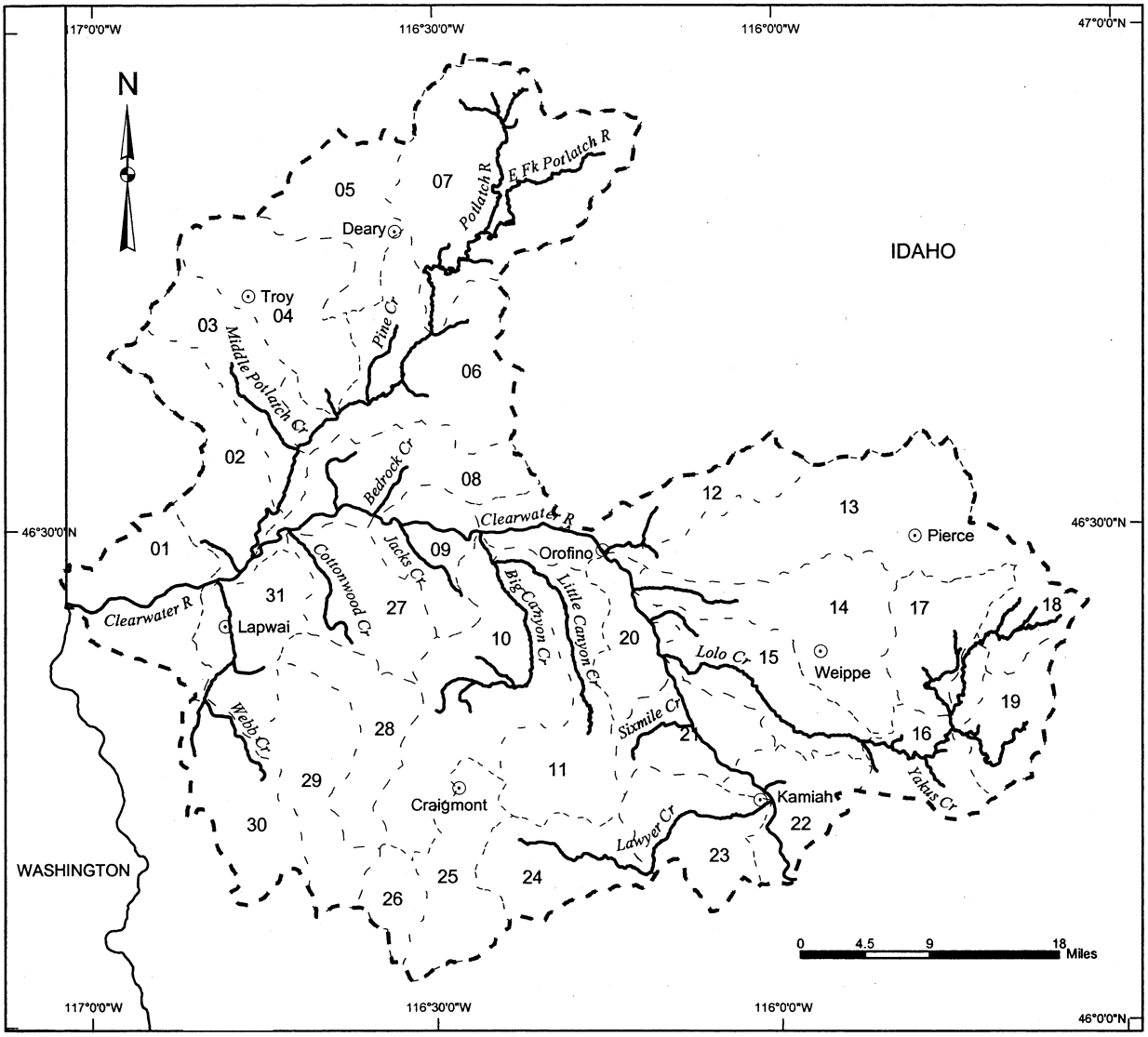
01 - 13 = Watershed code - last 2 digits of 17060305xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin O. mykiss ESU

CLEARWATER SUBBASIN 17060306, Unit 24

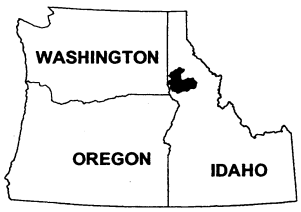


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

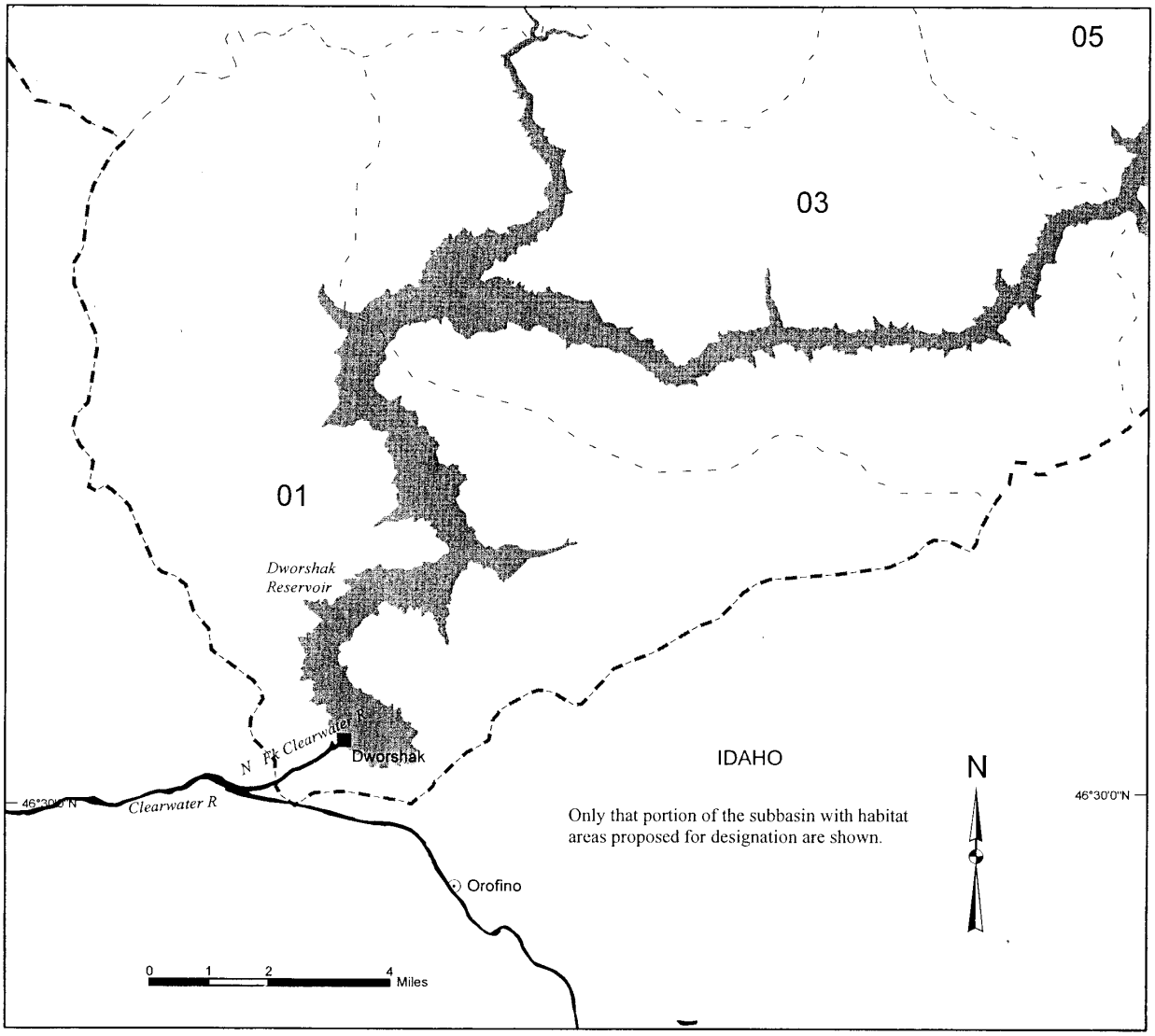
01 - 31 = Watershed code - last 2 digits of 17060306xx

Area of Detail



Proposed Critical Habitat for the Snake River Basin Steelhead ESU

LOWER NORTH FORK CLEARWATER SUBBASIN 17060308, Unit 25

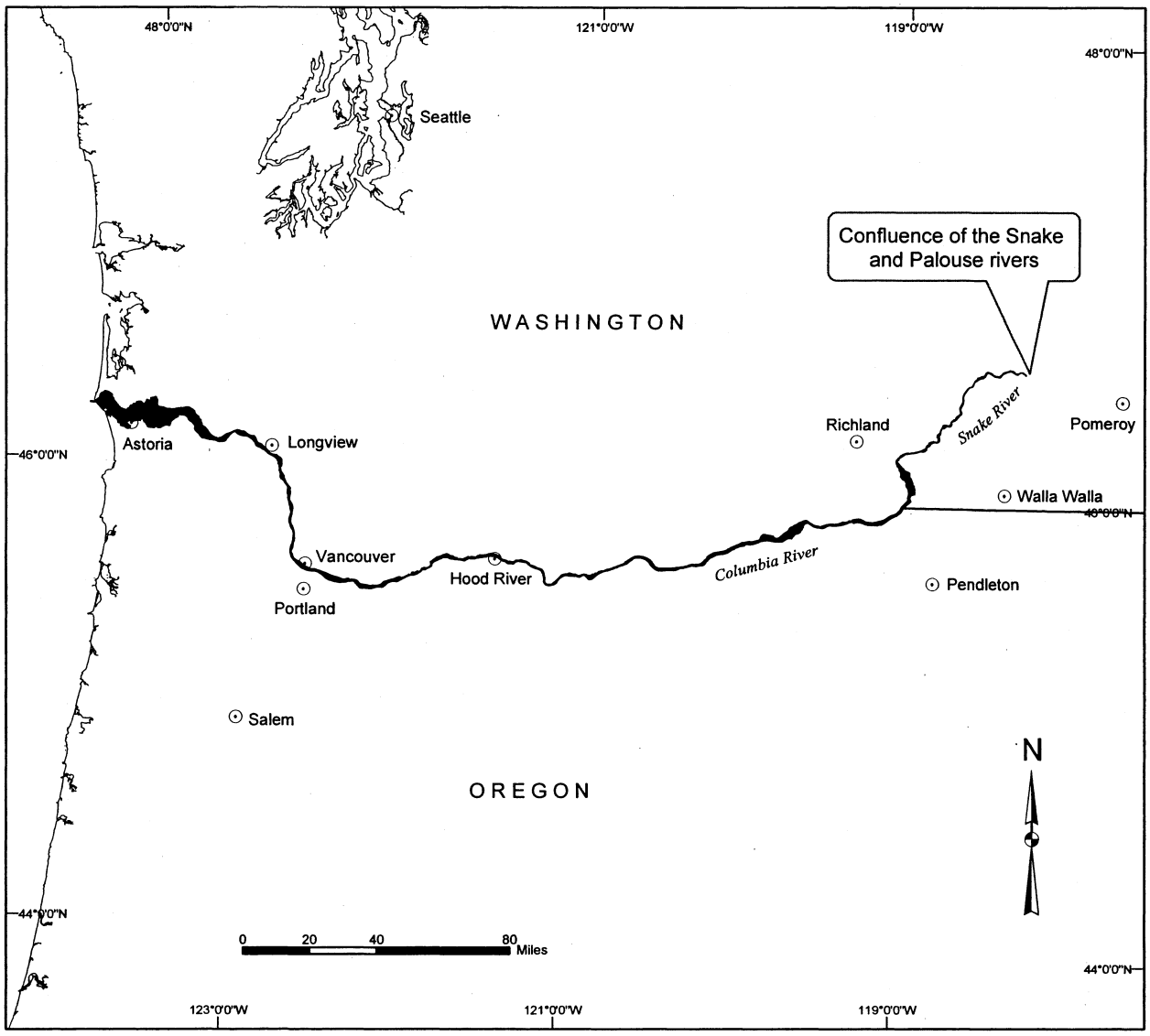


Legend

- Dams
- Cities / Towns
- Proposed Critical Habitat
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

01 - 12 = Watershed code - last 2 digits of 17060308xx

Rearing / Migration Corridor for the Snake River Basin O. mykiss ESU, Unit 26



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Snake River O. mykiss ESU

Unit 26. Lower Snake / Columbia River corridor
The Lower Snake / Columbia River corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to the confluence of the Snake and Palouse rivers.

BILLING CODE 3510–22–C

(p) Middle Columbia River Oncorhynchus mykiss. Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Upper Yakima Subbasin 17030001—*Upper Yakima River Watershed 1703000101.* Outlet(s) = Yakima River (Lat 47.1770, Long −120.9964) upstream to endpoint(s) in: Big Creek (47.1951, −121.1181); Cabin Creek (47.2140, −121.2400); Cle Elum River (47.2457, −121.0729); Kachess River (47.2645, −121.2062); Little Creek (47.2002, −121.0842); Peterson Creek (47.1765, −121.0592); Tucker Creek (47.2202, −121.1639); Yakima River (47.3219, −121.3371).

(ii) Tenaway River Watershed 1703000102. Outlet(s) = Yakima River (Lat 47.1673, Long −120.8338) upstream to endpoint(s) in: Bear Creek (47.3684, −120.7902); Dickey Creek (47.2880, −120.8322); Indian Creek (47.3216, −120.8145); Jack Creek (47.3414, −120.8130); Jungle Creek (47.3453, −120.8951); Mason Creek (47.2528, −120.7889); Middle Creek (47.2973, −120.8204); Middle Fork Teanaway River (47.3750, −120.9800); North Fork Teanaway River (47.3851, −120.8936); Tillman Creek (47.1698, −120.9798); Unnamed (47.2809, −120.8995); West Fork Teanaway River (47.3040, −121.0179); Yakima River (47.1770, −120.9964).

(iii) Middle Upper Yakima River Watershed 1703000103. Outlet(s) = Yakima River (Lat 46.8987, Long −120.5035) upstream to endpoint(s) in: Badger Creek (46.9305, −120.4805); Coleman Creek (46.9636, −120.4764); Cooke Creek (46.9738, −120.4381); Dry Creek (47.0366, −120.6122); Iron Creek (47.3495, −120.7032); Manastash Creek (46.9657, −120.7347); Naneum Creek (46.9561, −120.4987); North Fork Taneum Creek (47.1224, −121.0396); Reecer Creek (47.0066, −120.5817); South Fork Taneum Creek (47.0962, −120.9713); Swauk Creek (47.3274, −120.6586); Unnamed (46.9799, −120.5407); Unnamed (47.0000, −120.5524); Unnamed (47.0193, −120.5676); Williams Creek (47.2638, −120.6513); Wilson Creek (46.9931, −120.5497); Yakima River (47.1673, −120.8338).

(iv) Umtanum/Wenas Watershed 1703000104. Outlet(s) = Yakima River (Lat 46.6309, Long −120.5130) upstream to endpoint(s) in: Burbank Creek (46.7663, −120.4238); Lmuma Creek (46.8224, −120.4510); Umtanum Creek (46.8928, −120.6130); Wenas Creek (46.7087, −120.5179); Yakima River (46.8987, −120.5035).

(2) Unit 2. Naches Subbasin 17030002—*(i) Little Naches River Watershed 1703000201.* Outlet(s) = Little Naches River (Lat 46.9854, Long −121.0915) upstream to endpoint(s) in: American River (46.9008, −121.4194); Barton Creek (46.8645, −121.2869); Bear Creek (47.0793, −121.2415); Blowout Creek (47.0946, −121.3046); Crow Creek (47.0147, −121.3241); Goat Creek (46.9193, −121.2269); Kettle Creek (46.9360, −121.3262); Mathew Creek (47.0829, −121.1944); Miner Creek (46.9542, −121.3074); Morse Creek (46.9053, −121.4131); North Fork Little Naches River (47.0958, −121.3141); Parker Creek (46.9589, −121.2900); Pinus Creek (46.9682, −121.2766); Quartz Creek (47.0382, −121.1128); Scab Creek (46.8969, −121.2459); South Fork Little Naches River (47.0574, −121.2760); Sunrise Creek (46.9041, −121.2448); Survey Creek (46.9435, −121.3296); Timber Creek (46.9113, −121.3822); Unnamed (46.8705, −121.2809); Unnamed (46.8741, −121.2956); Unnamed (46.8872, −121.2811); Unnamed (46.8911, −121.2816); Unnamed (46.9033, −121.4162); Unnamed (46.9128, −121.2286); Unnamed (46.9132, −121.4058); Unnamed (46.9158, −121.3710); Unnamed (46.9224, −121.2200); Unnamed (46.9283, −121.3484); Unnamed (46.9302, −121.2103); Unnamed (46.9339, −121.1970); Unnamed (46.9360, −121.3482); Unnamed (46.9384, −121.3200); Unnamed (46.9390, −121.1898); Unnamed (46.9396, −121.3404); Unnamed (46.9431, −121.3088); Unnamed (46.9507, −121.2894); Unnamed (47.0774, −121.3092); Wash Creek (46.9639, −121.2810).

(ii) Naches River/Rattlesnake Creek Watershed 1703000202. Outlet(s) = Naches River (Lat 46.7467, Long −120.7858) upstream to endpoint(s) in: Glass Creek (46.8697, −121.0974); Gold Creek (46.9219, −121.0464); Hindoo Creek (46.7862, −121.1689); Little Rattlesnake Creek (46.7550, −121.0543); Lost Creek (46.9200, −121.0568); Naches River (46.9854, −121.0915); North Fork Rattlesnake Creek (46.8340, −121.1439); Rattlesnake Creek (46.7316, −121.2339); Rock Creek (46.8847, −120.9718).

(iii) Naches River/Tieton River Watershed 1703000203. Outlet(s) = Naches River (Lat 46.6309, Long −120.5130) upstream to endpoint(s) in: Naches River (46.7467, −120.7858); Oak Creek (46.7295, −120.9348); South Fork Cowiche Creek (46.6595, −120.7601); Tieton River (46.6567, −121.1287); Unnamed (46.6446, −120.5923); Wildcat Creek (46.6715, −121.1520).

(3) Unit 3. Lower Yakima Subbasin 17030003—*(i) Ahtanum Creek Watershed 1703000301.* Outlet(s) = Ahtanum Creek (Lat 46.5283, Long −120.4732) upstream to endpoint(s) in: Foundation Creek (46.5349, −121.0134); Middle Fork Ahtanum Creek (46.5075, −121.0225); Nasty Creek (46.5718, −120.9721); North Fork Ahtanum Creek (46.5217, −121.0917); South Fork Ahtanum Creek (46.4917, −120.9590); Unnamed (46.5811, −120.6390).

(ii) Upper Lower Yakima River Watershed 1703000302. Outlet(s) = Yakima River (Lat 46.5283, Long −120.4732) upstream to endpoint(s) in: Unnamed (46.5460, −120.4383); Yakima River (46.6309, −120.5130).

(iii) Upper Toppenish Creek Watershed 1703000303. Outlet(s) = Toppenish Creek (Lat 46.3767, Long −120.6172) upstream to endpoint(s) in: Agency Creek (46.3619, −120.9646); Branch Creek (46.2958, −120.9969); North Fork Simcoe Creek (46.4548, −120.9307); North Fork Toppenish Creek (46.3217, −120.9985); Old Maid Canyon (46.4210, −120.9349); South Fork Toppenish Creek (46.2422, −121.0885); Toppenish Creek (46.3180, −121.1387); Unnamed (46.3758, −120.9336); Unnamed (46.4555, −120.8436); Wahtum Creek (46.3942, −120.9146); Willy Dick Canyon (46.2952, −120.9021).

(iv) Lower Toppenish Creek Watershed 1703000304. Outlet(s) = Yakima River (Lat 46.3246, Long −120.1671) upstream to endpoint(s) in: Toppenish Creek (46.3767, −120.6172); Unnamed (46.3224, −120.4464); Unnamed (46.3363, −120.5891); Unnamed (46.3364,120.2288); Unnamed (46.3679, −120.2801); Unnamed (46.4107, −120.5582); Unnamed (46.4379, −120.4258); Yakima River (46.5283, −120.4732).

(v) Satus Creek Watershed 1703000305. Outlet(s) = Satus Creek (Lat 46.2893, Long −120.1972) upstream to endpoint(s) in: Bull Creek (46.0314, −120.5147); Kusshi Creek (46.0994, −120.6094); Logy Creek (46.1357, −120.6389); Mule Dry Creek (46.0959, −120.3186); North Fork Dry Creek (46.1779, −120.7669); Satus Creek (46.0185, −120.7268); Unnamed (46.0883, −120.5278); Wilson Charley Canyon (46.0419, −120.6479).

(vi) Yakima River/Spring Creek Watershed 1703000306. Outlet(s) = Yakima River (Lat 46.3361, Long −119.4817) upstream to endpoint(s) in: Corral Creek (46.2971, −119.5302); Satus Creek (46.2893, −120.1972); Snipes Creek (46.2785, −119.6772); Spring Creek (46.2359, −119.6952); Unnamed (46.2169, −120.0189); Unnamed (46.2426, −120.0993); Unnamed (46.2598, −120.1322); Unnamed (46.2780, −120.0186); Unnamed (46.2913, −120.0181); Unnamed (46.3314, −119.9787);

Unnamed (46.3319, −119.9794); Yakima River (46.3246, −120.1671).

(vii) Yakima River/Cold Creek Watershed 1703000307. Outlet(s) = Yakima River (Lat 46.2534, Long −119.2268) upstream to endpoint(s) in: Yakima River (46.3361, −119.4817).

(4) Unit 4. Middle Columbia/Lake Wallula Subbasin 17070101—*(i) Upper Lake Wallula Watershed 1707010101.* Outlet(s) = Columbia River (Lat 46.0594, Long −118.9445) upstream to endpoint(s) in: Columbia River (46.1776, −119.0183).

(ii) Lower Lake Wallula Watershed 1707010102. Outlet(s) = Columbia River (Lat 45.9376, Long −119.2969) upstream to endpoint(s) in: Columbia River (46.0594, −118.9445).

(iii) Glade Creek Watershed 1707010105. Outlet(s) = Glade Creek (Lat 45.8895, Long −119.6809) upstream to endpoint(s) in: Glade Creek (45.8978, −119.6962).

(iv) Upper Lake Umatilla Watershed 1707010106. Outlet(s) = Columbia River (Lat 45.8895, Long −119.6809) upstream to endpoint(s) in: Columbia River (45.9376, −119.2969).

(v) Middle Lake Umatilla Watershed 1707010109. Outlet(s) = Columbia River (Lat 45.8318, Long −119.9069) upstream to endpoint(s) in: Columbia River (45.8895, −119.6809).

(vi) Alder Creek Watershed 1707010110. Outlet(s) = Alder Creek (Lat 45.8298, Long −119.9277) upstream to endpoint(s) in: Alder Creek (45.8668, −119.9224).

(vii) Pine Creek Watershed 1707010111. Outlet(s) = Pine Creek (Lat 45.7843, Long −120.0823) upstream to endpoint(s) in: Pine Creek (45.8234, −120.1396).

(viii) Wood Gulch Watershed 1707010112. Outlet(s) = Wood Creek (Lat 45.7443, Long −120.1930) upstream to endpoint(s) in: Big Horn Canyon (45.8322, −120.2467); Wood Gulch (45.8386, −120.3006).

(ix) Rock Creek Watershed 1707010113. Outlet(s) = Rock Creek (Lat 45.6995, Long −120.4597) upstream to endpoint(s) in: Rock Creek (45.8835, −120.5557); Squaw Creek (45.8399, −120.4935).

(x) Lower Lake Umatilla Watershed 1707010114. Outlet(s) = Columbia River (Lat 45.7168, Long −120.6927) upstream to endpoint(s) in: Chapman Creek (45.7293, −120.3148); Columbia River (45.8318, −119.9069).

(5) Unit 5. Walla Walla Subbasin 17070102—*(i) Upper Walla Walla River Watershed 1707010201.* Outlet(s) = Walla Walla River (Lat 45.9104, Long −118.3696) upstream to endpoint(s) in: Bear Creek (45.8528, −118.0991); Big Meadow Canyon (45.900, −118.1116); Burnt Cabin Gulch (45.8056, −118.0593); Couse Creek (45.8035, −118.2032); Elbow Creek (45.7999, −118.1462); Kees Canyon (45.8262, −118.0927); Little Meadow Canyon (45.9094, −118.1333); North Fork Walla Walla River (45.9342, −118.0169); Reser Creek (45.8840, −117.9950); Rodgers Gulch (45.8513, −118.0839); Skiphorton Creek (45.8892, −118.0255); South Fork Walla Walla River (45.9512, −117.9647); Swede Canyon (45.8506, −118.0640); Table Creek (45.8540, −118.0546); Unnamed (45.8026, −118.1412); Unnamed (45.8547, −117.9915); Unnamed (45.8787, −118.0387); Unnamed (45.8868, −117.9629); Unnamed (45.9095, −117.9621).

(ii) Mill Creek Watershed 1707010202. Outlet(s) = Mill Creek (Lat 46.0391, Long −118.4779) upstream to endpoint(s) in: Blue Creek (46.0188, −118.0519); Broken Creek (45.9745, −117.9899); Cold Creek (46.0540, −118.4097); Deadman Creek (46.0421, −117.9503); Doan Creek (46.0437, −118.4353); Green Fork (46.0298, −117.9389); Henry Canyon (45.9554, −118.1104); Low Creek (45.9649, −117.9980); Mill Creek (46.0112, −117.9406); North Fork Mill Creek (46.0322, −117.9937); Paradise Creek (46.0005, −117.9900); Tiger Creek (45.9588, −118.0253); Unnamed (46.0253, −117.9320); Unnamed (46.0383, −117.9463); Webb Creek (45.9800, −118.0875).

(iii) Upper Touchet River Watershed 1707010203. Outlet(s) = Touchet River (Lat 46.3196, Long −117.9841) upstream to endpoint(s) in: Burnt Fork (46.0838, −117.9311); Coates Creek (46.1585, −117.8431); Green Fork (46.0737, −117.9712); Griffin Fork (46.1100, −117.9336); Ireland Gulch (46.1894, −117.8070); Jim Creek (46.2156, −117.7959); Lewis Creek (46.1855, −117.7791); North Fork Touchet River (46.0938, −117.8460); North Patit Creek (46.3418, −117.7538); Robinson Fork (46.1200, −117.9006); Rodgers Gulch (46.2813, −117.8411); Spangler Creek (46.1156, −117.7934); Unnamed (46.1049, −117.9351); Unnamed (46.1061, −117.9544); Unnamed (46.1206, −117.9386); Unnamed (46.1334, −117.9512); Unnamed (46.1604, −117.9018); Unnamed (46.2900, −117.7339); Weidman Gulch (46.2359, −117.8067); West Patit Creek (46.2940, −117.7164); Whitney Creek (46.1348, −117.8491); Wolf Fork (46.1035, −117.8797).

(iv) Middle Touchet River Watershed 1707010204. Outlet(s) = Touchet River (Lat 46.2952, Long −118.3320) upstream to endpoint(s) in: North Fork Coppei Creek (46.1384, −118.0181); South Fork Coppei Creek (46.1302, −118.0608); Touchet River (46.3196, −117.9841); Whisky Creek (46.2438, −118.0785).

(v) Lower Touchet River Watershed 1707010207. Outlet(s) = Touchet River (Lat 46.0340, Long −118.6828) upstream to endpoint(s) in: Touchet River (46.2952, −118.3320).

(vi) Cottonwood Creek Watershed 1707010208. Outlet(s) = Walla Walla River (Lat 46.0391, Long −118.4779) upstream to endpoint(s) in: Birch Creek (45.9489, −118.2541); Caldwell Creek (46.0493, −118.3022); East Little Walla Walla River (46.0009, −118.4069); Garrison Creek (46.0753, −118.2726); Middle Fork Cottonwood Creek (45.9566, −118.1776); North Fork Cottonwood Creek (45.9738, −118.1533); Reser Creek (46.0370, −118.3085); Russell Creek (46.0424, −118.2488); South Fork Cottonwood Creek (45.9252, −118.1798); Stone Creek (46.0618, −118.3081); Unnamed (45.9525, −118.2513); Unnamed (46.0022, −118.4070); Walla Walla River (45.9104, −118.3696); Yellowhawk Creek (46.0753, −118.2726).

(vii) Dry Creek Watershed 1707010210. Outlet(s) = Dry Creek (Lat 46.0507, Long −118.5932) upstream to endpoint(s) in: Dry Creek (46.0725, −118.0268); Mud Creek (46.1414, −118.1313); South Fork Dry Creek (46.0751, −118.0514); Unnamed (46.1122, −118.1141).

(viii) Lower Walla Walla River Watershed 1707010211. Outlet(s) = Walla Walla River (Lat 46.0594, Long −118.9445) upstream to endpoint(s) in: Walla Walla River (46.0391, −118.4779); West Little Walla Walla River (46.0010, −118.4380).

(6) Unit 6. Umatilla Subbasin 17070103—*(i) Upper Umatilla River Watershed 1707010301.* Outlet(s) = Umatilla River (Lat 45.7024, Long −118.3593) upstream to endpoint(s) in: Bear Creek (45.7595, −118.1942); Bobsled Creek (45.7268, −118.2503); Buck Creek (45.7081, −118.1059); East Fork Coyote Creek (45.7553, −118.1263); Johnson Creek #4 (45.7239, −118.0797); Lake Creek #2 (45.7040, −118.1297); Lick Creek (45.7400, −118.1880); North Fork Umatilla River (45.7193, −118.0244); Rock Creek (45.7629, −118.2377); Ryan Creek (45.6362, −118.2963); Shimmiehorn Creek (45.6184, −118.1908); South Fork Umatilla River (45.6292, −118.2424); Spring Creek #2 (45.6288, −118.1525); Swamp Creek (45.6978, −118.1356); Thomas Creek (45.6546, −118.1435); Unnamed (45.6548, −118.1371); Unnamed (45.6737, −118.1616); Unnamed (45.6938, −118.3036);

Unnamed (45.7060, −118.2123); Unnamed (45.7200, −118.3092); Unnamed (45.7241, −118.3197); Unnamed (45.7281, −118.1604); Unnamed (45.7282, −118.3372); Unnamed (45.7419, −118.1586); West Fork Coyote Creek (45.7713, −118.1513); Woodward Creek (45.7484, −118.0760).

(ii) Meacham Creek Watershed 1707010302. Outlet(s) = Meacham Creek (Lat 45.7024, Long −118.3593) upstream to endpoint(s) in: Bear Creek #3 (45.4882, −118.1993); Beaver Creek (45.4940, −118.4411); Boston Canyon (45.6594, −118.3344); Butcher Creek (45.4558, −118.3737); Camp Creek (45.5895, −118.2800); Duncan Canyon (45.5674, −118.3244); East Meacham Creek (45.4570, −118.2212); Hoskins Creek (45.5188, −118.2059); Line Creek (45.6303, −118.3291); Meacham Creek (45.4364, −118.3963); North Fork Meacham Creek (45.5767, −118.1721); Owsley Creek (45.4349, −118.2434); Pot Creek (45.5036, −118.1438); Sheep Creek (45.5121, −118.3945); Twomile Creek (45.5085, −118.4579); Unnamed (45.4540, −118.2192); Unnamed (45.5585, −118.2064); Unnamed (45.6019, −118.2971); Unnamed (45.6774, −118.3415).

(iii) Umatilla River/Mission Creek Watershed 1707010303. Outlet(s) = Umatilla River (Lat 45.6559, Long −118.8804) upstream to endpoint(s) in: Bachelor Canyon (45.6368, −118.3890); Buckaroo Creek (45.6062, −118.5000); Coonskin Creek (45.6556, −118.5239); Cottonwood Creek (45.6122, −118.5704); Little Squaw Creek (45.5969, −118.4095); Mission Creek (45.6256, −118.6133); Moonshine Creek (45.6166, −118.5392); Patawa Creek (45.6424, −118.7125); Red Elk Canyon (45.6773, −118.4431); Saddle Hollow (45.7067, −118.3968); South Patawa Creek (45.6250, −118.6919); Squaw Creek (45.5584, −118.4389); Stage Gulch (45.6533, −118.4481); Thorn Hollow Creek (45.6957, −118.4530); Umatilla River (45.7024, −118.3593); Unnamed (45.5649, −118.4221); Unnamed (45.6092, −118.7603); Unnamed (45.6100, −118.4046); Unnamed (45.6571, −118.7473); Unnamed (45.6599, −118.4641); Unnamed (45.6599, −118.4711); Unnamed (45.6676, −118.6176); Unnamed (45.6688, −118.5575); Unnamed (45.6745, −118.5859).

(iv) McKay Creek Watershed 1707010305. Outlet(s) = McKay Creek (Lat 45.6685, Long –118.8400) upstream to endpoint(s) in: McKay Creek (45.6077, −118.7917).

(v) Birch Creek Watershed 1707010306. Outlet(s) = Birch Creek (Lat 45.6559, Long −118.8804) upstream to endpoint(s) in: Bear Creek (45.2730, −118.8939); Bridge Creek (45.3603, −118.9039); California Gulch (45.3950, −118.8149); Dark Canyon (45.3119, −118.7572); East Birch Creek (45.3676, −118.6085); Johnson Creek #2 (45.3931, −118.7518); Little Pearson Creek (45.3852, −118.7415); Merle Gulch (45.3450, −118.8136); Owings Creek (45.3864, −118.9600); Pearson Creek (45.2901, −118.7985); South Canyon #2 (45.3444, −118.6949); Unnamed (45.2703, −118.7624); Unnamed (45.3016, −118.7705); Unnamed (45.3232, −118.7264); Unnamed (45.3470, −118.7984); Unnamed (45.3476, −118.6703); Unnamed (45.3511, −118.6328); Unnamed (45.4628, −118.7491); West Birch Creek (45.2973, −118.8341); Willow Spring Canyon (45.3426, −118.9833).

(vi) Umatilla River/Alkali Canyon Watershed 1707010307. Outlet(s) = Umatilla River (Lat 45.7831, Long −119.2372) upstream to endpoint(s) in: Umatilla River (45.6559, −118.8804).

(vii) Stage Gulch Watershed 1707010308. Outlet(s) = Stanfield Drain (Lat 45.7831, Long −119.2372) upstream to endpoint(s) in: Stage Gulch (45.7991, −119.1333).

(viii) Lower Butter Creek Watershed 1707010310. Outlet(s) = Butter Creek (Lat 45.7952, Long −119.3285) upstream to endpoint(s) in: Butter Creek (45.7148, −119.3741).

(ix) Lower Umatilla River Watershed 1707010313. Outlet(s) = Umatilla River (Lat 45.9247, Long −119.3575) upstream to endpoint(s) in: Umatilla River (45.7831, −119.2372); Unnamed (45.8202, −119.3305).

(7) Unit 7. Middle Columbia/Hood Subbasin 17070105—*(i) Upper Middle Columbia/Hood Watershed 1707010501.* Outlet(s) = Columbia River (Lat 45.6426, Long −120.9142) upstream to endpoint(s) in: Columbia River (45.7168, −120.6927); Frank Fulton Canyon (45.6244, −120.8258); Spanish Hollow Creek (45.6469, −120.8069); Unnamed (45.6404, −120.8654).

(ii) Fifteenmile Creek Watershed 1707010502. Outlet(s) = Fifteenmile Creek (Lat 45.6197, Long −121.1265) upstream to endpoint(s) in: Cedar Creek (45.3713, −121.4153); Dry Creek (45.4918, −121.0479); Fifteenmile Creek (45.3658, −121.4390); Ramsey Creek (45.3979, −121.4454); Unnamed (45.3768, −121.4410).

(iii) Fivemile Creek Watershed 1707010503. Outlet(s) = Eightmile Creek (Lat 45.6064, Long −121.0854) upstream to endpoint(s) in: Eightmile Creek (45.3944, −121.4983); Middle Fork Fivemile Creek (45.4502, −121.4324); South Fork Fivemile Creek (45.4622, −121.3641).

(iv) Middle Columbia/Mill Creek Watershed 1707010504. Outlet(s) = Columbia River (Lat 45.6920, Long −121.2937) upstream to endpoint(s) in: Brown Creek (45.5911, −121.2729); Chenoweth Creek (45.6119, −121.2658); Columbia River (45.6426, −120.9142); North Fork Mill Creek (45.4999, −121.4537); South Fork Mill Creek (45.5187, −121.3367); Threemile Creek (45.5598, −121.1747).

(v) Mosier Creek Watershed 1707010505. Outlet(s) = Mosier Creek (Lat 45.6950, Long −121.3996) upstream to endpoint(s) in: Mosier Creek (45.6826, −121.3896); Rock Creek (45.6649, −121.4352).

(vi) White Salmon River Watershed 1707010509. Outlet(s) = White Salmon River (Lat 45.7267, Long −121.5209) upstream to endpoint(s) in: Unnamed (45.7395, −121.5500); White Salmon River (45.7676, −121.5374).

(vii) Middle Columbia/Grays Creek Watershed 1707010512. Outlet(s) = Columbia River (Lat 45.7070, Long −121.7943) upstream to endpoint(s) in: Catherine Creek (45.7448, −121.4206); Columbia River (45.6920, −121.2937); Dog Creek (45.7200, −121.6804); East Fork Major Creek (45.8005, −121.3449); Hanson Creek (45.7472, −121.3143); Jewett Creek (45.7524, −121.4704); Rowena Creek (45.6940, −121.3122); Unnamed (45.7238, −121.7227); Unnamed (45.7248, −121.7322); Unnamed (45.7303, −121.3095); Unnamed (45.7316, −121.3094); Unnamed (45.7445, −121.3309); Unnamed (45.7486, −121.3203); Unnamed (45.7530, −121.4697); Unnamed (45.7632, −121.4795); Unnamed (45.7954, −121.3863); Unnamed (45.8003, −121.4062); West Fork Major Creek (45.8117, −121.3929).

(8) Unit 8. Klickitat Ssubbasin 17070106—*(i) Upper Klickitat River Watershed 1707010601.* Outlet(s) = Klickitat River (Lat 46.1263, Long −121.2881) upstream to endpoint(s) in: Cedar Creek (46.2122, −121.2042); Coyote Creek (46.4640, −121.1839); Cuitin Creek (46.4602, −121.1662); Diamond Fork (46.4794, −121.2284); Huckleberry Creek (46.4273, −121.3720); Klickitat River (46.4439, −121.3756); McCreedy Creek (46.3319, −121.2529); Piscoe Creek (46.3708, −121.1436); Surveyors Creek (46.2181, −121.1838); Unnamed (46.4476, −121.2575); Unnamed (46.4585, −121.2565); West Fork Klickitat River (46.2757, −121.3267).

(ii) Middle Klickitat River Watershed 1707010602. Outlet(s) = Klickitat River (Lat 45.9858, Long −121.1233) upstream to endpoint(s) in: Bear Creek

(46.0770, −121.2262); Klickitat River (46.1263, −121.2881); Outlet Creek (46.0178, −121.1740); Summit Creek (46.0035, −121.0918); Trout Creek (46.1166, −121.1968); White Creek (46.1084, −121.0730).

(iii) Little Klickitat River Watershed 1707010603. Outlet(s) = Little Klickitat River (Lat 45.8452, Long −121.0625) upstream to endpoint(s) in: Blockhouse Creek (45.8188, −120.9813); Butler Creek (45.9287, −120.7005); Canyon Creek (45.8833, −121.0504); East Prong Little Klickitat River (45.9279, −120.6832); Mill Creek (45.8374, −121.0001); Unnamed (45.8162, −120.9288); West Prong Little Klickitat River (45.9251, −120.7202).

(iv) Lower Klickitat River Watershed 1707010604. Outlet(s) = Klickitat River (Lat 45.6920, Long −121.2937) upstream to endpoint(s) in: Dead Canyon (45.9473, −121.1734); Dillacort Canyon (45.7349, −121.1904); Klickitat River (45.9858, −121.1233); Logging Camp Canyon (45.7872, −121.2260); Snyder Canyon (45.8431, −121.2152); Swale Creek (45.7236, −121.0315); Wheeler Canyon (45.7946, −121.1615).

(9) Unit 9. Upper John Day Subbasin 17070201—*(i) Middle South Fork John Day Watershed 1707020103.* Outlet(s) = South Fork John Day River (Lat 44.1918, Long −119.5261) upstream to endpoint(s) in: Blue Creek (44.2183, −119.3679); Corral Creek (44.1688, −119.3573); North Fork Deer Creek (44.2034, −119.3009); South Fork Deer Creek (44.1550, −119.3457); South Fork John Day River (44.1822, −119.5243).

(ii) Murderers Creek Watershed 1707020104. Outlet(s) = Murderers Creek (Lat 44.3146, Long −119.5383) upstream to endpoint(s) in: Bark Cabin Creek (44.2481, −119.3967); Basin Creek (44.2700, −119.1711); Cabin Creek (44.3420, −119.4403); Charlie Mack Creek (44.2708, −119.2344); Crazy Creek (44.2421, −119.4282); Dans Creek (44.2500, −119.2774); Duncan Creek (44.3219, −119.3555); Lemon Creek (44.2528, −119.2500); Miner Creek (44.3237, −119.2416); Orange Creek (44.2524, −119.2613); Oregon Mine Creek (44.2816, −119.2945); South Fork Murderers Creek (44.2318, −119.3221); Sugar Creek (44.2914, −119.2326); Tennessee Creek (44.3041, −119.3029); Thorn Creek (44.3113, −119.3157); Todd Creek (44.3291, −119.3976); Unnamed (44.3133, −119.3533); Unnamed (44.3250, −119.3476); White Creek (44.2747, −119.1866).

(iii) Lower South Fork John Day Watershed 1707020105. Outlet(s) = South Fork John Day River (Lat 44.4740, Long −119.5344) upstream to endpoint(s) in: Cougar Gulch (44.2279, −119.4898); Frazier Creek (44.2200, −119.5745); Jackass Creek (44.3564, −119.4958); North Fork Wind Creek (44.3019, −119.6632); Payten Creek (44.3692, −119.6185); Smoky Creek (44.3893, −119.4791); South Fork Black Canyon Creek (44.3789, −119.7293); South Fork John Day River (44.1918, −119.5261); South Fork Wind Creek (44.2169, −119.6192); South Prong Creek (44.3093, −119.6558); Squaw Creek (44.3000, −119.6143); Unnamed (44.2306, −119.6095); Unnamed (44.2358, −119.6013); Unnamed (44.3052, −119.6332); Wind Creek (44.2793, −119.6515).

(iv) Upper John Day River Watershed 1707020106. Outlet(s) = John Day River (Lat 44.4534, Long −118.6711) upstream to endpoint(s) in: Bogue Gulch (44.3697, −118.5200); Call Creek (44.2973, −118.5169); Crescent Creek (44.2721, −118.5473); Dads Creek (44.5140, −118.6463); Dans Creek (44.4989, −118.5920); Deardorff Creek (44.3665, −118.4596); Eureka Gulch (44.4801, −118.5912); Graham Creek (44.3611, −118.6084); Isham Creek (44.4649, −118.5626); Jeff Davis Creek (44.4813, −118.6370); John Day River (44.2503, −118.5256); Mossy Gulch (44.4641, −118.5211); North Reynolds Creek (44.4525, −118.4886); Rail Creek #2 (44.3413, −118.5017); Reynolds Creek (44.4185, −118.4507); Roberts Creek (44.3060, −118.5815); Thompson Creek (44.3581, −118.5395); Unnamed (44.2710, −118.5412).

(v) Canyon Creek Watershed 1707020107. Outlet(s) = Canyon Creek (Lat 44.4225, Long −118.9584) upstream to endpoint(s) in: Berry Creek (44.3084, −118.8791); Brookling Creek (44.3042, −118.8363); Canyon Creek (44.2368, −118.7775); Crazy Creek #2 (44.2165, −118.7751); East Brookling Creek (44.3029, −118.8082); East Fork Canyon Creek (44.2865, −118.7939); Middle Fork Canyon Creek (44.2885, −118.7500); Skin Shin Creek (44.3036, −118.8488); Tamarack Creek #2 (44.2965, −118.8611); Unnamed (44.2500, −118.8298); Unnamed (44.2717, −118.7500); Unnamed (44.2814, −118.7620); Vance Creek (44.2929, −118.9989); Wall Creek (44.2543, −118.8308).

(vi) Strawberry Creek Watershed 1707020108. Outlet(s) = John Day River (Lat 44.4225, Long −118.9584) upstream to endpoint(s) in: Bear Creek (44.5434, −118.7508); Dixie Creek (44.5814, −118.7257); Dog Creek (44.3635, −118.8890); Grub Creek (44.5189, −118.8050); Hall Creek (44.5479, −118.7894); Indian Creek #3 (44.3092, −118.7438); John Day River (44.4534, −118.6711); Little Pine Creek (44.3771, −118.9103); Onion Creek (44.3151, −118.6972); Overholt Creek (44.3385, −118.7196); Pine Creek (44.3468, −118.8345); Slide Creek (44.2988, −118.6583); Standard Creek (44.5648, −118.6468); Strawberry Creek (44.3128, −118.6772); West Fork Little Indian Creek (44.3632, −118.7918).

(vii) Beech Creek Watershed 1707020109. Outlet(s) = Beech Creek (Lat 44.4116, Long −119.1151) upstream to endpoint(s) in: Bear Creek (44.5268, −119.1002); Beech Creek (44.5682, −119.1170); Clear Creek (44.5522, −118.9942); Cottonwood Creek (44.5758, −119.0694); East Fork Beech Creek (44.5248, −118.9023); Ennis Creek (44.5409, −119.0207); Hog Creek (44.5484, −119.0379); Little Beech Creek (44.4676, −118.9733); McClellan Creek #2 (44.5570, −118.9490); Tinker Creek (44.5550, −118.8892); Unnamed (44.5349, −119.0827).

(viii) Laycock Creek Watershed 1707020110. Outlet(s) = John Day River (Lat 44.4155, Long −119.2230) upstream to endpoint(s) in: Birch Creek #2 (44.4353, −119.2148); East Fork Dry Creek (44.4896, −119.1817); Fall Creek #2 (44.3551, −119.0420); Hanscombe Creek (44.3040, −119.0513); Harper Creek (44.3485, −119.1259); Ingle Creek (44.3154, −119.1153); John Day River (44.4225, −118.9584); Laycock Creek (44.3118, −119.0842); McClellan Creek (44.3510, −119.2004); Moon Creek (44.3483, −119.2389); Riley Creek (44.3450, −119.1664).

(ix) Fields Creek Watershed 1707020111. Outlet(s) = John Day River (Lat 44.4740, Long −119.5344) upstream to endpoint(s) in: Belshaw Creek (44.5460, −119.2025); Bridge Creek (44.4062, −119.4180); Buck Cabin Creek (44.3412, −119.3313); Cummings Creek (44.5043, −119.3250); Fields Creek (44.3260, −119.2828); Flat Creek (44.3930, −119.4386); John Day River (44.4155, −119.2230); Marks Creek (44.5162, −119.3886); Wickiup Creek (44.3713, −119.3239); Widows Creek (44.3752, −119.3819); Wiley Creek (44.4752, −119.3784).

(x) Upper Middle John Day Watershed 1707020112. Outlet(s) = John Day River (Lat 44.5289, Long −119.6320) upstream to endpoint(s) in: Back Creek (44.4164, −119.6858); Battle Creek (44.4658, −119.5863); Cottonwood Creek (44.3863, −119.7376); Cougar Creek (44.4031, −119.7056); East Fork Cottonwood Creek (44.3846, −119.6177); Ferris Creek (44.5446, −119.5250); Franks Creek (44.5067, −119.4903); John Day River (44.4740, −119.5344); Rattlesnake Creek (44.4673, −119.6953); Unnamed (44.3827, −119.6479); Unnamed

(44.3961, −119.7403); Unnamed (44.4082, −119.6916).

(xi) Mountain Creek Watershed 1707020113. Outlet(s) = Mountain Creek (Lat 44.5214, Long −119.7138) upstream to endpoint(s) in: Badger Creek (44.4491, −120.1186); Fopiano Creek (44.5899, −119.9429); Fort Creek (44.4656, −119.9253); Fry Creek (44.4647, −119.9940); Keeton Creek (44.4632, −120.0195); Mac Creek (44.4739, −119.9359); Milk Creek (44.4649, −120.1526); Unnamed (44.4700, −119.9427); Unnamed (44.4703, −120.0328); Unnamed (44.4703, −120.0597); Unnamed (44.4827, −119.8970); Willow Creek (44.6027, −119.8746).

(xii) Rock Creek Watershed 1707020114. Outlet(s) = Rock Creek (Lat 44.5289, Long −119.6320) upstream to endpoint(s) in: Baldy Creek (44.3906, −119.7651); Bear Creek (44.3676, −119.8401); Fir Tree Creek (44.3902, −119.7893); First Creek (44.4086, −119.8120); Fred Creek (44.4602, −119.8549); Little Windy Creek (44.3751, −119.7595); Pine Hollow #2 (44.5007, −119.8559); Rock Creek (44.3509, −119.7636); Second Creek (44.3984, −119.8075); Unnamed (44.4000, −119.8501); Unnamed (44.4232, −119.7271); West Fork Birch Creek (44.4365, −119.7500).

(xiii) John Day River/Johnson Creek Watershed 1707020115. Outlet(s) = John Day River (Lat 44.7554, Long −119.6382) upstream to endpoint(s) in: Buckhorn Creek (44.6137, −119.7382); Burnt Corral Creek (44.6987, −119.5733); Frank Creek (44.6262, −119.7177); Indian Creek (44.5925, −119.7636); John Day River (44.5289, −119.6320); Johnny Creek (44.6126, −119.5534); Johnson Creek (44.6766, −119.7363).

(10) Unit 10. North Fork John Day Subbasin 17070202—*(i) Upper North Fork John Day River Watershed 1707020201.* Outlet(s) = North Fork John Day River (Lat 44.8661, Long −118.5605) upstream to endpoint(s) in: Baldy Creek (44.8687, −118.3172); Bear Gulch (44.8978, −118.5400); Crane Creek (44.8715, −118.3539); Crawfish Creek (44.9424, −118.2608); Cunningham Creek (44.9172, −118.2478); Davis Creek (44.9645, −118.4156); First Gulch (44.8831, −118.5588); Hoodoo Creek (44.9763, −118.3673); Long Meadow Creek (44.9490, −118.2932); McCarty Gulch (44.9131, −118.5114); Middle Trail Creek (44.9513, −118.3185); North Fork John Day River (44.8691, −118.2392); North Trail Creek (44.9675, −118.3219); South Trail Creek (44.9434, −118.2930); Trout Creek (44.9666, −118.4656); Unnamed (44.8576, −118.3169); Unnamed (44.8845, −118.3421); Unnamed (44.9221, −118.5000); Unnamed (44.9405, −118.4093); Unnamed (44.9471, −118.4797); Wagner Gulch (44.9390, −118.5148).

(ii) Granite Creek Watershed 1707020202. Outlet(s) = Granite Creek (Lat 44.8661, Long −118.5605) upstream to endpoint(s) in: Beaver Creek (44.7425, −118.3940); Boulder Creek (44.8368, −118.3631); Boundary Creek (44.8106, −118.3420); Bull Run Creek (44.7534, −118.3154); Corral Creek #2 (44.8186, −118.3565); Deep Creek #2 (44.8017, −118.3200); East Ten Cent Creek (44.8584, −118.4253); Granite Creek (44.8578, −118.3736); Lake Creek (44.7875, −118.5929); Lick Creek (44.8503, −118.5065); Lightning Creek (44.7256, −118.5011); Lost Creek (44.7620, −118.5822); North Fork Ruby Creek (44.7898, −118.5073); Olive Creek (44.7191, −118.4677); Rabbit Creek (44.7819, −118.5616); Ruby Creek (44.7797, −118.5237); South Fork Beaver Creek (44.7432, −118.4272); Squaw Creek #5 (44.8552, −118.4705); Unnamed (44.8427, −118.4233); West Fork Clear Creek (44.7490, −118.5440); West Ten Cent Creek (44.8709, −118.4377); Wolesy Creek (44.7687, −118.5540).

(iii) North Fork John Day River/Big Creek Watershed 1707020203. Outlet(s) = North Fork John Day River (Lat 44.9976, Long −118.9444) upstream to endpoint(s) in: Backout Creek (44.8560, −118.6289); Basin Creek (44.9081, −118.6671); Big Creek (45.0115, −118.6041); Bismark Creek (44.9548, −118.7020); Corral Creek (44.9592, −118.6368); Cougar Creek (44.9288, −118.6653); Meadow Creek (44.9856, −118.4664); North Fork John Day River (44.8661, −118.5605); Oregon Gulch (44.8694, −118.6119); Oriental Creek (45.0000, −118.7255); Otter Creek (44.9634, −118.7567); Paradise Creek (44.9168, −118.5850); Raspberry Creek (44.9638, −118.7356); Ryder Creek (44.9341, −118.5943); Silver Creek (44.9077, −118.5580); Simpson Creek (44.9383, −118.6794); South Fork Meadow Creek (44.9303, −118.5481); South Martin Creek (44.9479, −118.5281); Unnamed (44.8594, −118.6432); Unnamed (44.9073, −118.5690); Unnamed (45.0031, −118.7060); Unnamed (45.0267, −118.7635); Unnamed (45.0413, −118.8089); White Creek (45.0000, −118.5617); Winom Creek (44.9822, −118.6766).

(iv) Desolation Creek Watershed 1707020204. Outlet(s) = Desolation Creek (Lat 44.9977, Long −118.9352) upstream to endpoint(s) in: Battle Creek (44.8895, −118.7010); Beeman Creek (44.8230, −118.7498); Bruin Creek (44.8936, −118.7600); Howard Creek (44.8513, −118.7004); Junkens Creek (44.8482, −118.7994); Kelsay Creek (44.9203, −118.6899); Little Kelsay Creek (44.9127, −118.7124); North Fork Desolation Creek (44.7791, −118.6231); Park Creek (44.9109, −118.7839); Peep Creek (44.9488, −118.8069); South Fork Desolation Creek (44.7890, −118.6732); Sponge Creek (44.8577, −118.7165); Starveout Creek (44.8994, −118.8220); Unnamed (44.8709, −118.7130); Unnamed (44.9058, −118.7689); Unnamed (44.9163, −118.8384); Unnamed (44.9203, −118.8315); Unnamed (44.9521, −118.8141); Unnamed (44.9735, −118.8707).

(v) Upper Camas Creek Watershed 1707020205. Outlet(s) = Camas Creek (Lat 45.1576, Long −118.8411) upstream to endpoint(s) in: Bear Wallow Creek (45.2501, −118.7502); Bowman Creek (45.2281, −118.7028); Butcherknife Creek (45.1495, −118.6913); Camas Creek (45.1751, −118.5548); Dry Camas Creek (45.1582, −118.5846); Frazier Creek (45.1196, −118.6152); Hidaway Creek (45.0807, −118.5788); Lane Creek (45.2429, −118.7749); Line Creek (45.1067, −118.6562); North Fork Cable Creek (45.0535, −118.6569); Rancheria Creek (45.2144, −118.6552); Salsbury Creek (45.2022, −118.6206); South Fork Cable Creek (45.0077, −118.6942); Unnamed (45.0508, −118.6536); Unnamed (45.0579, −118.6705); Unnamed (45.0636, −118.6198); Unnamed (45.0638, −118.5908); Unnamed (45.0823, −118.6579); Unnamed (45.1369, −118.6771); Unnamed (45.1513, −118.5966); Unnamed (45.1854, −118.6842); Unnamed (45.1891, −118.6110); Unnamed (45.2429, −118.7575); Warm Spring Creek (45.1386, −118.6561).

(vi) Lower Camas Creek Watershed 1707020206. Outlet(s) = Camas Creek (Lat 45.0101, Long −118.9950) upstream to endpoint(s) in: Bridge Creek (45.0395, −118.8633); Camas Creek (45.1576, −118.8411); Cooper Creek (45.2133, −118.9881); Deerlick Creek (45.1489, −119.0229); Dry Fivemile Creek (45.1313, −119.0898); Fivemile Creek (45.1804, −119.2259); Middle Fork Wilkins Creek (45.1193, −119.0439); North Fork Owens Creek (45.1872, −118.9705); Owens Creek (45.2562, −118.8305); Silver Creek (45.1066, −119.1268); Snipe Creek (45.2502, −118.9707); South Fork Wilkins Creek (45.1078, −119.0312); Sugarbowl Creek (45.1986, −119.0999); Taylor Creek (45.1482, −119.1820); Tribble Creek (45.1713, −119.1617); Unnamed (45.0797, −118.7878); Unnamed (45.1198, −118.8514); Unnamed (45.1993, −118.9062);

Unnamed (45.2000, −118.8236); Unnamed (45.2141, −118.8079); Wilkins Creek (45.1239, −119.0094).

(vii) North Fork John Day River/ Potamus Creek Watershed 1707020207. Outlet(s) = North Fork John Day River (Lat 44.8832. Long −119.4090) upstream to endpoint(s) in: Buckaroo Creek (45.0245, −119.1187); Butcher Bill Creek (45.1290, −119.3197); Cabin Creek (44.9650, −119.3628); Deep Creek (45.0977, −119.2021); Deerhorn Creek (45.0513, −119.0542); Ditch Creek (45.1584, −119.3153); East Fork Meadow Brook Creek (44.9634, −118.9575); Ellis Creek (45.1197, −119.2167); Graves Creek (44.9927, −119.3171); Hunter Creek (45.0114, −119.0896); Jericho Creek (45.0361, −119.0829); Little Potamus Creek (45.0462, −119.2579); Mallory Creek (45.1030, −119.3112); Martin Creek (45.1217, −119.3538); Matlock Creek (45.0762, −119.1837); No Name Creek (45.0730, −119.1459); North Fork John Day River (44.9976, −118.9444); Pole Creek (45.1666, −119.2533); Rush Creek (45.0498, −119.1219); Skull Creek (44.9726, −119.2035); Smith Creek (44.9443, −118.9687); Stalder Creek (45.0655, −119.2844); Stony Creek (45.0424, −119.1489); West Fork Meadow Brook (44.9428, −119.0319); Wickiup Creek (45.0256, −119.2776); Wilson Creek (45.1372, −119.2673).

(viii) Wall Creek Watershed 1707020208. Outlet(s) = Big Wall Creek (Lat 44.8832, Long −119.4090) upstream to endpoint(s) in: Alder Creek (45.1049, −119.4170); Bacon Creek (45.0137, −119.4800); Bear Creek (45.0551, −119.4170); Big Wall Creek (44.9369, −119.6055); Bull Prairie Creek (44.9753, −119.6604); Colvin Creek (44.9835, −119.6911); East Fork Alder Creek (45.1028, −119.3929); East Fork Indian Creek (44.9009, −119.4918); Happy Jack Creek (44.8997, −119.5730); Hog Creek (45.0507, −119.4821); Indian Creek (44.8810, −119.5260); Johnson Creek (45.0097, −119.6282); Little Bear Creek (45.0433, −119.4084); Little Wall Creek (45.0271, −119.5235); Little Wilson Creek (44.8979, −119.5531); Lovlett Creek (44.9675, −119.5105); Skookum Creek (45.0894, −119.4725); South Fork Big Wall Creek (44.9315, −119.6167); Swale Creek (45.1162, −119.3836); Three Trough Creek (44.9927, −119.5318); Two Spring Creek (45.0251, −119.3938); Unnamed (44.9000, −119.6213); Unnamed (44.9830, −119.7364); Unnamed (44.9883, −119.7248); Unnamed (45.0922, −119.4374); Unnamed (45.1079, −119.4359); Willow Spring Creek (44.9467, −119.5921); Wilson Creek (44.9861, −119.6623).

(ix) Cottonwood Creek Watershed 1707020209. Outlet(s) = Cottonwood Creek (Lat 44.8141, Long −119.4183) upstream to endpoint(s) in: BecK Creek (44.5795, −119.2664); Board Creek (44.5841, −119.3763); Boulder Creek (44.5876, −119.3006); Camp Creek #3 (44.6606, −119.3283); Cougar Creek #2 (44.6230, −119.4133); Day Creek (44.5946, −119.0235); Donaldson Creek (44.5919, −119.3480); Dunning Creek (44.6416, −119.0628); Fox Creek (44.6163, −119.0078); Indian Creek #3 (44.6794, −119.2196); McHaley Creek (44.5845, −119.2234); Mill Creek (44.6080, −119.0878); Mine Creek (44.5938, −119.1756); Murphy Creek (44.6062, −119.1114); Smith Creek (44.6627, −119.0808); Squaw Creek #3 (44.5715, −119.4069); Unnamed (44.6176, −119.0806).

(x) Lower North Fork John Day River Watershed 1707020210. Outlet(s) = North Fork John Day River (Lat 44.7554, Long −119.6382) upstream to endpoint(s) in: East Fork Deer Creek (44.7033, −119.2753); Gilmore Creek (44.6744, −119.4875); North Fork John Day River (44.8832, −119.4090); Rudio Creek (44.6254, −119.5026); Straight Creek (44.6759, −119.4687); West Fork Deer Creek (44.6985, −119.3372).

(11) Unit 11. Middle Fork John Day Subbasin 17070203—*(i) Upper Middle Fork John Day River Watershed 1707020301.* Outlet(s) = Middle Fork John Day River (Lat 44.5946, Long −118.5163) upstream to endpoint(s) in: Bridge Creek (44.5326, −118.5746); Clear Creek (44.4692, −118.4615); Crawford Creek (44.6381, −118.3887); Dry Fork Clear Creek (44.5339, −118.4484); Fly Creek (44.6108, −118.3810); Idaho Creek (44.6113, −118.3856); Middle Fork John Day River (44.5847, −118.4286); Mill Creek (44.6106, −118.4809); North Fork Bridge Creek (44.5479, −118.5663); North Fork Summit Creek (44.5878, −118.3560); Squaw Creek (44.5303, −118.4089); Summit Creek (44.5831, −118.3585).

(ii) Camp Creek Watershed 1707020302. Outlet(s) = Middle Fork John Day River (Lat 44.6934, Long −118.7947) upstream to endpoint(s) in: Badger Creek (44.7102, −118.6738); Balance Creek (44.6756, −118.7661); Beaver Creek (44.6918, −118.6467); Bennett Creek (44.6095, −118.6432); Big Boulder Creek (44.7332, −118.6889); Blue Gulch (44.6952, −118.5220); Butte Creek (44.5913, −118.6481); Camp Creek (44.5692, −118.8041); Caribou Creek (44.6581, −118.5543); Charlie Creek (44.5829, −118.8277); Cottonwood Creek (44.6616, −118.8919); Cougar Creek (44.6014, −118.8261); Coxie Creek (44.5596, −118.8457); Coyote Creek (44.7040, −118.7436); Davis Creek (44.5720, −118.6026); Deerhorn Creek (44.5984, −118.5879); Dry Creek (44.6722, −118.6962); Eagle Creek (44.5715, −118.8269); Granite Boulder Creek (44.6860, −118.6039); Lemon Creek (44.6933, −118.6169); Lick Creek (44.6102, −118.7504); Little Boulder Creek (44.6661, −118.5807); Little Butte Creek (44.6093, −118.6188); Middle Fork John Day River (44.5946, −118.5163); Myrtle Creek (44.7336, −118.7187); Placer Gulch (44.5670, −118.5593); Ragged Creek (44.6366, −118.7048); Ruby Creek (44.6050, −118.6897); Sulphur Creek (44.6119, −118.6672); Sunshine Creek (44.6424, −118.7437); Tincup Creek (44.6489, −118.6320); Trail Creek (44.6249, −118.8469); Unnamed (44.5535, −118.8139); Unnamed (44.5697, −118.5975); Unnamed (44.6041, −118.6051); Unnamed (44.6471, −118.6869); Unnamed (44.6559, −118.5777); Vincent Creek (44.6663, −118.5345); Vinegar Creek (44.6861, −118.5378); West Fork Lick Creek (44.6021, −118.7891); Whiskey Creek (44.6776, −118.8659); Windlass Creek (44.6653, −118.6030); Wray Creek (44.6978, −118.6588).

(iii) Big Creek Watershed 1707020303. Outlet(s) = Middle Fork John Day River (Lat 44.8363, Long −119.0306) upstream to endpoint(s) in: Barnes Creek (44.8911, −118.9974); Bear Creek (44.7068, −118.8742); Big Creek (44.7726, −118.6831); Deadwood Creek (44.7645, −118.7499); Deep Creek (44.7448, −118.7591); East Fork Big Creek (44.7923, −118.7783); Elk Creek (44.7167, −118.7721); Granite Creek (44.8893, −119.0103); Huckleberry Creek (44.8045, −118.8605); Indian Creek (44.8037, −118.7498); Lick Creek (44.8302, −118.9613); Little Indian Creek (44.8743, −118.8862); Lost Creek (44.7906, −118.7970); Middle Fork John Day River (44.6934, −118.7947); Mosquito Creek (44.7504, −118.8021); North Fork Elk Creek (44.7281, −118.7624); Onion Gulch (44.7622, −118.7846); Pizer Creek (44.7805, −118.8102); Slide Creek (44.6950, −118.9124); Swamp Gulch (44.7606, −118.7641); Unnamed (44.8249, −118.8718); Unnamed (44.8594, −118.9018).

(iv) Long Creek Watershed 1707020304. Outlet(s) = Long Creek (Lat 44.8878, Long −119.2338) upstream to endpoint(s) in: Basin Creek (44.7458, −119.2452); Everett Creek (44.7106, −119.1063); Jonas Creek (44.6307, −118.9118); Long Creek (44.6076, −118.9402); Pass Creek (44.7681, −119.0414); Paul Creek (44.7243, −119.1304); Pine Creek

(44.8125, −119.0859); South Fork Long Creek (44.6360, −118.9756).

(v) Lower Middle Fork John Day River Watershed 1707020305. Outlet(s) = Middle Fork John Day River (Lat 44.9168, Long −119.3004) upstream to endpoint(s) in: Eightmile Creek (44.9584, −119.0679); Middle Fork John Day River (44.8363, −119.0306); Rush Creek (44.8994, −119.0630); Sixmile Creek (44.9384, −119.1797); Threemile Creek (44.9310, −119.2399); Twelvemile Creek (44.9123, −119.0764); Unnamed (44.9506, −119.0771); Unnamed (44.9584, −119.0808).

(12) Unit 12. Lower John Day Subbasin 17070204—*(i) Lower John Day River/Kahler Creek 1707020401.* Outlet(s) = John Day River (Lat 44.8080, Long −119.9585) upstream to endpoint(s) in: Alder Creek (44.9575, −119.8621); Camp Creek (44.9005, −119.9505); East Bologna Canyon (44.8484, −119.5842); Henry Creek (44.9609, −119.7683); Horseshoe Creek (44.7076, −119.9465); John Day River (44.7554, −119.6382); Kahler Creek (44.9109, −119.7030); Lake Creek (44.9012, −119.9806); Left Hand Creek (44.7693, −119.7613); Parrish Creek (44.7207, −119.8369); Tamarack Butte #2 (44.6867, −119.7898); Tamarack Creek (44.9107, −119.7026); Unnamed (44.9334, −119.9164); Unnamed (44.9385, −119.9088); Unnamed (44.9451, −119.8932); Unnamed (44.9491, −119.8696); Unnamed (44.9546, −119.8739); Unnamed (44.9557, −119.7561); West Bologna Canyon (44.8338, −119.6422); Wheeler Creek (44.9483, −119.8447); William Creek (44.7458, −119.9027).

(ii) Lower John Day River/Service Creek Watershed 1707020402. Outlet(s) = John Day River (Lat 44.7368, Long −120.3054) upstream to endpoint(s) in: Big Service Creek (44.9286, −120.0428); Girds Creek (44.6681, −120.1234); John Day River (44.8080, −119.9585); Rowe Creek (44.8043, −120.1751); Service Creek (44.8951, −120.0892); Shoofly Creek (44.6510, −120.0207).

(iii) Bridge Creek Watershed 1707020403. Outlet(s) = Bridge Creek (Lat 44.7368, Long −120.3054) upstream to endpoint(s) in: Bear Creek (44.5585, −120.4198); Bridge Creek (44.4721, −120.2009); Carroll Creek (44.5460, −120.3322); Dodds Creek (44.5329, −120.3867); Gable Creek (44.5186, −120.2384); Johnson Creek #2 (44.5193, −120.0949); Slide Creek (44.4956, −120.3023); Thompson Creek (44.5270, −120.2489); West Branch Bridge Creek (44.4911, −120.3098).

(iv) Lower John Day River/Muddy Creek Watershed 1707020404. Outlet(s) = John Day River (Lat 44.9062, Long −120.4460) upstream to endpoint(s) in: Cherry Creek (44.6344, −120.4543); Clubfoot Hollow (44.8865, −120.1929); Cove Creek (44.9299, −120.3791); Dry Creek (44.6771, −120.5367); John Day River (44.7368, −120.3054); Little Muddy Creek (44.7371, −120.5575); Muddy Creek (44.7491, −120.5071); Pine Creek (44.8931, −120.1797); Robinson Canyon (44.8807, −120.2678); Steers Canyon (44.9247, −120.2013).

(v) Lower John Day River/Clarno Watershed 1707020405. Outlet(s) = John Day River (Lat 45.1626, Long −120.4681) upstream to endpoint(s) in: Pine Creek (44.9062, −120.4460).

(vi) Butte Creek Watershed 1707020406. Outlet(s) = Butte Creek (Lat 45.0574, Long −120.4831) upstream to endpoint(s) in: Butte Creek (44.9266, −120.1142); Cottonwood Creek (44.9816, −120.2136); Deep Creek (45.0166, −120.4165); Hunt Canyon (45.1050, −120.2838); Straw Fork (44.9536, −120.1024); Unnamed (45.0952, −120.2928); West Fork Butte Creek (44.9883, −120.3332).

(vii) Pine Hollow Watershed 1707020407. Outlet(s) = Pine Hollow (Lat 45.1531, Long −120.4757) upstream to endpoint(s) in: Big Pine Hollow (44.9968, −120.7342); Brush Canyon (45.0255, −120.6329); Eakin Canyon (45.1608, −120.5863); Hannafin Canyon (45.1522, −120.6158); Long Hollow Creek (44.9922, −120.5565); West Little Pine Hollow (44.9921, −120.7324).

(viii) Thirtymile Creek Watershed 1707020408. Outlet(s) = Thirtymile Creek (Lat 45.1626, Long −120.4681) upstream to endpoint(s) in: Condon Canyon (45.1870, −120.1829); Dry Fork Thirtymile Creek (45.1858, −120.1338); East Fork Thirtymile Creek (45.1575, −120.0556); Lost Valley Creek (45.1062, −119.9916); Patill Canyon (45.1252, −120.1870); Thirtymile Creek (44.9852, −120.0375); Unnamed (44.9753, −120.0469); Wehrli Canyon (45.1539, −120.2137).

(ix) Lower John Day River/Ferry Canyon Watershed 1707020409. Outlet(s) = John Day River (Lat 45.3801, Long −120.5117) upstream to endpoint(s) in: John Day River (45.1626, −120.4681).

(x) Lower John Day River/Scott Canyon Watershed 1707020410. Outlet(s) = John Day River (Lat 45.5769, Long −120.4041) upstream to endpoint(s) in: John Day River (45.3801, −120.5117).

(xi) Upper Rock Creek Watershed 1707020411. Outlet(s) = Rock Creek (Lat 45.2190, Long −119.9597) upstream to endpoint(s) in: Allen Canyon (45.1092, −119.5976); Allen Spring Canyon (45.0471, −119.6468); Board Creek (45.1120, −119.5390); Brown Creek (45.0365, −119.8296); Buckhorn Creek (45.0272, −119.9186); Chapin Creek (45.0538, −119.6727); Davidson Canyon (45.0515, −119.5952); Hahn Canyon (45.1491, −119.8320); Harris Canyon (45.0762, −119.5856); Hollywood Creek (45.0964, −119.5174); Indian Creek (45.0481, −119.6476); John Z Canyon (45.0829, −119.6058); Juniper Creek (45.0504, −119.7730); Middle Fork Rock Creek (45.0818, −119.7404); Rock Creek (45.0361, −119.5989); Stahl Canyon (45.0071, −119.8683); Tree Root Canyon (45.0626, −119.6314); Tupper Creek (45.0903, −119.4999); Unnamed (45.0293, −119.5907); Unnamed (45.0698, −119.5329); Unnamed (45.0714, −119.5227); West Fork Juniper Creek (45.0192, −119.7786).

(xii) Lower Rock Creek Watershed 1707020412. Outlet(s) = Rock Creek (Lat 45.5769, Long −120.4041) upstream to endpoint(s) in: Dry Creek (45.3238, −119.9709); Rock Creek (45.2190, −119.9597); Sixmile Canyon (45.2448, −120.0283); South Fork Rock Creek (45.2770, −120.1232).

(xiii) Grass Valley Canyon Watershed 1707020413. Outlet(s) = Grass Valley Canyon (Lat 45.5974, Long −120.4232) upstream to endpoint(s) in: Grass Valley Canyon (45.4071, −120.7226); Hay Canyon (45.5104, −120.6085); Rosebush Creek (45.3395, −120.7159).

(xiv) Lower John Day River/McDonald Ferry Watershed 1707020414. Outlet(s) = John Day River (Lat 45.7389, Long −120.6520) upstream to endpoint(s) in: John Day River (45.5769, −120.4041).

(13) Unit 13. Lower Deschutes Subbasin 17070306—*(i) Upper Deschutes River Watershed 1707030603.* Outlet(s) = Deschutes River (Lat 44.8579, Long −121.0668) upstream to endpoint(s) in: Deschutes River (44.7243, −121.2465); Shitike Creek (44.7655, −121.5835); Unnamed (44.7934, −121.3715).

(ii) Mill Creek Watershed 1707030604. Outlet(s) = Mill Creek (Lat 44.8792, Long −121.3711) upstream to endpoint(s) in: Boulder Creek (44.8261, −121.4924); Mill Creek (44.8343, −121.6737); Unnamed (44.8330, −121.6756).

(iii) Beaver Creek Watershed 1707030605. Outlet(s) = Beaver Creek (Lat 44.8730, Long −121.3405) upstream to endpoint(s) in: Beaver Butte Creek (45.0786, −121.5746); Beaver Creek (45.1306, −121.6468); Indian Creek (45.0835, −121.5113).

(iv) Warm Springs River Watershed 1707030606. Outlet(s) = Warm Springs River (Lat 44.8579, Long −121.0668) upstream to endpoint(s) in: Badger Creek #2 (44.9352, −121.5569); South Fork Warm Springs River (44.9268,

−121.6995); Warm Springs River (44.9812, −121.7976).

(v) Middle Deschutes River Watershed 1707030607. Outlet(s) = Deschutes River (Lat 45.2642, Long −121.0232) upstream to endpoint(s) in: Cove Creek (44.9673, −121.0430); Deschutes River (44.8579, −121.0668); Eagle Creek (44.9999, −121.1688); Nena Creek (45.1030, −121.1653); Oak Creek (44.9336, −121.0981); Paquet Gulch (45.0676, −121.2911); Skookum Creek (44.9171, −121.1251); Stag Canyon (45.1249, −121.0563); Unnamed (45.0186, −121.0464); Unnamed (45.0930, −121.1511); Wapinitia Creek (45.1177, −121.3025).

(vi) Bakeoven Creek Watershed 1707030608. Outlet(s) = Bakeoven Creek (Lat 45.1748, Long −121.0728) upstream to endpoint(s) in: Bakeoven Creek (45.1261, −120.9398); Booten Creek (45.1434, −121.0131); Cottonwood Creek (45.0036, −120.8720); Deep Creek (44.9723, −120.9480); Robin Creek (45.1209, −120.9652); Trail Hollow Creek (45.1481, −121.0423).

(vii) Buck Hollow Creek Watershed 1707030611. Outlet(s) = Buck Hollow Creek (Lat 45.2642, Long −121.0232) upstream to endpoint(s) in: Buck Hollow Creek (45.0663, −120.7095); Finnegan Creek (45.2231, −120.8472); Macken Canyon (45.1093, −120.7011); Thorn Hollow (45.0450, −120.7386).

(viii) Lower Deschutes River Watershed 1707030612. Outlet(s) = Deschutes River (Lat 45.6426, Long −120.9142) upstream to endpoint(s) in: Bull Run Canyon (45.4480, −120.8655); Deschutes River (45.2642, −121.0232); Fall Canyon (45.5222, −120.8538); Ferry Canyon (45.3854, −120.9373); Jones Canyon (45.3011, −120.9404); Macks Canyon (45.3659, −120.8524); Oak Canyon (45.3460, −120.9960); Sixteen Canyon (45.4050, −120.8529).

(14) Unit 14. Trout Subbasin 17070307—*(i) Upper Trout Creek Watershed 1707030701.* Outlet(s) = Trout Creek (Lat 44.8229, Long −120.9193) upstream to endpoint(s) in: Amity Creek (44.6447, −120.5854); Auger Creek (44.5539, −120.5381); Beaver Creek (44.6390, −120.7034); Big Log Creek (44.5436, −120.6997); Big Whetstone Creek (44.6761, −120.7645); Board Hollow (44.6064, −120.7405); Cartwright Creek (44.5404, −120.6535); Clover Creek (44.6523, −120.7358); Dutchman Creek (44.5320, −120.6704); Foley Creek (44.5861, −120.6801); Little Trout Creek (44.7816, −120.7237); Opal Creek (44.5792, −120.5446); Potlid Creek (44.5366, −120.6207); Trout Creek (44.5286, −120.5805); Tub Springs Canyon (44.8155, −120.7888); Unnamed (44.5428, −120.5848); Unnamed (44.6043, −120.7403); Unnamed (44.6510, −120.7337).

(ii) Antelope Creek Watershed 1707030702. Antelope Creek (Lat 44.8229, Long −120.9193) upstream to endpoint(s) in: Antelope Creek (44.8564, −120.8574); Boot Creek (44.9086, −120.8864); Pole Creek (44.9023, −120.9108); Ward Creek (44.9513, −120.8341).

(iii) Mud Springs Creek Watershed 1707030704. Outlet(s) = Mud Springs Creek (Lat 44.8020, Long −121.0614) upstream to endpoint(s) in: Mud Springs Creek (44.7870, −121.0479).

(iv) Lower Trout Creek Watershed 1707030705. Outlet(s) = Trout Creek (Lat 44.8214, Long −121.0876) upstream to endpoint(s) in: Brocher Creek (44.8357, −121.0330); Hay Creek (44.7824, −120.9652); Trout Creek (44.8229, −120.9193).

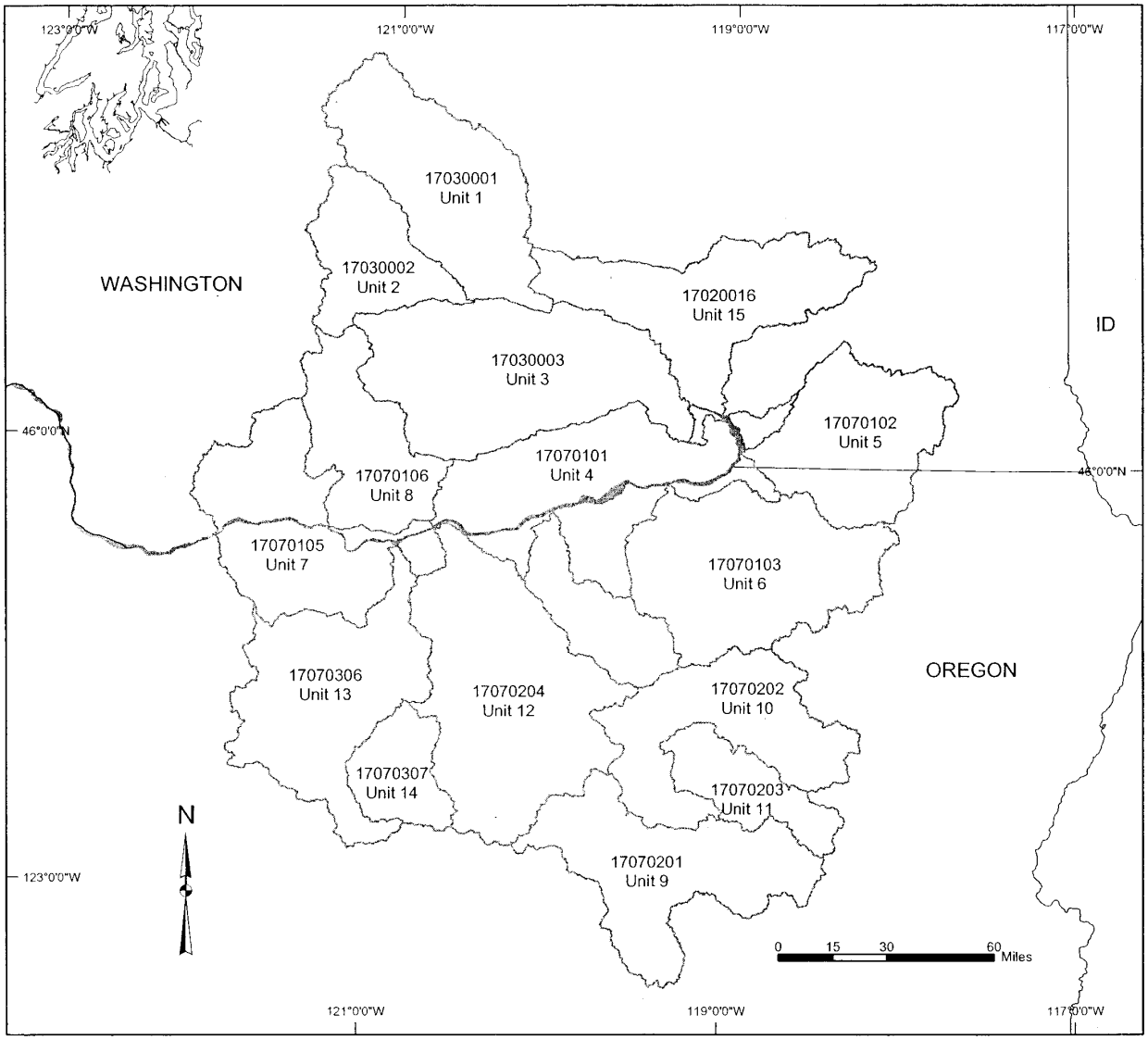
(15) Unit 15. Upper Columbia/Priest Rapids Subbasin 17020016–*Columbia River/Zintel Canyon Watershed 1702001606.* Outlet(s) = Columbia River (Lat 46.1776, Long −119.0183) upstream to endpoint(s) in: Columbia River (46.2534, −119.2268).

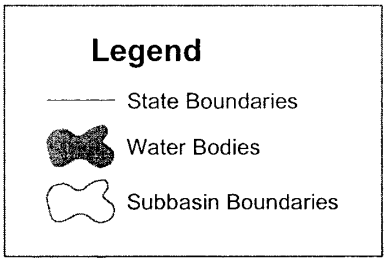
(16) Unit 16. Columbia River Corridor—*Columbia River Corridor* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (45.7070, −121.7943).

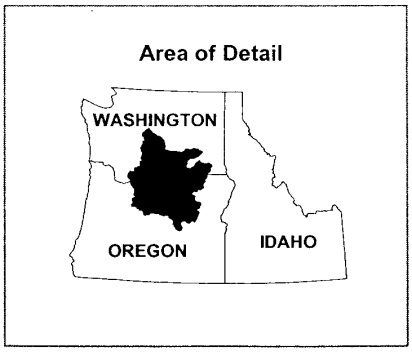
(17) Maps of proposed critical habitat for the Middle Columbia River *O. mykiss* ESU follow:

BILLING CODE 3510–22–P

Map of the Middle Columbia River O. Mykiss ESU

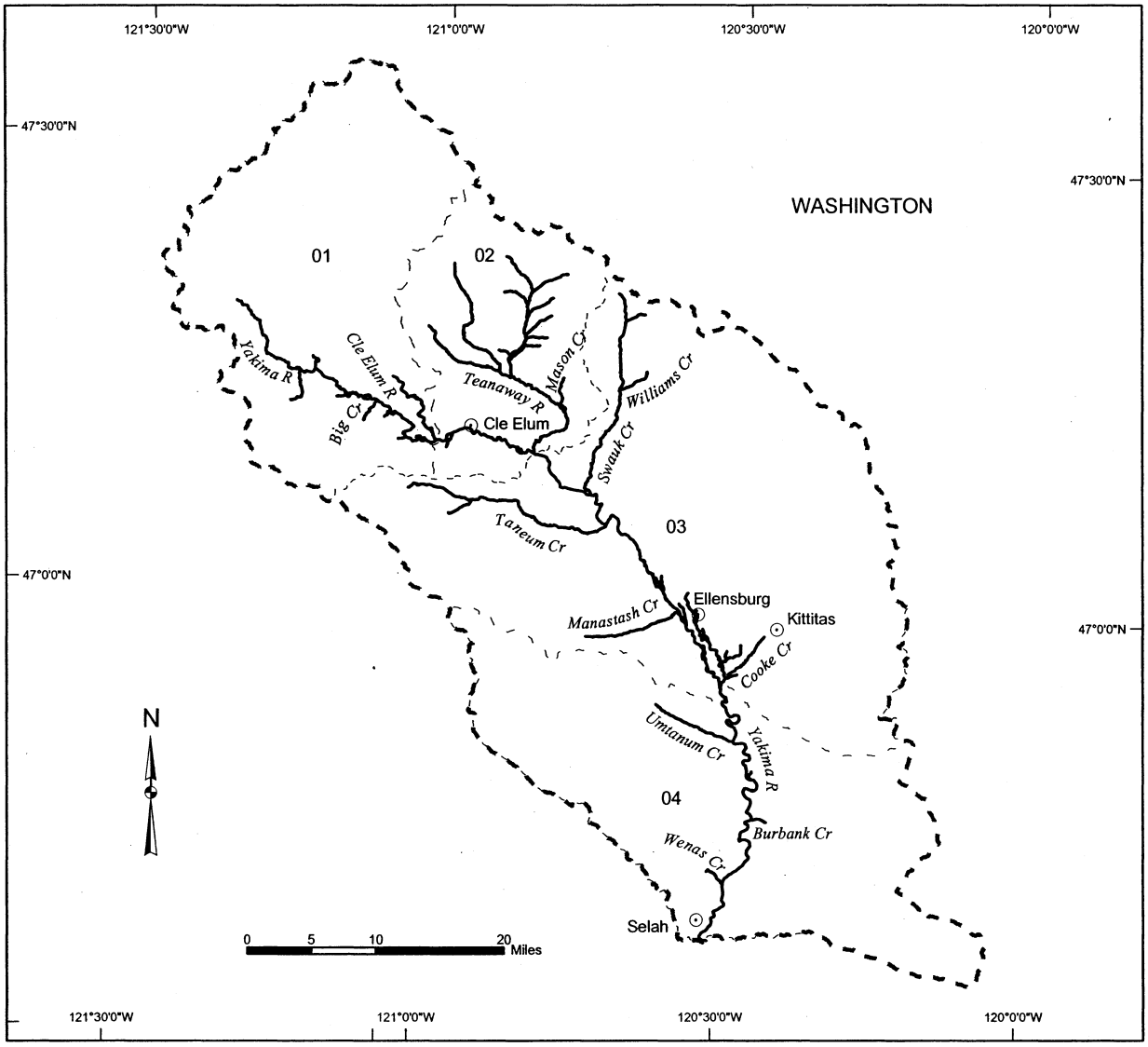






Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

UPPER YAKIMA SUBBASIN 17030001, Unit 1

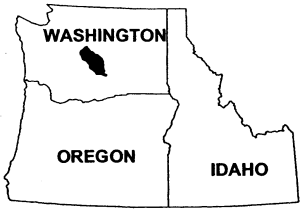


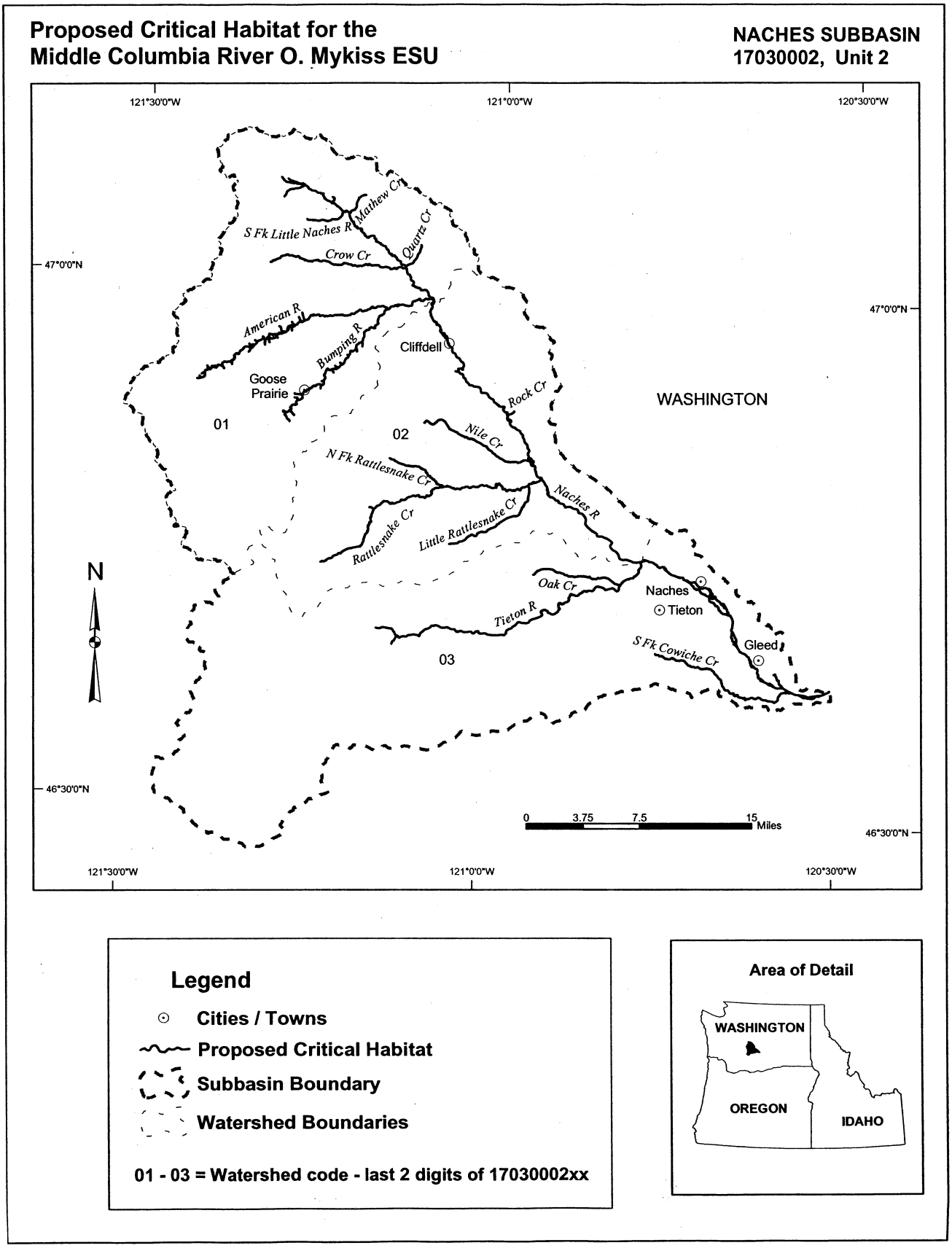
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 04 = Watershed code - last 2 digits of 17030001xx

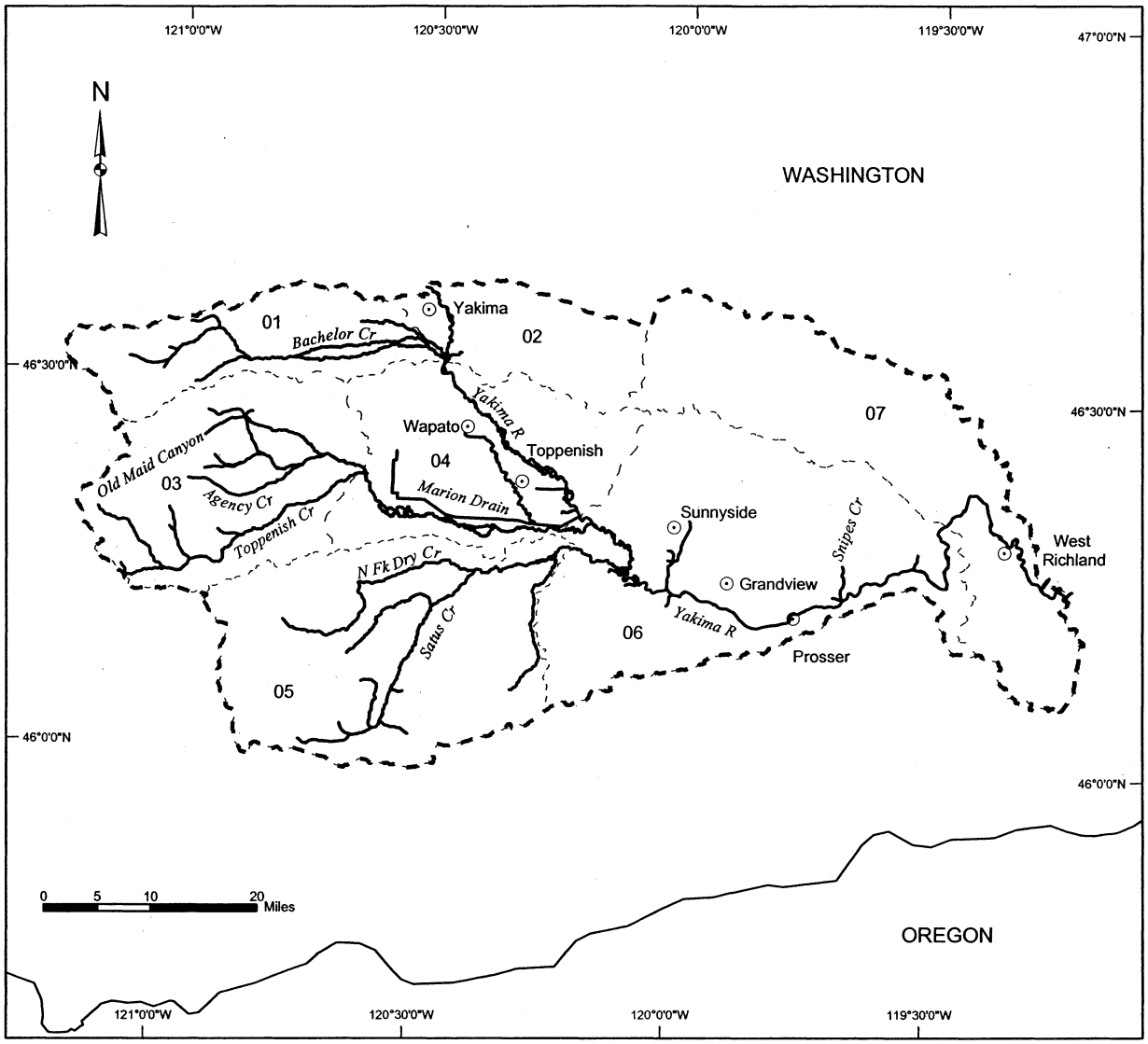
Area of Detail




Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
NACHES SUBBASIN
17030002, Unit 2
121°30'0"W
121°0'0"W
120°30'0"W
47°0'0"N
46°30'0"N
S Fk Little Naches R
Mathew Cr
Quartz Cr
Crow Cr
American R
Bumping R
Cliffdell
Goose Prairie
Rock Cr
WASHINGTON
01
02
Nile Cr
N Fk Rattlesnake Cr
Naches R
Little Rattlesnake Cr
Rattlesnake Cr
Oak Cr
Naches
Tieton
Tieton R
Gleed
S Fk Cowiche Cr
03
N
0 3.75 7.5 15 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17030002xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

LOWER YAKIMA SUBBASIN 17030003, Unit 3

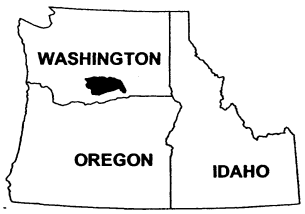


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

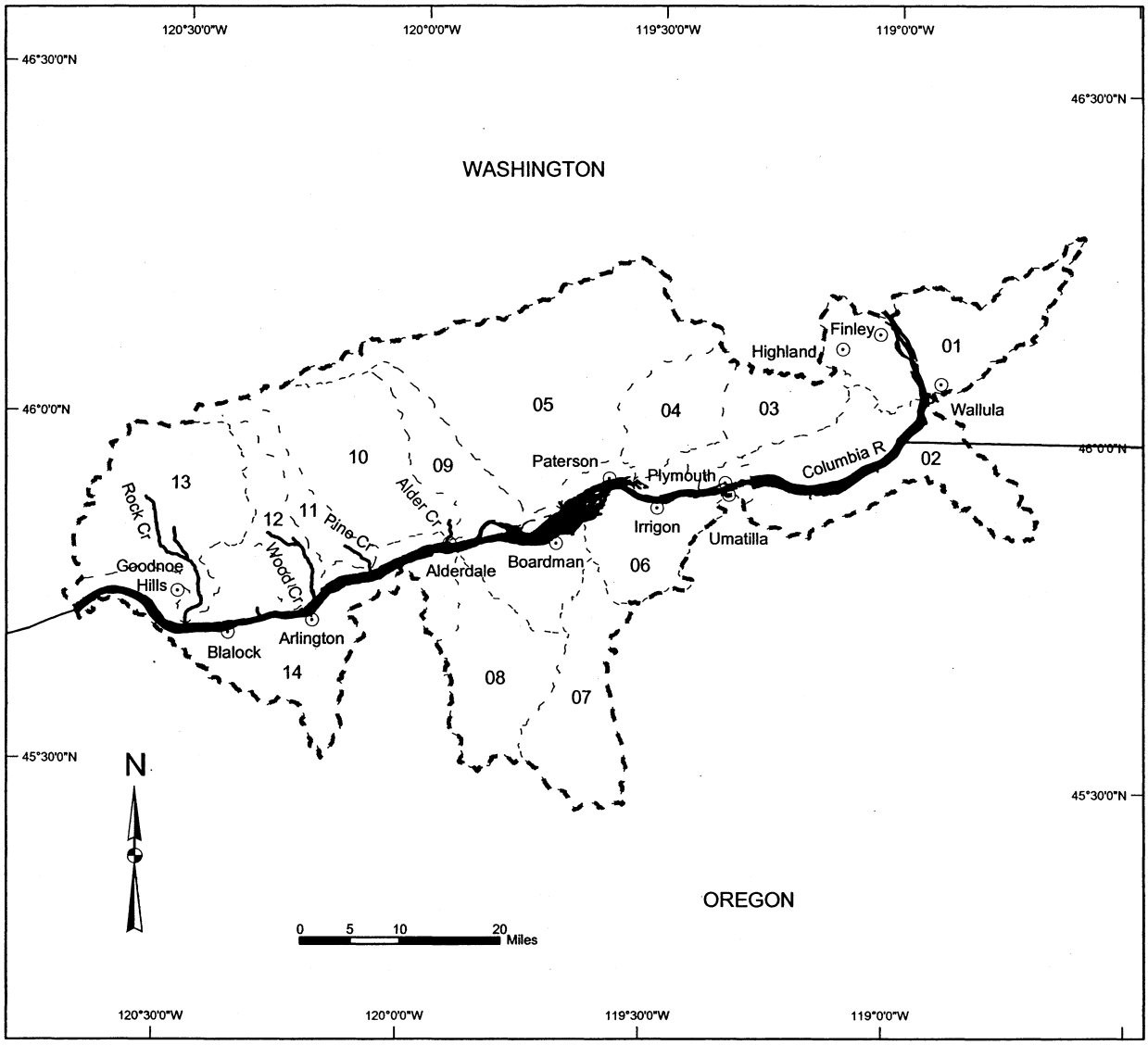
01 - 07 = Watershed code - last 2 digits of 17030003xx

Area of Detail



Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

MIDDLE COLUMBIA / LAKE WALLULA SUBBASIN 17070101, Unit 4

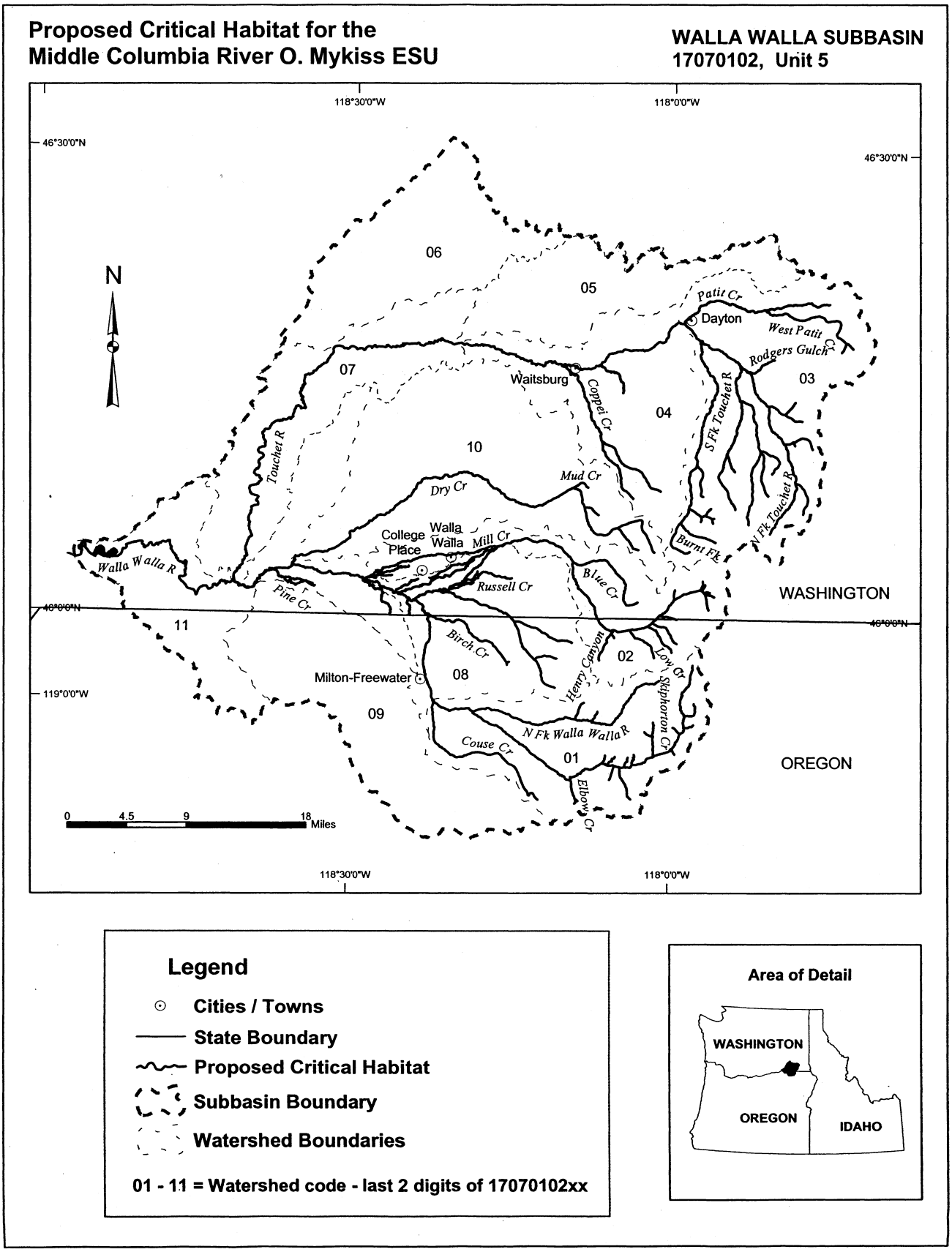


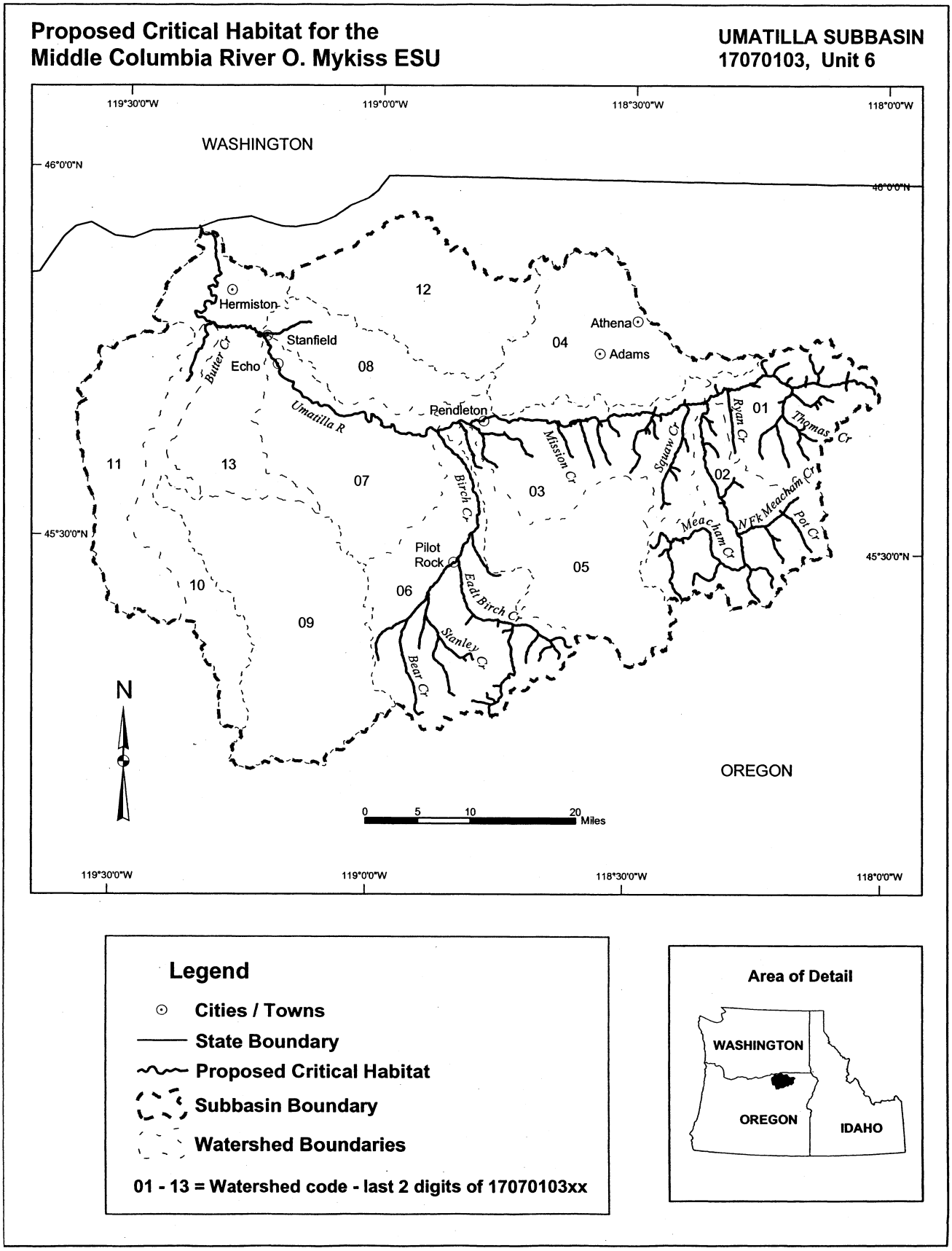
Legend

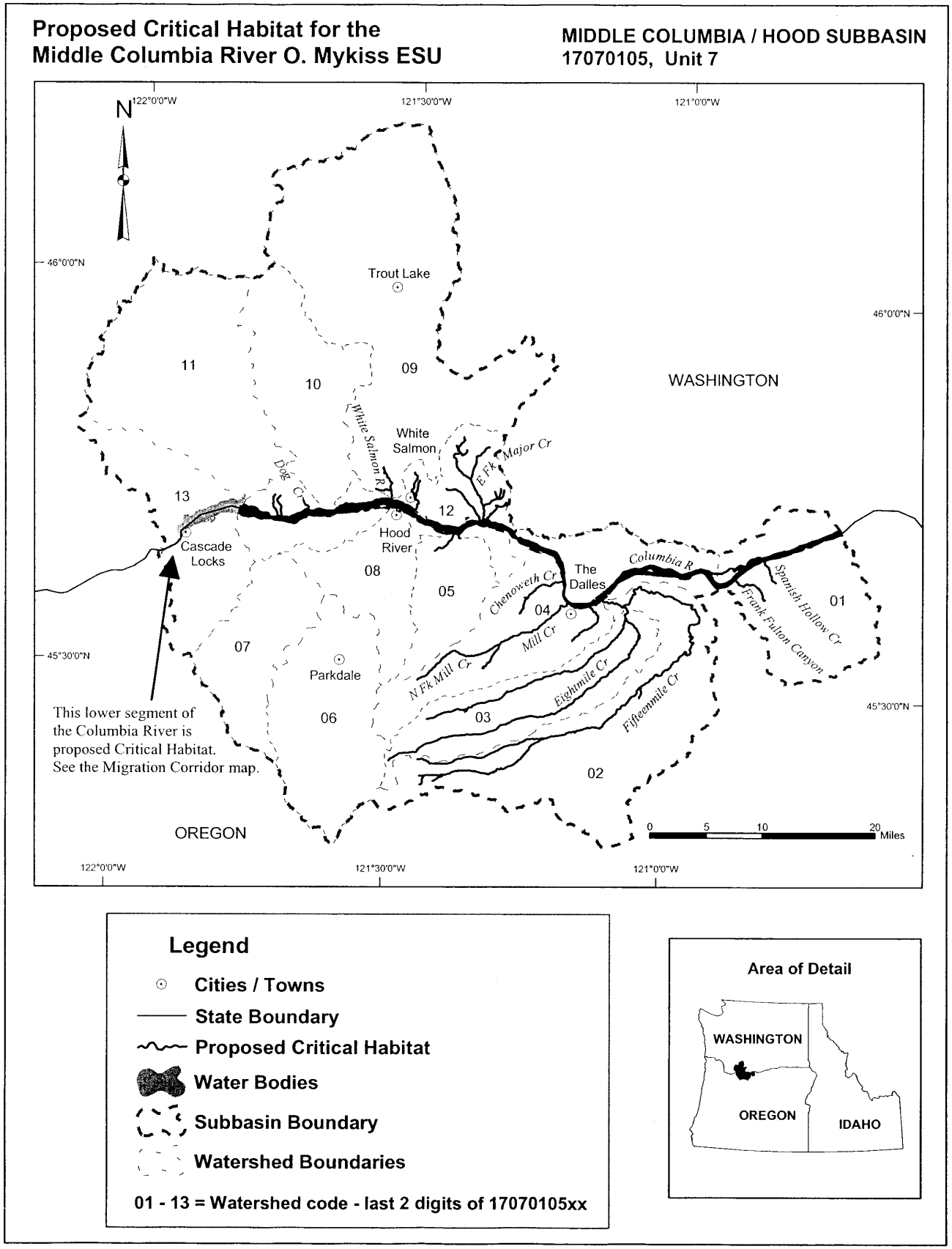
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 14 = Watershed code - last 2 digits of 17070101xx

Area of Detail

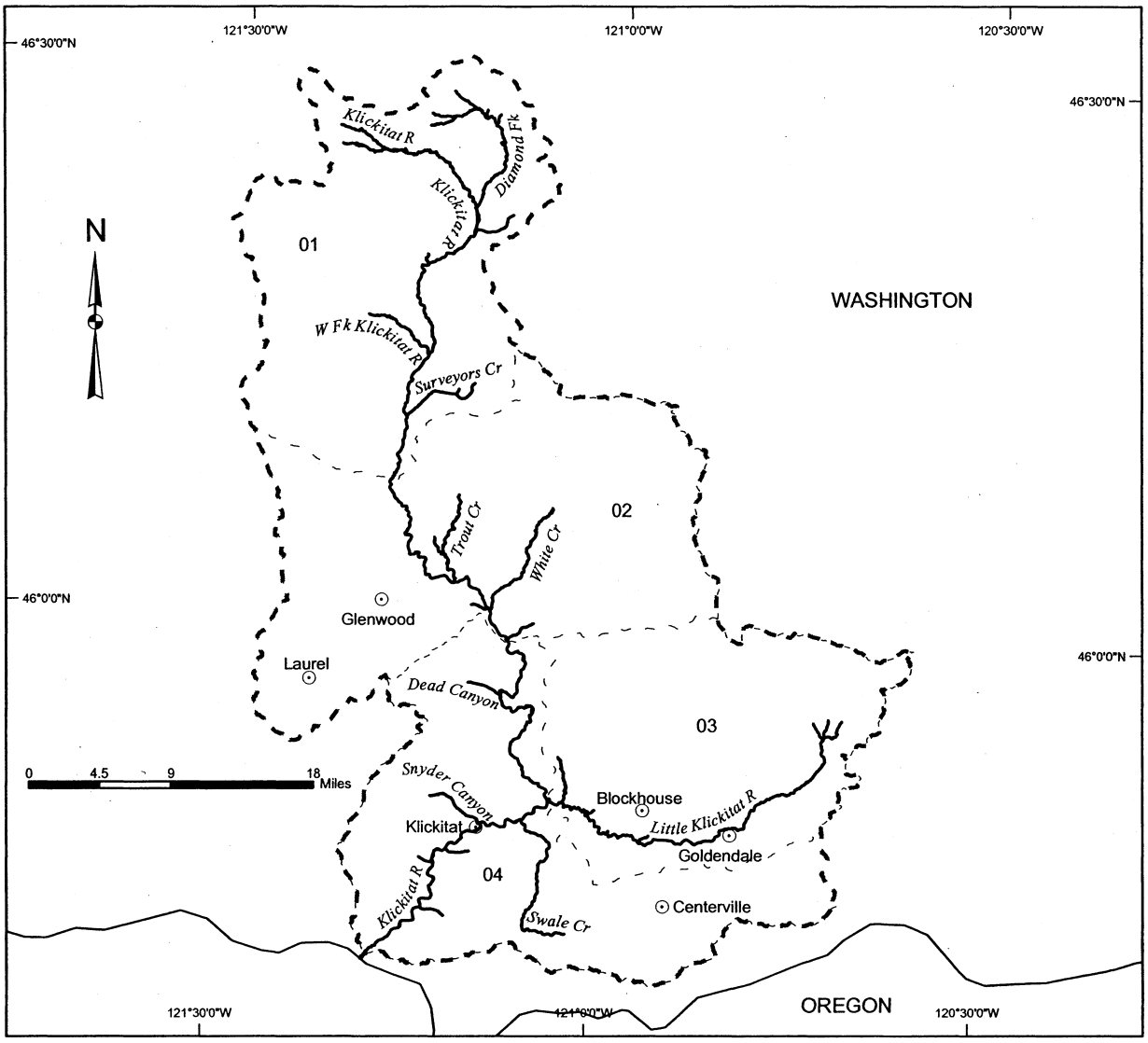

Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
WALLA WALLA SUBBASIN
17070102, Unit 5
118°30'0"W
118°0'0"W
46°30'0"N
46°0'0"N
119°0'0"W
N
06
05
07
10
04
03
11
08
09
02
01
Dayton
Waitsburg
College Place
Walla Walla
Milton-Freewater
Patit Cr
West Patit Cr
Rodgers Gulch
Coppei Cr
S Fk Touchet R
N Fk Touchet R
Touchet R
Mud Cr
Dry Cr
Mill Cr
Burnt Fk
Walla Walla R
Pine Cr
Russell Cr
Blue Cr
Birch Cr
Henry Canyon
Low Cr
Skiphorton Cr
N Fk Walla Walla R
Couse Cr
Elbow Cr
WASHINGTON
OREGON
0 4.5 9 18 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 11 = Watershed code - last 2 digits of 17070102xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
UMATILLA SUBBASIN
17070103, Unit 6
119°30'0"W
119°0'0"W
118°30'0"W
118°0'0"W
46°0'0"N
45°30'0"N
WASHINGTON
OREGON
Hermiston
Stanfield
Echo
Athena
Adams
Pendleton
Pilot Rock
Butter Cr
Umatilla R
Mission Cr
Squaw Cr
Ryan Cr
Thomas Cr
Birch Cr
Meacham Cr
N Fk Meacham Cr
Pot Cr
East Birch Cr
Stanley Cr
Bear Cr
01
02
03
04
05
06
07
08
09
10
11
12
13
N
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 13 = Watershed code - last 2 digits of 17070103xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
MIDDLE COLUMBIA / HOOD SUBBASIN
17070105, Unit 7
N
122°0'0"W
121°30'0"W
121°0'0"W
46°0'0"N
45°30'0"N
Trout Lake
WASHINGTON
OREGON
11
10
09
13
12
08
05
04
07
06
03
02
01
White Salmon
Hood River
Cascade Locks
Parkdale
The Dalles
White Salmon R
Dog Cr
E Fk Major Cr
Chenoweth Cr
Columbia R
Spanish Hollow Cr
Frank Fulton Canyon
Mill Cr
N Fk Mill Cr
Eightmile Cr
Fifteenmile Cr
This lower segment of the Columbia River is proposed Critical Habitat. See the Migration Corridor map.
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 13 = Watershed code - last 2 digits of 17070105xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

KLICKITAT SUBBASIN 17070106, Unit 8



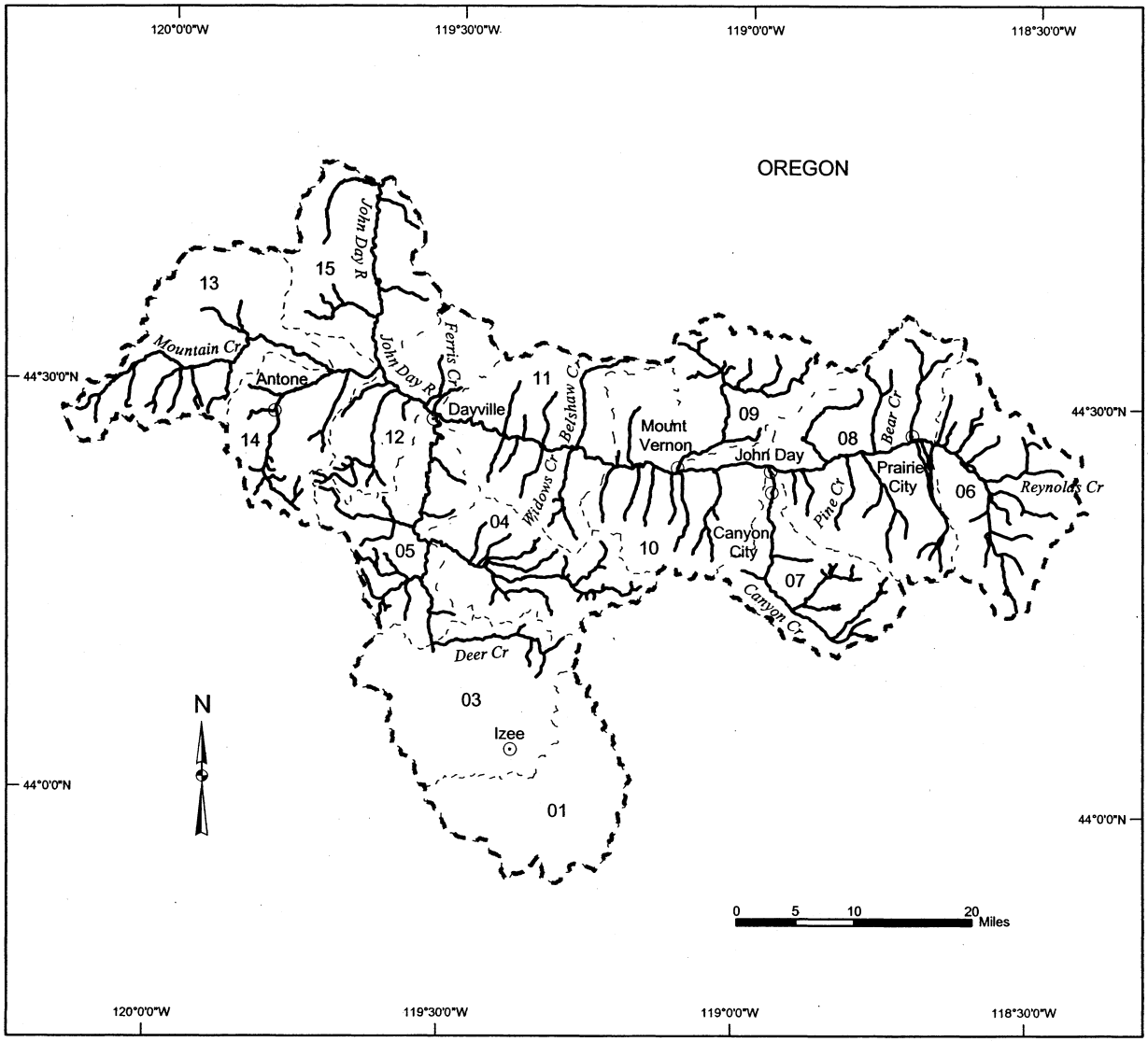
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 04 = Watershed code - last 2 digits of 17070106xx

Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

UPPER JOHN DAY SUBBASIN 17070201, Unit 9

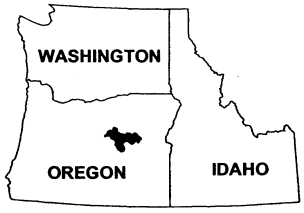


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

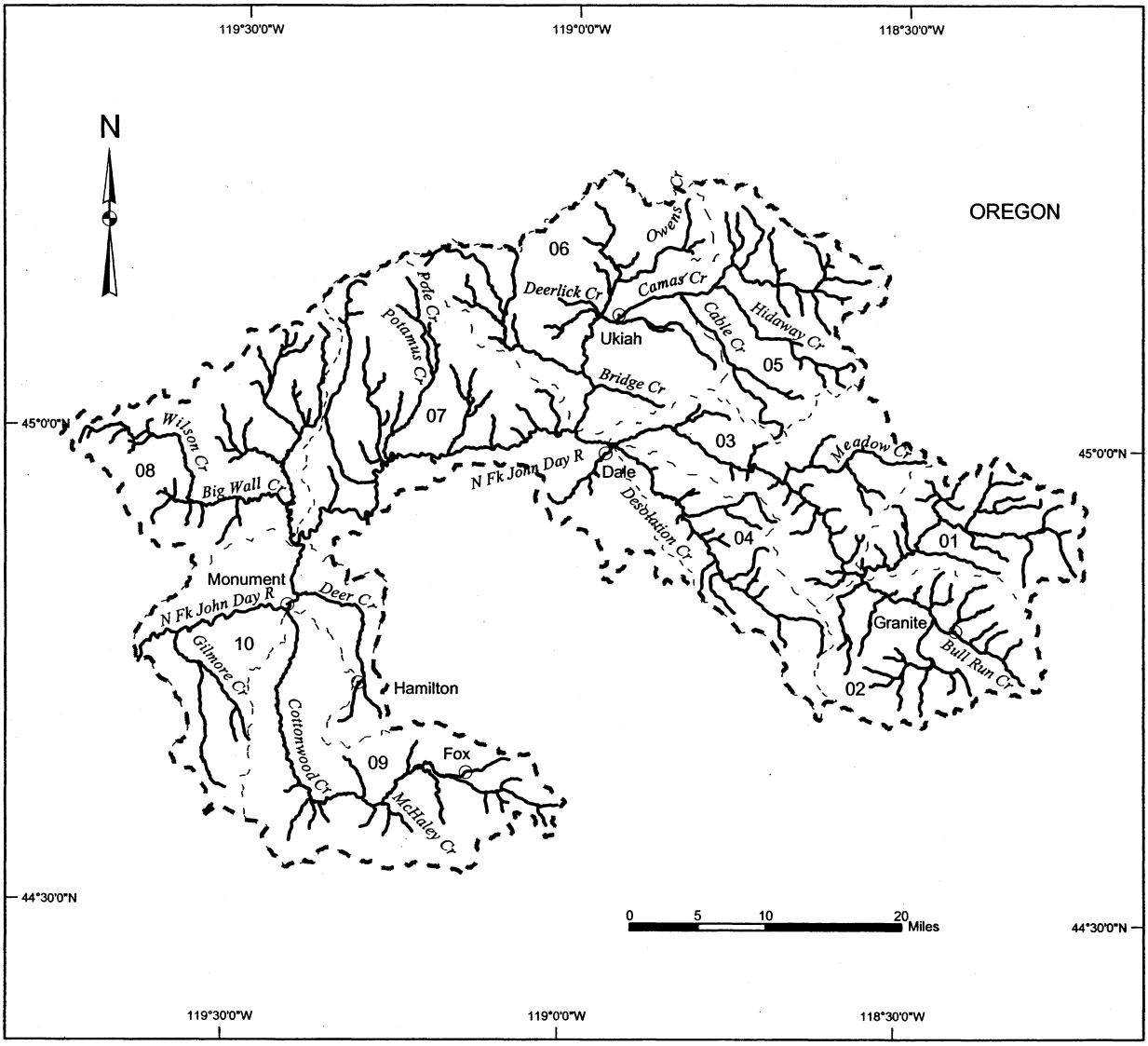
01, 03 - 15 = Watershed code - last 2 digits of 17070201xx

Area of Detail



Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

NORTH FORK JOHN DAY SUBBASIN 17070202, Unit 10

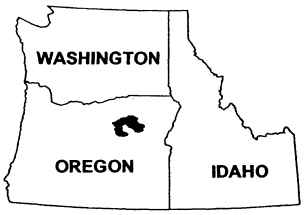


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

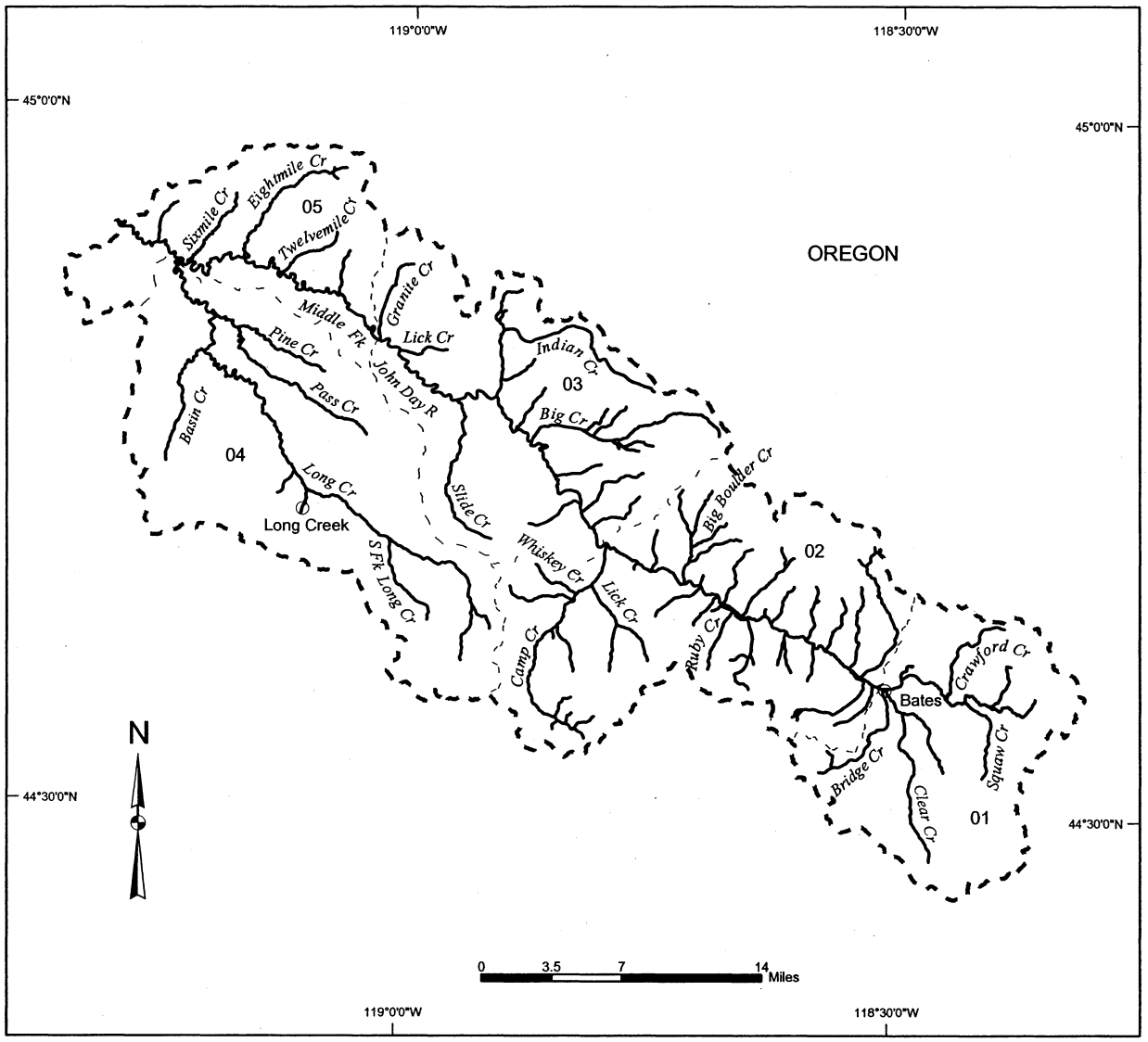
01 - 10 = Watershed code - last 2 digits of 17070202xx

Area of Detail



Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

MIDDLE FORK JOHN DAY SUBBASIN 17070203, Unit 11

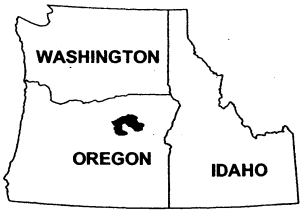


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

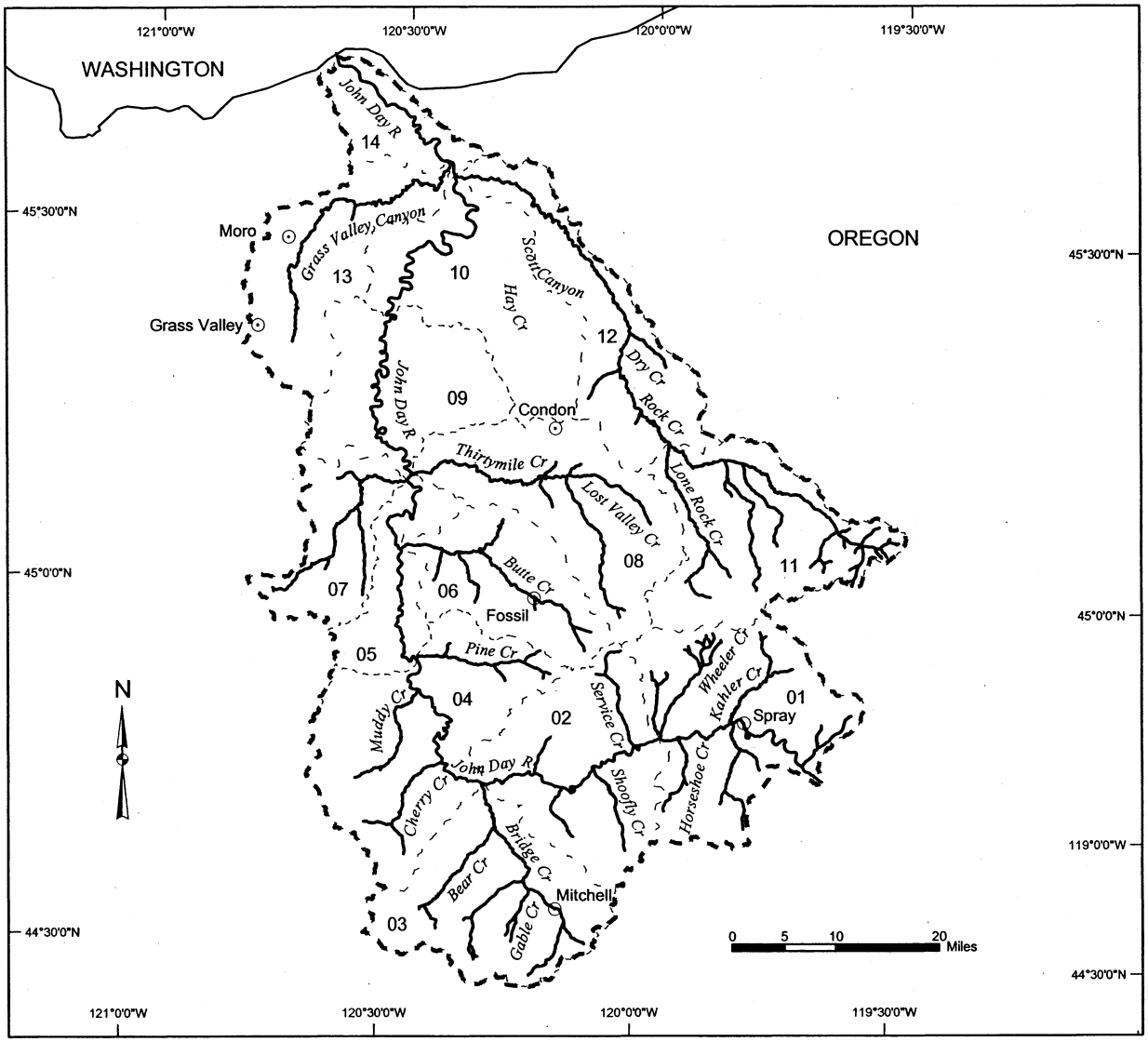
01 - 05 = Watershed code - last 2 digits of 17070203xx

Area of Detail



Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

LOWER JOHN DAY SUBBASIN 17070204, Unit 12

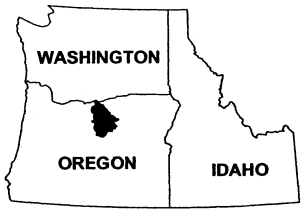


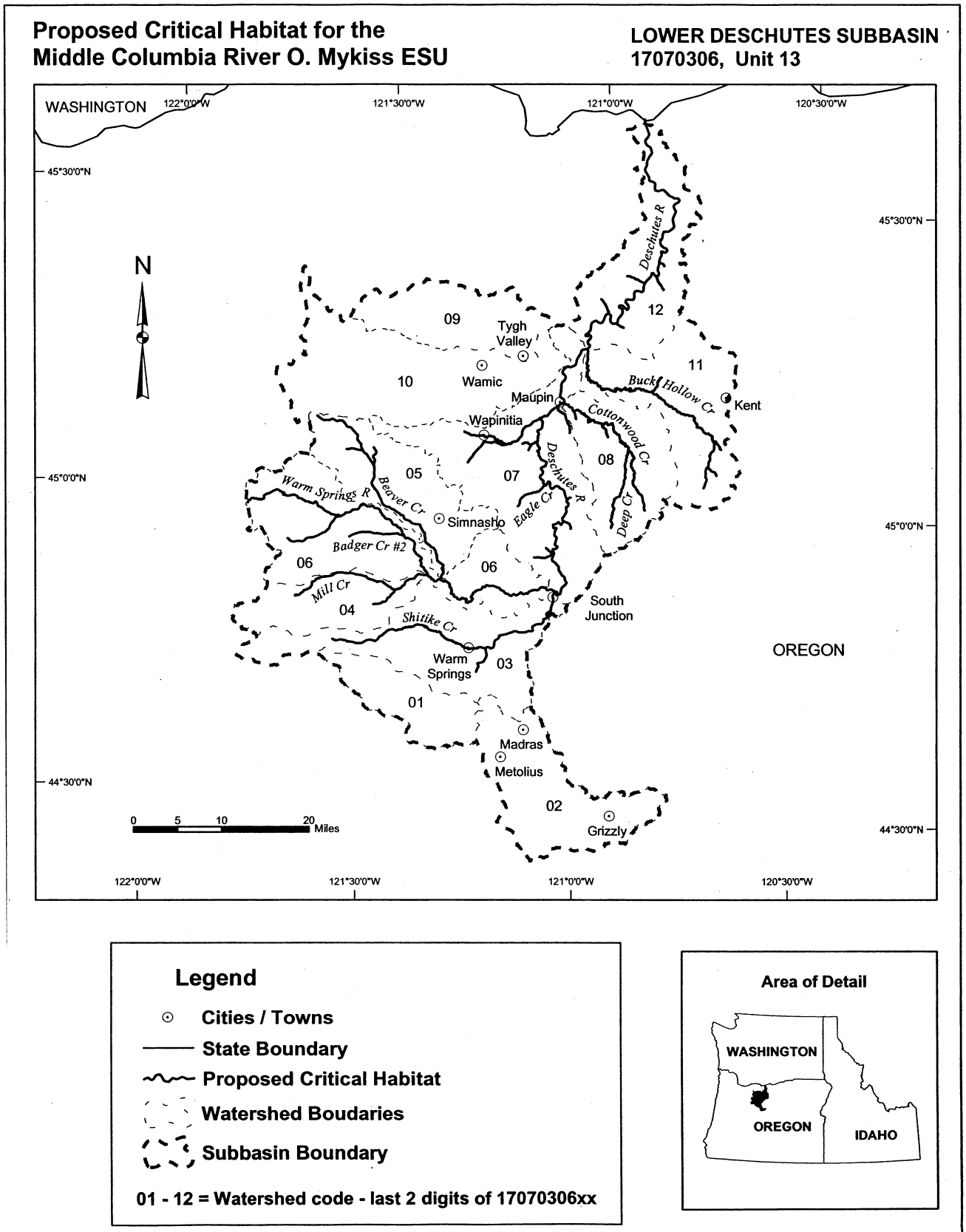
Legend

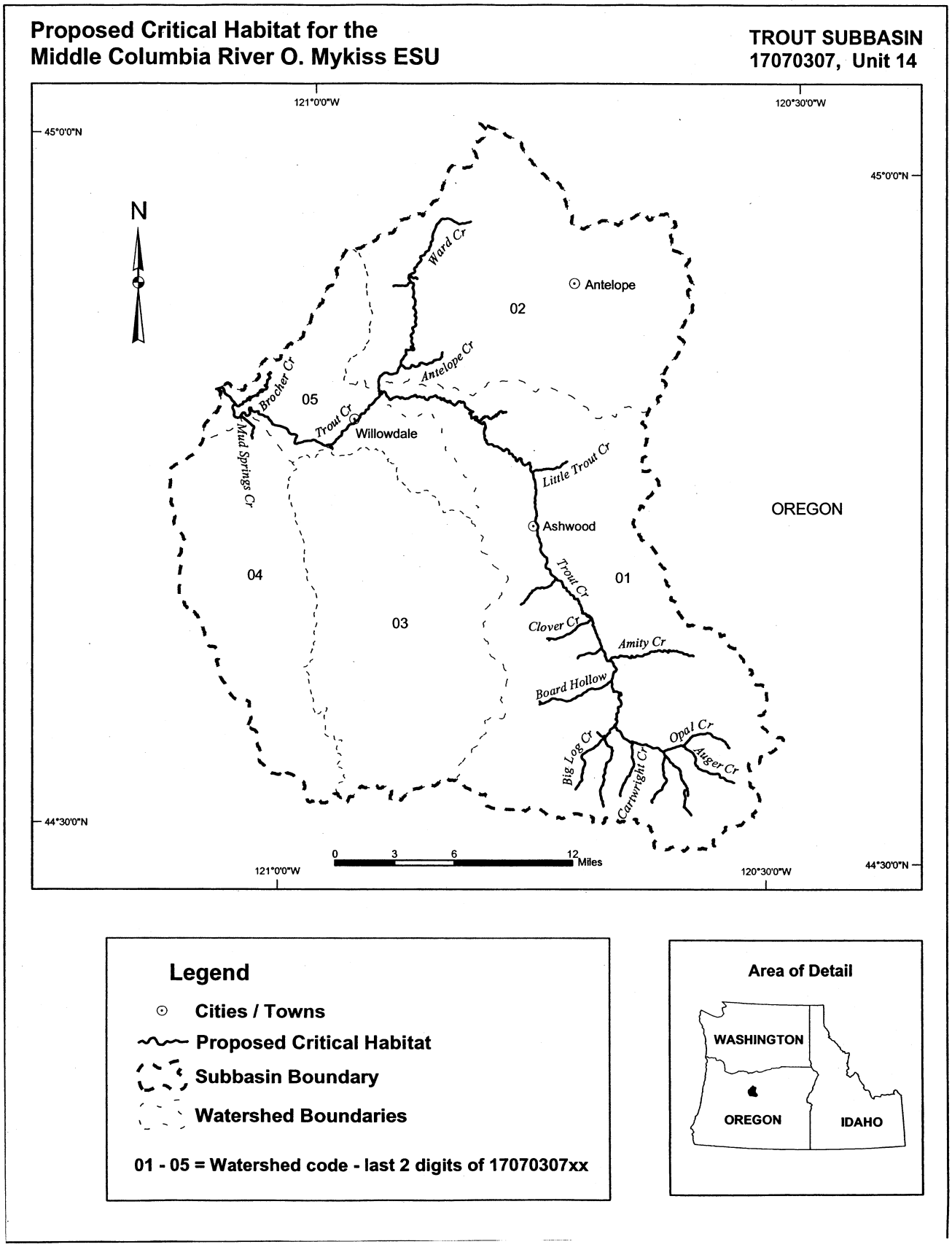
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 14 = Watershed code - last 2 digits of 17070204xx

Area of Detail

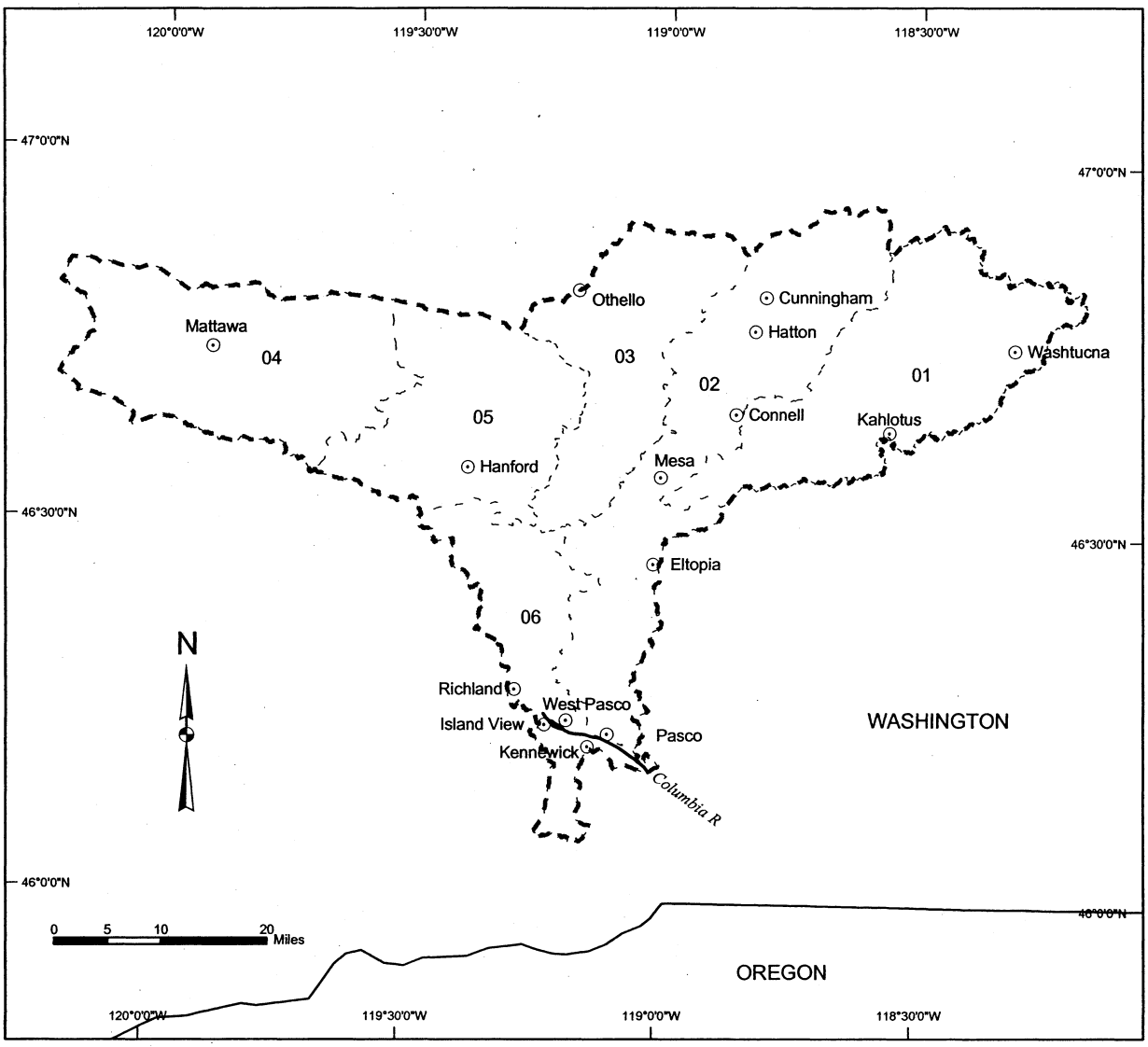



Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
LOWER DESCHUTES SUBBASIN
17070306, Unit 13
WASHINGTON
OREGON
N
122°0'0"W
121°30'0"W
121°0'0"W
120°30'0"W
45°30'0"N
45°0'0"N
44°30'0"N
09
10
11
12
05
06
07
08
04
03
01
02
Tygh Valley
Wamic
Maupin
Wapinitia
Kent
Simnasho
South Junction
Warm Springs
Madras
Metolius
Grizzly
Deschutes R
Buck Hollow Cr
Cottonwood Cr
Warm Springs R
Beaver Cr
Eagle Cr
Deep Cr
Badger Cr #2
Mill Cr
Shitike Cr
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Watershed Boudaries
Subbasin Boundary
01 - 12 = Watershed code - last 2 digits of 17070306xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Middle Columbia River O. Mykiss ESU
TROUT SUBBASIN
17070307, Unit 14
121°0'0"W
120°30'0"W
45°0'0"N
44°30'0"N
N
Ward Cr
Antelope
02
Antelope Cr
Brocher Cr
05
Trout Cr
Willowdale
Mud Springs Cr
Little Trout Cr
Ashwood
OREGON
04
Trout Cr
01
03
Clover Cr
Amity Cr
Board Hollow
Big Log Cr
Opal Cr
Auger Cr
Carwright Cr
0 3 6 12 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17070307xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Middle Columbia River O. Mykiss ESU

UPPER COLUMBIA / PRIEST RAPIDS SUBBASIN 17020016, Unit 15

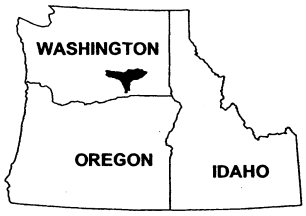


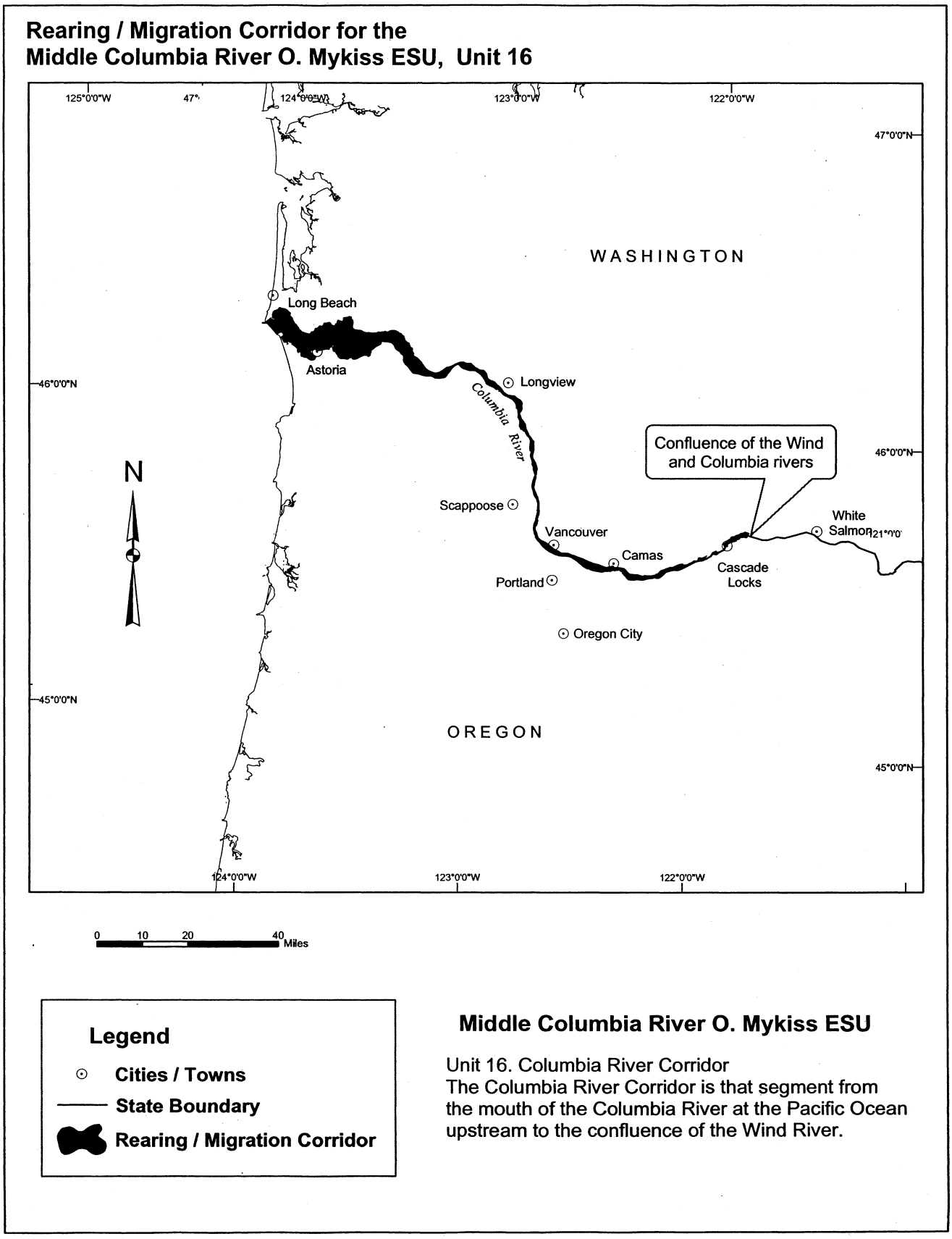
Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Watershed Boundaries
- Subbasin Boundary

01 - 06 = Watershed code - last 2 digits of 17020016xx

Area of Detail





BILLING CODE 3510–22–C

(q) Lower Columbia River Oncorhynchus mykiss. Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Middle Columbia/Hood Subbasin 17070105—*(i) East Fork Hood River Watershed 1707010506.* Outlet(s) = Hood River (Lat 45.6050, Long −121.6323) upstream to endpoint(s) in: Baldwin Creek (45.5618, −121.5585); Bear Creek (45.4894, −121.6516); Cat Creek (45.4708, −121.5591); Clark Creek (45.3335, −121.6420); Coe Branch (45.4342, −121.6673); Cold Spring Creek (45.4020, −121.5873); Culvert Creek (45.3770, −121.5660); Dog River (45.4404, −121.5623); East Fork Hood River (45.3172, −121.6390); Eliot Branch, Middle Fork Hood River (45.4534, −121.6362); Emil Creek (45.5223, −121.5886); Evans Creek (45.4872, −121.5894); Graham Creek (45.5463, −121.5639); Meadows Creek (45.3195, −121.6279); Newton Creek (45.3370, −121.6261); Pinnacle Creek (45.4595, −121.6568); Pocket Creek (45.3025, −121.5969); Polallie Creek (45.4132, −121.5826); Tony Creek (45.5254, −121.6584); Unnamed (45.3470, −121.5843); Unnamed (45.4661, −121.5627); Unnamed (45.5208, −121.6198); Unnamed (45.5445, −121.5738).

(ii) West Fork Hood River Watershed 1707010507. Outlet(s) = West Fork Hood River (Lat 45.6050, Long −121.6323) upstream to endpoint(s) in: Divers Creek (45.5457, −121.7447); Elk Creek (45.4294, −121.7884); Green Point Creek (45.5915, −121.6981); Indian Creek (45.5375, −121.7857); Jones Creek (45.4673, −121.8020); Lake Branch (45.5083, −121.8485); McGee Creek (45.4120, −121.7598); No Name Creek (45.5347, −121.7929); Red Hill Creek (45.4720, −121.7705); Unnamed (45.5502, −121.7014).

(iii) Hood River Watershed 1707010508. Outlet(s) = Hood River (Lat 45.7237, Long −121.5049) upstream to endpoint(s) in: Hood River (45.6050, −121.6323); Lenz Creek (45.6291, −121.5220); Neal Creek (45.5787, −121.4875); West Fork Neal Creek (45.5751, −121.5215); Whiskey Creek (45.6827, −121.5064).

(iv) Wind River Watershed 1707010511. Outlet(s) = Wind River (Lat 45.7067, Long −121.7929) upstream to endpoint(s) in: Bear Creek (45.7619, −121.8295); Big Hollow Creek (45.9408, −122.0075); Bourbon Creek (45.9246, −121.9982); Brush Creek (45.7720, −121.7528); Cedar Creek (45.8388, −121.7956); Compass Creek (45.8372, −122.0633); Crater Creek (45.8637, −122.0639); Dry Creek (45.9551, −121.9924); East Fork Trout Creek (45.8503, −122.0096); Eightmile Creek (45.8616, −121.8966); Falls Creek (45.9107, −121.9151); Hollis Creek (45.8524, −121.9304); Jimmy Creek (45.7886, −121.8409); Layout Creek (45.8096, −122.0475); Little Wind River (45.7763, −121.7222); Martha Creek (45.7846, −121.9482); Mouse Creek (45.8415, −121.8428); Ninemile Creek (45.8942, −121.9023); Oldman Creek (45.9856, −121.9369); Panther Creek (45.8605, −121.8422); Pass Creek (45.8555, −122.0133); Planting Creek (45.8071, −122.0010); Proverbial Creek (45.9816, −121.9654); Tenmile Creek (45.8760, −121.8694); Trapper Creek (45.9113, −122.0470); Trout Creek (45.8679, −122.0477); Unnamed (45.7862, −121.9097); Unnamed (45.8008, −121.9881); Unnamed (45.8025, −121.9678); Unnamed (45.8142, −122.0204); Unnamed (45.8149, −122.0532); Unnamed (45.8161, −121.8437); Unnamed (45.8206, −121.8111); Unnamed (45.8218, −121.9470); Unnamed (45.8242, −122.0295); Unnamed (45.8427, −121.9180); Unnamed (45.8509, −121.9190); Unnamed (45.8529, −122.0406); Unnamed (45.8551, −122.0638); Unnamed (45.8610, −121.9635); Unnamed (45.8637, −122.0625); Unnamed (45.8640, −121.9764); Unnamed (45.8682, −121.9714); Unnamed (45.8940, −122.0348); Unnamed (45.8965, −122.0035); Unnamed (45.9652, −121.9517); Unnamed (45.9798, −121.8873); Unnamed (45.9844, −121.9171); Wind River (45.9964, −121.9000).

(v) Middle Columbia/Grays Creek Watershed 1707010512. Outlet(s) = Columbia River (Lat 45.7070, Long −121.7943) upstream to endpoint(s) in: Columbia River (45.7237, −121.5049).

(vi) Middle Columbia/Eagle Creek Watershed 1707010513. Outlet(s) = Columbia River (Lat 45.6453, Long −121.9395) upstream to endpoint(s) in: Columbia River (45.7070, −121.7943).

(2) Unit 2. Lower Columbia/Sandy Subbasin 17080001—*(i) Salmon River Watershed 17080001.* Outlet(s) = Salmon River (Lat 45.3768, Long −122.0293) upstream to endpoint(s) in: Bighorn Creek (45.2582, −121.9204); Boulder Creek (45.3027, −122.0209); Cheeney Creek (45.2919, −121.9710); Copper Creek (45.2454, −121.9051); Mack Hall Creek (45.2391, −121.9508); Salmon River (45.2511, −121.9025); South Fork Salmon River (45.2500, −121.9770); Unnamed (45.2576, −121.9068); Unnamed (45.2600, −121.9093); Unnamed (45.2633, −121.9153); Unnamed (45.2646, −121.9175); Unnamed (45.2708, −121.9246); Unnamed (45.2946, −121.9388); Unnamed (45.3161, −121.9565); Unnamed (45.3225, −121.9609); Unnamed (45.3254, −121.9582); Unnamed (45.3277, −121.9635); Unnamed (45.3336, −121.9538); Unnamed (45.3383, −121.9768); Unnamed (45.3398, −121.9954).

(ii) Zigzag River Watershed 1708000102. Outlet(s) = Zigzag River (Lat 45.3489, Long −121.9442) upstream to endpoint(s) in: Camp Creek (45.3070, −121.7921); Cool Creek (45.2867, −121.8849); Devil Canyon (45.3186, −121.8587); Henry Creek (45.3241, −121.8869); Lady Creek (45.3199, −121.8225); Little Zigzag Canyon (45.3138, −121.8035); Still Creek (45.3167, −121.7228); Unnamed (45.2647, −121.8342); Unnamed (45.2706, −121.8194); Unnamed (45.2793, −121.8529); Unnamed (45.2801, −121.8537); Wind Creek (45.2961, −121.8515); Zigzag River (45.3270, −121.7786).

(iii) Upper Sandy River Watershed 1708000103. Outlet(s) = Sandy River (Lat 45.3489, Long −121.9442) upstream to endpoint(s) in: Cast Creek (45.3794, −121.8538); Clear Creek (45.3998, −121.8936); Clear Fork (45.4256, −121.8006); Horseshoe Creek (45.3664, −121.8680); Little Clear Creek (45.3854, −121.9190); Lost Creek (45.3670, −121.8091); Muddy Fork (45.3920, −121.7577); Sandy River (45.3719, −121.7560); Unnamed (45.3813, −121.8954); Unnamed (45.3904, −121.7979); Unnamed (45.4090, −121.8056); Unnamed (45.4164, −121.8342).

(iv) Middle Sandy River Watershed 1708000104. Outlet(s) = Sandy River (Lat 45.4464, Long −122.2459) upstream to endpoint(s) in: Alder Creek (45.3459, −122.0875); Bear Creek #2 (45.3368, −121.9265); Cedar Creek (45.4046, −122.2513); Hackett Creek (45.3525, −121.9504); North Boulder Creek (45.3900, −122.0037); Sandy River (45.3489, −121.9442); Unnamed (45.3469, −122.0673); Unnamed (45.3699, −122.0764); Unnamed (45.3808, −122.0325); Unnamed (45.3864, −122.0355); Whisky Creek (45.3744, −122.1202).

(v) Washougal River Watershed 1708000106. Outlet(s) = Unnamed (Lat 45.5812, Long −122.4077); Washougal River (45.5795, −122.4023) upstream to endpoint(s) in: Bear Creek (45.7732, −122.1468); Bluebird Creek (45.7486, −122.1717); Cougar Creek (45.6514, −122.2677); Dougan Creek (45.7080, −122.1817); East Fork Little Washougal River (45.6722, −122.2827); Grouse Creek (45.7574, −122.1352); Hagen Creek (45.7154, −122.2518); Jackson Creek (45.6755, −122.2530); Jones Creek (45.6913, −122.2870); Lacamas Creek (45.5972, −122.3933); Little Washougal River (45.7006, −122.3212); Lookout Creek (45.7806, −122.1006); Meander Creek (45.7708, −122.0848);

Prospector Creek (45.7590, −122.0890); Silver Creek (45.7343, −122.1694); Stebbins Creek (45.7285, −122.0683); Texas Creek (45.6946, −122.1873); Timber Creek (45.7236, −122.1001); Unnamed (45.5873, −122.4121); Unnamed (45.6002, −122.3312); Unnamed (45.6132, −122.3238); Unnamed (45.6177, −122.2425); Unnamed (45.6206, −122.3449); Unnamed (45.6213, −122.2807); Unnamed (45.6243, −122.2283); Unnamed (45.6251, −122.3419); Unnamed (45.6279, −122.2549); Unnamed (45.6297, −122.2463); Unnamed (45.6321, −122.2753); Unnamed (45.6328, −122.2574); Unnamed (45.6382, −122.2915); Unnamed (45.6477, −122.3665); Unnamed (45.6487, −122.3336); Unnamed (45.6507, −122.1562); Unnamed (45.6531, −122.2739); Unnamed (45.6594, −122.2062); Unnamed (45.6622, −122.3015); Unnamed (45.6625, −122.3446); Unnamed (45.6675, −122.3415); Unnamed (45.6694, −122.1553); Unnamed (45.6703, −122.3399); Unnamed (45.6721, −122.1725); Unnamed (45.6749, −122.3370); Unnamed (45.6798, −122.2905); Unnamed (45.6835, −122.3336); Unnamed (45.6836, −122.1146); Unnamed (45.6871, −122.2996); Unnamed (45.6934, −122.1063); Unnamed (45.6949, −122.3305); Unnamed (45.6959, −122.3149); Unnamed (45.6965, −122.0837); Unnamed (45.7074, −122.1566); Unnamed (45.7080, −122.2600); Unnamed (45.7092, −122.2510); Unnamed (45.7179, −122.0744); Unnamed (45.7201, −122.1360); Unnamed (45.7249, −122.1067); Unnamed (45.7285, −122.1965); Unnamed (45.7303, −122.1126); Unnamed (45.7458, −122.1328); Unnamed (45.7476, −122.0518); Unnamed (45.7482, −122.1594); Unnamed (45.7624, −122.1308); Unnamed (45.7841, −122.1211); Washougal River (45.7798, −122.1403); West Fork Washougal River (45.7382, −122.2173); Wildboy Creek (45.6712, −122.2172); Winkler Creek (45.6377, −122.2588).

(vi) Columbia Gorge Tributaries Watershed 1708000107. Outlet(s) = Columbia River (Lat 45.5710, Long −122.4021) upstream to endpoint(s) in: Columbia River (45.6453, −121.9395).

(vii) Lower Sandy River Watershed 1708000108. Outlet(s) = Sandy River (Lat 45.5679, Long −122.4023) upstream to endpoint(s) in: Beaver Creek (45.4959, −122.3643); Big Creek (45.5068, −122.2966); Buck Creek (45.4985, −122.2671); Gordon Creek (45.5021, −122.1805); Kelly Creek (45.5134, −122.3953); Sandy River (45.4464, −122.2459); Smith Creek (45.5136, −122.3339); Trout Creek (45.4819, −122.2769); Unnamed (45.4889, −122.3513); Unnamed (45.5557, −122.3715); Unnamed (45.5600, −122.3650).

(3) Unit 3. Lewis Subbasin 17080002—*(i) East Fork Lewis River Watershed 1708000205.* Outlet(s) = Allen Creek (Lat 45.8641, Long −122.7499); East Fork Lewis River (45.8664, −122.7189); Gee Creek (45.8462, −122.7803) upstream to endpoint(s) in: Allen Creek (45.8279, −122.6968); Anaconda Creek (45.8208, −122.2652); Basket Creek (45.8327, −122.4579); Big Tree Creek (45.8572, −122.3728); Brezee Creek (45.8625, −122.6637); Cedar Creek (45.7226, −122.3290); Cold Creek (45.7493, −122.3252); Copper Creek (45.8177, −122.2637); Coyote Creek (45.7554, −122.2641); East Fork Lewis River (45.8380, −122.0948); Gee Creek (45.7920, −122.6679); Green Fork (45.8462, −122.1274); Grouse Creek (45.7214, −122.2709); King Creek (45.7802, −122.2552); Little Creek (45.8417, −122.1779); Lockwood Creek (45.8986, −122.5953); Mason Creek (45.8661, −122.5430); McCormick Creek (45.8521, −122.6907); McKinley Creek (45.8026, −122.1797); Niccolls Creek (45.8148, −122.3093); Poison Gulch (45.7898, −122.1617); Riley Creek (45.8936, −122.6175); Rock Creek (45.7375, −122.2571); Roger Creek (45.8183, −122.3426); Slide Creek (45.8477, −122.2090); Unnamed (45.7212, −122.3389); Unnamed (45.7623, −122.2727); Unnamed (45.7697, −122.3157); Unnamed (45.7726, −122.6651); Unnamed (45.7770, −122.3539); Unnamed (45.7802, −122.6068); Unnamed (45.7858, −122.3283); Unnamed (45.7916, −122.3780); Unnamed (45.7919, −122.2780); Unnamed (45.7961, −122.1312); Unnamed (45.7980, −122.5650); Unnamed (45.8033, −122.6667); Unnamed (45.8038, −122.3545); Unnamed (45.8075, −122.1120); Unnamed (45.8076, −122.6285); Unnamed (45.8079, −122.2942); Unnamed (45.8146, −122.4818); Unnamed (45.8147, −122.3144); Unnamed (45.8149, −122.5653); Unnamed (45.8172, −122.5742); Unnamed (45.8207, −122.4916); Unnamed (45.8230, −122.7069); Unnamed (45.8242, −122.6390); Unnamed (45.8292, −122.6040); Unnamed (45.8306, −122.3769); Unnamed (45.8353, −122.4842); Unnamed (45.8363, −122.1252); Unnamed (45.8368, −122.6498); Unnamed (45.8381, −122.4685); Unnamed (45.8427, −122.3708); Unnamed (45.8432, −122.1480); Unnamed (45.8434, −122.2292); Unnamed (45.8439, −122.6478); Unnamed (45.8471, −122.7486); Unnamed (45.8475, −122.6486); Unnamed (45.8484, −122.4401); Unnamed (45.8498, −122.7300); Unnamed (45.8502, −122.5228); Unnamed (45.8513, −122.1323); Unnamed (45.8537, −122.5973); Unnamed (45.8600, −122.6112); Unnamed (45.8604, −122.3831); Unnamed (45.8606, −122.3981); Unnamed (45.8662, −122.5772); Unnamed (45.8667, −122.5744); Unnamed (45.8689, −122.4227); Unnamed (45.8698, −122.6777); Unnamed (45.8756, −122.4795); Unnamed (45.8813, −122.4772); Unnamed (45.8899, −122.6256); Unnamed (45.8986, −122.5742); Unnamed (45.8988, −122.6123); Unnamed (45.9055, −122.5187); Yacolt Creek (45.8761, −122.4220).

(ii) Lower Lewis River Watershed 1708000206. Outlet(s) = Lewis River (Lat 45.8519, Long −122.7806) upstream to endpoint(s) in: Bitter Creek (45.9133, −122.4593); Brush Creek (45.9280, −122.4674); Cedar Creek (45.9019, −122.3655); Chelatchie Creek (45.9357, −122.3784); Colvin Creek (45.9400, −122.6081); Houghton Creek (45.9559, −122.6348); John Creek (45.9291, −122.4964); Johnson Creek (45.9536, −122.6183); Lewis River (45.9570, −122.5550); Pup Creek (45.9486, −122.5245); Robinson Creek (45.9362, −122.7243); Ross Creek (45.9536, −122.7043); Staples Creek (45.9423, −122.6665); Unnamed (45.8696, −122.7658); Unnamed (45.8878, −122.3688); Unnamed (45.8928, −122.4209); Unnamed (45.8940, −122.4371); Unnamed (45.9001, −122.7226); Unnamed (45.9136, −122.6836); Unnamed (45.9141, −122.5565); Unnamed (45.9172, −122.3591); Unnamed (45.9202, −122.5339); Unnamed (45.9203, −122.4557); Unnamed (45.9245, −122.3731); Unnamed (45.9258, −122.5964); Unnamed (45.9294, −122.6225); Unnamed (45.9396, −122.4097); Unnamed (45.9417, −122.7035); Unnamed (45.9436, −122.6417); Unnamed (45.9438, −122.6190); Unnamed (45.9446, −122.6437); Unnamed (45.9457, −122.3926); Unnamed (45.9474, −122.6695);Unnamed (45.9549, −122.6967).

(4) Unit 4. Lower Columbia/Clatskanie Subbasin 17080003—*Kalama River Watershed 1708000301.* Outlet(s) = Burris Creek (Lat 45.8926, Long −122.7892); Bybee Creek (45.9667,

−122.8150); Kalama River (46.0340, −122.8695); Mill Creek (45.9579, −122.8030); Schoolhouse Creek (45.9785, −122.8282); Unnamed (46.0001, −122.8438); Unnamed (46.0075, −122.8455) upstream to endpoint(s) in: Arnold Creek (46.0206, −122.5638); Bear Creek (46.0951, −122.5772); Burris Creek (45.9506, −122.7428); Bush Creek (46.0828, −122.4611); Bybee Creek (45.9695, −122.8135); Canyon Creek (45.9540, −122.7925); Cedar Creek (46.0333, −122.8110); Dee Creek (45.9953, −122.6525); Elk Creek (46.1154, −122.4796); Hatchery Creek (46.0673, −122.7548); Indian Creek (46.0516, −122.7502); Jacks Creek (46.0400, −122.5014); Kalama River (46.1109, −122.3579); Knowlton Creek (46.0245, −122.6454); Langdon Creek (46.1137, −122.4364); Little Kalama River (45.9745, −122.6604); Lost Creek (46.0692, −122.5292); Mill Creek (45.9741, −122.7756); North Fork Elk Creek (46.1086, −122.5284); North Fork Kalama River (46.1550, −122.4007); Schoolhouse Creek (45.9810, −122.8217); Spencer Creek (46.0253, −122.8285); Summers Creek (46.0357, −122.6529); Unnamed (45.9034, −122.7792); Unnamed (45.9423, −122.7761); Unnamed (45.9683, −122.7751); Unnamed (45.9772, −122.6534); Unnamed (45.9820, −122.7123); Unnamed (45.9830, −122.8249); Unnamed (45.9957, −122.6742); Unnamed (46.0023, −122.8001); Unnamed (46.0034, −122.8330); Unnamed (46.0059, −122.7350); Unnamed (46.0064, −122.7377); Unnamed (46.0238, −122.5834); Unnamed (46.0257, −122.5913); Unnamed (46.0389, −122.6305); Unnamed (46.0437, −122.5713); Unnamed (46.0440, −122.8548); Unnamed (46.0462, −122.5097); Unnamed (46.0473, −122.7668); Unnamed (46.0611, −122.5514); Unnamed (46.0618, −122.4290); Unnamed (46.0634, −122.5630); Unnamed (46.0645, −122.3953); Unnamed (46.0861, −122.6708); Unnamed (46.0882, −122.5729); Unnamed (46.0982, −122.4887); Unnamed (46.0986, −122.6384); Unnamed (46.0998, −122.6089); Unnamed (46.1031, −122.3851); Unnamed (46.1076, −122.5965); Unnamed (46.1086, −122.4399); Unnamed (46.1088, −122.3440); Unnamed (46.1124, −122.6411); Unnamed (46.1153, −122.5646); Unnamed (46.1159, −122.5728); Unnamed (46.1169, −122.3397); Unnamed (46.1242, −122.5932); Unnamed (46.1244, −122.4255); Unnamed (46.1355, −122.4413); Unnamed (46.1451, −122.4279); Unnamed (46.1543, −122.4131); Unnamed (46.1559, −122.4254); Wild Horse Creek (46.1018, −122.6755); Wolf Creek (46.0523, −122.4334).

(5) Unit 5. Upper Cowlitz Subbasin 17080004—*(i) Headwaters Cowlitz River Watershed 1708000401.* Outlet(s) = Cowlitz River (Lat 46.6580, Long −121.6032) upstream to endpoint(s) in: Clear Fork Cowlitz River (46.6846, −121.5668); Muddy Fork Cowlitz River (46.6973, −121.6177); Ohanapecosh River (46.6909, −121.5809); Purcell Creek (46.6722, −121.5877).

(ii) Upper Cowlitz River Watershed 1708000402. Outlet(s) = Cowlitz River (Lat 46.5742, Long −121.7059) upstream to endpoint(s) in: Butter Creek (46.6451, −121.6749); Coal Creek (46.6438, −121.6108); Cowlitz River (46.6580, −121.6032); Hall Creek (46.6044, −121.6609); Johnson Creek (46.5546, −121.6373); Lake Creek (46.6227, −121.6093); Skate Creek (46.6850, −121.8052); Unnamed (46.6930, −121.8024).

(iii) Cowlitz Valley Frontal Watershed 1708000403. Outlet(s) = Cowlitz River (Lat 46.4765, Long −122.0952) upstream to endpoint(s) in: Burton Creek (46.5423, −121.7505); Cowlitz River (46.5742, −121.7059); Davis Creek (46.5410, −121.8084); Kilborn Creek (46.5081, −121.8007); Oliver Creek (46.5450, −121.9928); Peters Creek (46.5386, −121.9830); Siler Creek (46.4931, −121.9085); Silver Creek (46.5909, −121.9253); Smith Creek (46.5620, −121.6923); Unnamed (46.4913, −122.0820); Unnamed (46.5657, −122.0489); Willame Creek (46.5805, −121.7319).

(iv) Upper Cispus River Watershed 1708000404. Outlet(s) = Cispus River (Lat 46.4449, Long −121.7954) upstream to endpoint(s) in: Cispus River (46.3450, −121.6833); East Canyon Creek (46.3472, −121.7028); North Fork Cispus River (46.4362, −121.6479); Timonium Creek (46.4318, −121.6548); Twin Creek (46.3748, −121.7297); Yozoo Creek (46.4363, −121.6637).

(v) Lower Cispus River Watershed 1708000405. Outlet(s) = Cispus River (Lat 46.4765, Long −122.0952) upstream to endpoint(s) in: Ames Creek (46.4654, −121.9233); Camp Creek (46.4513, −121.8301); Cispus River (46.4449, −121.7954); Covell Creek (46.4331, −121.8516); Crystal Creek (46.4454, −122.0234); Greenhorn Creek (46.4217, −121.9042); Iron Creek (46.3887, −121.9702); McCoy Creek (46.3891, −121.8190); Quartz Creek (46.4250, −122.0519); Unnamed (46.4633, −121.9548); Woods Creek (46.4741, −121.9473); Yellowjacket Creek (46.3869, −121.8342).

(6) Unit 6. Cowlitz Subbasin 17080005—*(i) Tilton River Watershed 1708000501.* Outlet(s) = Tilton River (Lat 46.5432, Long −122.5319) upstream to endpoint(s) in: Connelly Creek (46.6040, −122.3159); Coon Creek (46.6168, −122.2831); Eagle Creek (46.6535, −122.2579); East Fork Tilton River (46.5941, −122.1694); Heller Creek (46.5955, −122.2773); Jesse Creek (46.6446, −122.4204); Johnson Creek (46.5325, −122.2374); Little Creek (46.6664, −122.4031); Minnie Creek (46.5400, −122.2330); Nineteen Creek (46.5996, −122.2215); Otter Creek (46.6206, −122.4098); Rockies Creek (46.6426, −122.3980); Snow Creek (46.6207, −122.2664); South Fork Tilton Creek (46.5632, −122.1563); Tilton River (46.6258, −122.2142); Trout Creek (46.6586, −122.2582); Unnamed (46.5736, −122.2423); Unnamed (46.6091, −122.3134); Wallanding Creek (46.6228, −122.3677); West Fork Tilton River (46.6587, −122.3067); Winnie Creek (46.6570, −122.4207).

(ii) Riffe Reservoir Watershed 1708000502. Outlet(s) = Cowlitz River (Lat 46.5033, Long −122.5870) upstream to endpoint(s) in: Cowlitz River (46.4765, −122.0952).

(iii) Jackson Prairie Watershed 1708000503. Outlet(s) = Cowlitz River (Lat 46.3678, Long −122.9337) upstream to endpoint(s) in: Bear Creek (46.4538, −122.9192); Blue Creek (46.4885, −122.7253); Brights Creek (46.5015, −122.6247); Cedar Creek (46.4110, −122.7316); Coon Creek (46.4371, −122.9065); Cougar Creek (46.3937, −122.7945); Cowlitz River (46.5033, −122.5870); Foster Creek (46.4073, −122.8897); Hopkey Creek (46.4587, −122.5533); Jones Creek (46.5125, −122.6825); Lacamas Creek (46.5246, −122.7923); Little Salmon Creek (46.4402, −122.7458); Mill Creek (46.5024, −122.8013); Mill Creek (46.5175, −122.6209); Otter Creek (46.4801, −122.7000); Pin Creek (46.4133, −122.8321); Rapid Creek (46.4320, −122.5465); Skook Creek (46.5031, −122.7561); Unnamed (46.3838, −122.7243); Unnamed (46.3841, −122.6789); Unnamed (46.3849, −122.7043); Unnamed (46.3857, −122.9224); Unnamed (46.3881, −122.6949); Unnamed (46.3900, −122.7368); Unnamed (46.3998, −122.8974); Unnamed (46.4001, −122.7437); Unnamed (46.4015, −122.7327); Unnamed (46.4097, −122.5887); Unnamed (46.4102, −122.6787); Unnamed (46.4106, −122.7075); Unnamed (46.4115, −122.9091); Unnamed

(46.4117, −122.7554); Unnamed (46.4143, −122.7823); Unnamed (46.4174, −122.6365); Unnamed (46.4241, −122.8170); Unnamed (46.4269, −122.6124); Unnamed (46.4291, −122.6418); Unnamed (46.4293, −122.8354); Unnamed (46.4412, −122.5192); Unnamed (46.4454, −122.8662); Unnamed (46.4496, −122.5281); Unnamed (46.4514, −122.8699); Unnamed (46.4703, −122.7959); Unnamed (46.4708, −122.7713); Unnamed (46.4729, −122.6850); Unnamed (46.4886, −122.8067); Unnamed (46.5172, −122.6534); Unnamed (46.5312, −122.8196).

(iv) North Fork Toutle River Watershed 1708000504. Outlet(s) = North Fork Toutle River (Lat 46.3669, Long −122.5859) upstream to endpoint(s) in: Alder Creek (46.2813, −122.4964); Bear Creek (46.3085, −122.3504); Coldwater Creek (46.2884, −122.2675); Cow Creek (46.3287, −122.4616); Hoffstadt Creek (46.3211, −122.3324); Maratta Creek (46.2925, −122.2845); Unnamed (46.3050, −122.5416); Unnamed (46.3346, −122.5460); Unnamed (46.3394, −122.3314).

(v) Green River Watershed 1708000505. Outlet(s) = Green River (Lat 46.3718, Long −122.5847) upstream to endpoint(s) in: Beaver Creek (46.4056, −122.5671); Cascade Creek (46.3924, −122.3529); Devils Creek (46.4017, −122.4089); Elk Creek (46.4178, −122.2477); Green River (46.3857, −122.1815); Jim Creek (46.3885, −122.5256); Miners Creek (46.3483, −122.1932); Shultz Creek (46.3684, −122.2848); Tradedollar Creek (46.3769, −122.2411); Unnamed (46.3271, −122.2978); Unnamed (46.3467, −122.2092); Unnamed (46.3602, −122.3257); Unnamed (46.3655, −122.4774); Unnamed (46.3683, −122.3454); Unnamed (46.3695, −122.4132); Unnamed (46.3697, −122.4705); Unnamed (46.3707, −122.5175); Unnamed (46.3734, −122.3883); Unnamed (46.3817, −122.2348); Unnamed (46.3844, −122.4335); Unnamed (46.3876, −122.4870); Unnamed (46.3931, −122.3726); Unnamed (46.4023, −122.5543); Unnamed (46.4060, −122.5415); Unnamed (46.4087, −122.5061); Unnamed (46.4106, −122.4300); Unnamed (46.4143, −122.4463); Unnamed (46.4173, −122.2910); Unnamed (46.4196, −122.2850); Unnamed (46.4226, −122.3029); Unnamed (46.4285, −122.2662).

(vi) South Fork Toutle River Watershed 1708000506. Outlet(s) = South Fork Toutle River (Lat 46.3282, Long −122.7215) upstream to endpoint(s) in: Bear Creek (46.2219, −122.4620); Big Wolf Creek (46.2259, −122.5662); Disappointment Creek (46.2138, −122.3080); Eighteen Creek (46.2453, −122.5989); Harrington Creek (46.2508, −122.4126); Johnson Creek (46.3047, −122.5923); Sheep Canyon (46.2066, −122.2672); South Fork Toutle River (46.2137, −122.2347); Studebaker Creek (46.2825, −122.6805); Thirteen Creek (46.2374, −122.6230); Trouble Creek (46.1999, −122.3774); Twenty Creek (46.2508, −122.5738); Unnamed (46.1858, −122.2983); Unnamed (46.1953, −122.2881); Unnamed (46.2068, −122.3301); Unnamed (46.2075, −122.3267); Unnamed (46.2082, −122.2591); Unnamed (46.2107, −122.4301); Unnamed (46.2115, −122.2786); Unnamed (46.2117, −122.2378); Unnamed (46.2121, −122.5188); Unnamed (46.2157, −122.3467); Unnamed (46.2215, −122.5318); Unnamed (46.2234, −122.3265); Unnamed (46.2265, −122.3906); Unnamed (46.2271, −122.3367); Unnamed (46.2277, −122.3719); Unnamed (46.2309, −122.3828); Unnamed (46.2357, −122.4802); Unnamed (46.2365, −122.4402); Unnamed (46.2424, −122.4860); Unnamed (46.2444, −122.5427); Unnamed (46.2457, −122.6283); Unnamed (46.2523, −122.5147); Unnamed (46.2587, −122.5333); Unnamed (46.2591, −122.5240); Unnamed (46.2608, −122.5493); Unnamed (46.2618, −122.5705); Unnamed (46.2693, −122.5763); Unnamed (46.2707, −122.6094); Unnamed (46.2932, −122.5890); Unnamed (46.2969, −122.6718); Unnamed (46.2976, −122.6129); Unnamed (46.3035, −122.5952); Unnamed (46.3128, −122.7032); Unnamed (46.3217, −122.6473); Whitten Creek (46.2328, −122.4944).

(vii) East Willapa Watershed 1708000507. Outlet(s) = Cowlitz River (Lat 46.2660, Long −122.9154) upstream to endpoint(s) in: Arkansas Creek (46.3345, −123.0567); Baxter Creek (46.3367, −122.9841); Brim Creek (46.4446, −123.0395); Campbell Creek (46.3436, −123.0700); Cline Creek (46.3397, −122.8550); Cowlitz River (46.3678, −122.9337); Delameter Creek (46.2705, −123.0143); Ferrier Creek (46.4646, −122.9374); Hemlock Creek (46.2586. −122.7270); Hill Creek (46.3861, −122.8864); King Creek (46.5304, −123.0203); McMurphy Creek (46.4113, −122.9469); Monahan Creek (46.3041, −123.0614); North Fork Brim Creek (46.4627, −123.0222); North Fork Toutle River (46.3669, −122.5859); Owens Creek (46.3994, −123.0457); Rock Creek (46.3479, −122.8144); Rock Creek (46.3531, −122.9368); Snow Creek (46.4486, −122.9805); Stankey Creek (46.3259, −122.8266); Stillwater Creek (46.3583, −123.1144); Sucker Creek (46.2600, −122.7684); Tucker Creek (46.2565, −123.0162); Unnamed (46.2413, −122.9887); Unnamed (46.2480, −123.0169); Unnamed (46.2480, −122.7759); Unnamed (46.2517, −123.0173); Unnamed (46.2606, −122.9549); Unnamed (46.2629, −123.0188); Unnamed (46.2663, −122.9804); Unnamed (46.2709, −122.7687); Unnamed (46.2711, −122.8159); Unnamed (46.2840, −122.8128); Unnamed (46.2878, −123.0286); Unnamed (46.2883, −122.9051); Unnamed (46.2892, −122.9625); Unnamed (46.2900, −122.8124); Unnamed (46.3030, −123.0645); Unnamed (46.3092, −122.9826); Unnamed (46.3160, −122.7783); Unnamed (46.3161, −123.0123); Unnamed (46.3173, −122.8950); Unnamed (46.3229, −122.8152); Unnamed (46.3245, −122.8609); Unnamed (46.3248, −123.0292); Unnamed (46.3252, −122.9238); Unnamed (46.3294, −122.9084); Unnamed (46.3309, −123.0046); Unnamed (46.3316, −122.8257); Unnamed (46.3346, −123.0167); Unnamed (46.3378, −122.9398); Unnamed (46.3393, −122.9402); Unnamed (46.3415, −122.9208); Unnamed (46.3456, −122.6405); Unnamed (46.3472, −122.9457); Unnamed (46.3488, −123.0519); Unnamed (46.3510, −123.0079); Unnamed (46.3511, −122.7678); Unnamed (46.3584, −122.7902); Unnamed (46.3585, −123.0369); Unnamed (46.3586, −122.7477); Unnamed (46.3599, −123.0992); Unnamed (46.3623, −122.6910); Unnamed (46.3665, −122.6334); Unnamed (46.3667, −122.8953); Unnamed (46.3683, −122.8930); Unnamed (46.3683, −122.7502); Unnamed (46.3718, −122.6202); Unnamed (46.3720, −123.0933); Unnamed (46.3748, −122.6167); Unnamed (46.3818, −122.8822); Unnamed (46.3824, −122.6090); Unnamed (46.3942, −122.9794); Unnamed (46.4015, −123.0272); Unnamed (46.4045, −123.0194); Unnamed (46.4177, −122.9611); Unnamed (46.4200, −123.0403); Unnamed (46.4286, −123.0467); Unnamed (46.4362, −123.0451); Unnamed (46.4379, −122.9985); Unnamed (46.4571, −122.9604); Unnamed (46.4606, −123.0166); Unnamed (46.4724, −122.9989); Unnamed

(46.4907, −122.9352); Unnamed (46.5074, −122.8877); Unnamed (46.5089, −122.9291); Unnamed (46.5228, −122.8539); Unnamed (46.5336, −122.9793); Unnamed (46.5371, −122.8214); Unnamed (46.5439, −122.8538); Whittle Creek (46.3122, −122.9501); Wyant Creek (46.3381, −122.6117).

(viii) Coweeman River Watershed 1708000508. Outlet(s) = Cowlitz River (Lat 46.0977, Long −122.9141); Owl Creek (46.0771, −122.8676) upstream to endpoint(s) in: Baird Creek (46.1942, −122.5483); Coweeman River (46.1505, −122.5172); Cowlitz River (46.2660, −122.9154); Goble Creek (46.1103, −122.6789); Hill Creek (46.1784, −122.5990); Leckler Creek (46.2317, −122.9470); Little Baird Creek (46.1905, −122.5709); Martin Creek (46.1394, −122.5519); Mulholland Creek (46.2013, −122.6450); Nineteen Creek (46.1437, −122.6146); North Fork Goble Creek (46.1363, −122.6769); Nye Creek (46.1219, −122.8040); O'Neil Creek (46.1760, −122.5422); Ostrander Creek (46.2103, −122.7623); Owl Creek (46.0913, −122.8644); Salmon Creek (46.2547, −122.8839); Sandy Bend Creek (46.2319, −122.9140); Skipper Creek (46.1639, −122.5887); South Fork Ostrander Creek (46.1875, −122.8240); Turner Creek (46.1167, −122.8149); Unnamed (46.0719, −122.8607); Unnamed (46.0767, −122.8605); Unnamed (46.0824, −122.7200); Unnamed (46.0843, −122.7195); Unnamed (46.1185, −122.7253); Unnamed (46.1289, −122.8968); Unnamed (46.1390, −122.5709); Unnamed (46.1430, −122.8125); Unnamed (46.1433, −122.8084); Unnamed (46.1478, −122.8649); Unnamed (46.1546, −122.6376); Unnamed (46.1562, −122.7808); Unnamed (46.1579, −122.6476); Unnamed (46.1582, −122.5332); Unnamed (46.1605, −122.6681); Unnamed (46.1620, −122.5885); Unnamed (46.1671, −122.6284); Unnamed (46.1688, −122.9215); Unnamed (46.1724, −122.6118); Unnamed (46.1735, −122.8282); Unnamed (46.1750, −122.8428); Unnamed (46.1750, −122.7557); Unnamed (46.1797, −122.7746); Unnamed (46.1803, −122.7801); Unnamed (46.1811, −122.7631); Unnamed (46.1814, −122.7656); Unnamed (46.1840, −122.8191); Unnamed (46.1955, −122.9082); Unnamed (46.1966, −122.5542); Unnamed (46.1971, −122.7118); Unnamed (46.2014, −122.8241); Unnamed (46.2021, −122.6941); Unnamed (46.2027, −122.5593); Unnamed (46.2172, −122.9516); Unnamed (46.2192, −122.6663); Unnamed (46.2199, −122.8375); Unnamed (46.2208, −122.8887); Unnamed (46.2231, −122.9509); Unnamed (46.2257, −122.7667); Unnamed (46.2261, −122.8023); Unnamed (46.2379, −122.8859); Unnamed (46.2430, −122.8842).

(7) Unit 8. Clackamas Subbasin 17090011—*(i) Collawash River Watershed 1709001101.* Outlet(s) = Collawash River (Lat 45.0321, Long −122.0600) upstream to endpoint(s) in: Blister Creek (44.9594, −122.1590); Dickey Creek (44.9335, −122.0469); East Fork Collawash River (44.8789, −121.9850); Elk Lake Creek (44.8886, −122.0128); Fan Creek (44.9926, −122.0735); Farm Creek (44.9620, −122.0604); Hot Springs Fork Collawash River (44.9005, −122.1616); Hugh Creek (44.9226, −122.1978); Pansy Creek (44.9463, −122.1420); Skin Creek (44.9477, −122.2015); Thunder Creek (44.9740, −122.1230).

(ii) Upper Clackamas River Watershed 1709001102. Outlet(s) = Clackamas River (Lat 45.0321, Long −122.0600) upstream to endpoint(s) in: Berry Creek (44.8291, −121.9176); Cabin Creek (45.0087, −121.8958); Clackamas River (44.8723, −121.8470); Cub Creek (44.8288, −121.8863); Fawn Creek (44.9089, −121.9226); Hunter Creek (44.8926, −121.9285); Kansas Creek (44.9820, −121.8999); Last Creek (44.9759, −121.8424); Lost Creek (45.0180, −121.9070); Lowe Creek (44.9636, −121.9457); Pinhead Creek (44.9421, −121.8359); Pot Creek (45.0201, −121.9014); Rhododendron Creek (44.9358, −121.9154); Sisi Creek (44.9110, −121.8875); Unnamed (44.8286, −121.9225); Unnamed (44.8343, −121.8778); Unnamed (44.8944, −121.9028); Unnamed (44.9355, −121.8735); Unnamed (44.9661, −121.8894); Unnamed (44.9687, −121.8920); Unnamed (45.0000, −121.8910).

(iii) Oak Grove Fork Clackamas River Watershed 1709001103. Outlet(s) = Oak Grove Fork Clackamas River (Lat 45.0746, Long −122.0520) upstream to endpoint(s) in: Oak Grove Fork Clackamas River (45.0823, −121.9861); Pint Creek (45.0834, −122.0355).

(iv) Middle Clackamas River Watershed 1709001104. Outlet(s) = Clackamas River (Lat 45.2440, Long −122.2798) upstream to endpoint(s) in: Big Creek (45.0694, −122.0848); Calico Creek (45.0682, −122.1627); Clackamas River (45.0321, −122.0600); Cripple Creek (45.1149, −122.0618); Fish Creek (45.0634, −122.1597); Mag Creek (45.0587, −122.0488); North Fork Clackamas River (45.2371, −122.2181); Pick Creek (45.0738, −122.1994); Pup Creek (45.1451, −122.1055); Roaring River (45.1773, −122.0650); Sandstone Creek (45.0862, −122.0845); Second Creek (45.1081, −122.1601); South Fork Clackamas River (45.1912, −122.2261); Tag Creek (45.0605, −122.0475); Tar Creek (45.0494, −122.0569); Third Creek (45.0977, −122.1649); Trout Creek (45.0379, −122.0720); Wash Creek (45.0473, −122.1893); Whale Creek (45.1102, −122.0849).

(v) Eagle Creek Watershed 1709001105. Outlet(s) = Eagle Creek (Lat 45.3535, Long −122.3823) upstream to endpoint(s) in: Bear Creek (45.3369, −122.2331); Currin Creek (45.3369, −122.3555); Delph Creek (45.2587, −122.2098); Eagle Creek (45.2766, −122.1998); Little Eagle Creek (45.3003, −122.1682); North Fork Eagle Creek (45.3142, −122.1135); Trout Creek (45.3305, −122.1187).

(vi) Lower Clackamas River 1709001106. Outlet(s) = Clackamas River (Lat 45.3719, Long −122.6071) upstream to endpoint(s) in: Bargfeld Creek (45.3195, −122.4398); Clackamas River (45.2440, −122.2798); Clear Creek (45.2022, −122.3121); Deep Creek (45.3421, −122.2799); Foster Creek (45.3512, −122.4082); Goose Creek (45.3621, −122.3549); Little Clear Creek (45.2803, −122.4055); Mosier Creek (45.2683, −122.4516); North Fork Deep Creek (45.4271, −122.3094); Richardson Creek (45.4097, −122.4484); Rock Creek (45.4157, −122.5013); Tickle Creek (45.3932, −122.2775); Unnamed (45.3502, −122.4861); Unnamed (45.3626, −122.2858); Unnamed (45.3816, −122.3721); Unnamed (45.4057, −122.3223); Unnamed (45.4102, −122.2987); Wade Creek (45.2922, −122.3237).

(8) Unit 9. Lower Willamette Subbasin 17090012—*(i) Johnson Creek Watershed 1709001201.* Outlet(s) = Willamette River (Lat 45.4423, Long −122.6453) upstream to endpoint(s) in: Crystal Springs Creek (45.4811, −122.6381); Crystal Springs Lake (45.4799, −122.6361); Johnson Creek (45.4610, −122.3432); Kellogg Creek (45.4083, −122.5925); Kelly Creek (45.4661, −122.4655); Mount Scott Creek (45.4306, −122.5556); Oswego Creek (45.4105, −122.6666); Phillips Creek (45.4328, −122.5763); Tryon Creek (45.4472, −122.6863); Unnamed (45.4793, −122.4165); Willamette River (45.3719, −122.6071).

(ii) Scappoose Creek Watershed 1709001202. Outlet(s) = Multnomah Channel (Lat 45.8577, Long −122.7919) upstream to endpoint(s) in: Multnomah Channel (45.6188, −122.7921).

(iii) Columbia Slough/Willamette River Watershed 1709001203. Outlet(s) = Willamette River (Lat 45.6530, Long

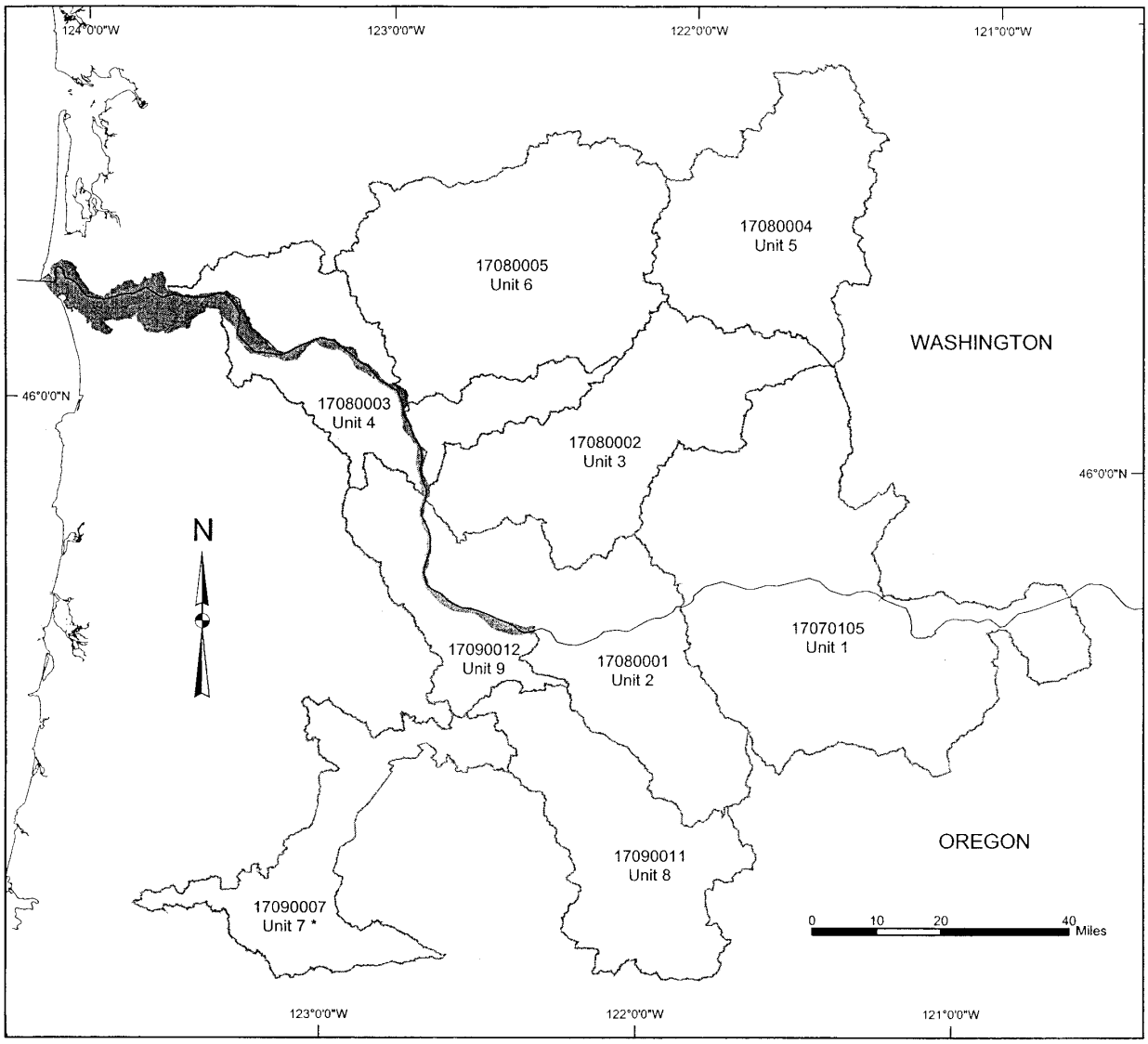
−122.7646) upstream to endpoint(s) in: Bybee Lake (45.6266, −122.7523); Bybee/Smith Lakes (45.6105, −122.7285); Columbia Slough #1 (45.6078, −122.7447); Swan Island Basin (45.5652, −122.7120); Unnamed (45.6253, −122.7568); Willamette River (45.4423, −122.6453).

(9) Unit 10. Lower Columbia River Corridor—*Lower Columbia River Corridor* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Columbia River (45.5710, −122.4021).

(10) Maps of proposed critical habitat for the Lower Columbia River *O. mykiss* ESU follow:

BILLING CODE 3510–22–P

Map of the Lower Columbia River O. Mykiss ESU



Legend

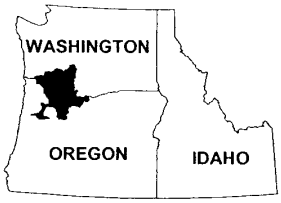
State Boundaries

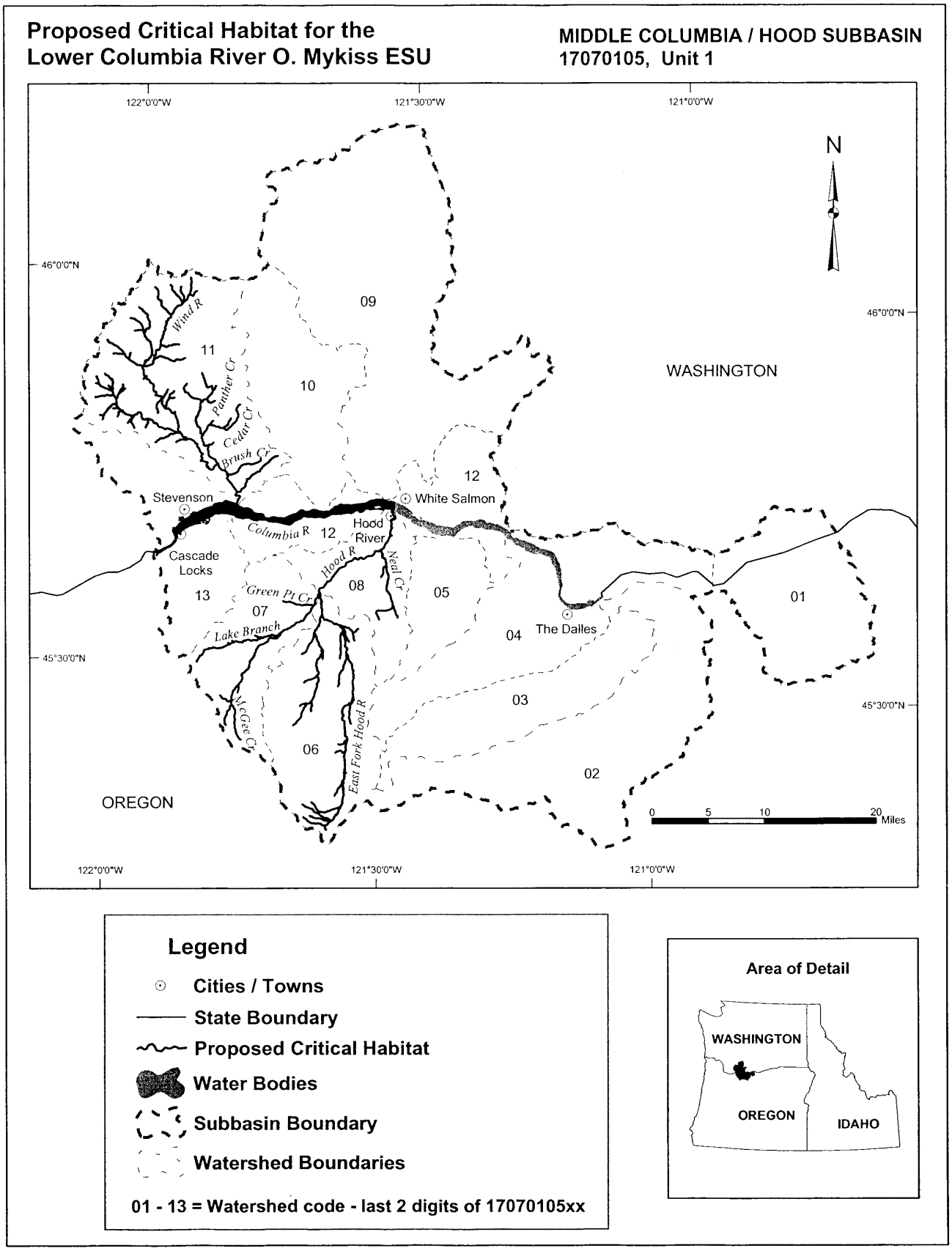
Water Bodies

Subbasin Boundaries

* All habitat areas in unit are proposed for exclusion

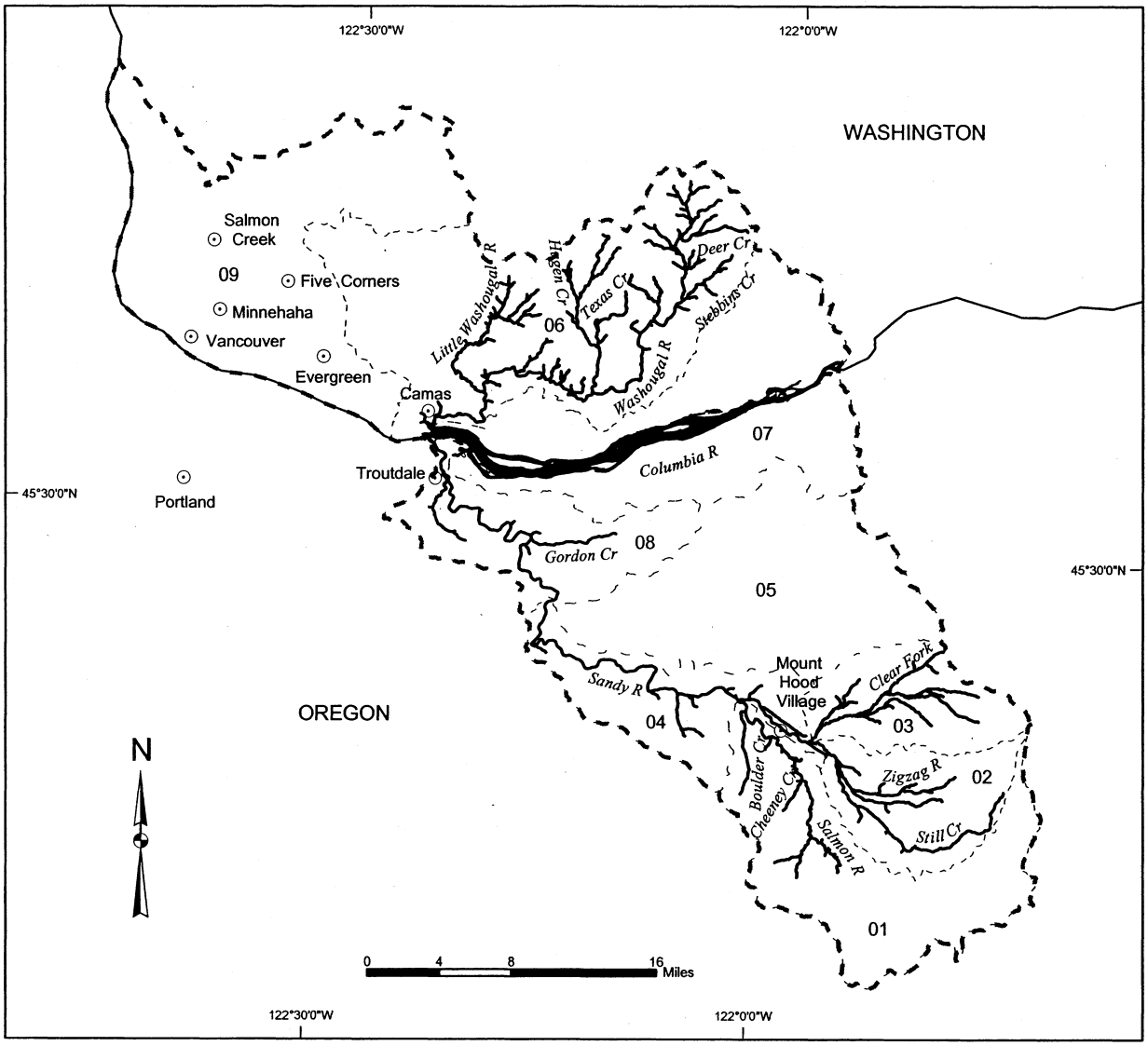
Area of Detail




Proposed Critical Habitat for the
Lower Columbia River O. Mykiss ESU
MIDDLE COLUMBIA / HOOD SUBBASIN
17070105, Unit 1
122°0'0"W
121°30'0"W
121°0'0"W
46°0'0"N
45°30'0"N
N
WASHINGTON
OREGON
09
10
11
12
13
08
07
06
05
04
03
02
01
Wind R
Panther Cr
Cedar Cr
Brush Cr
Stevenson
White Salmon
Columbia R
Hood River
Hood R
Neal Cr
Cascade Locks
Green Pt Cr
Lake Branch
McGee Cr
East Fork Hood R
The Dalles
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 13 = Watershed code - last 2 digits of 17070105xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Lower Columbia River O. Mykiss ESU

LOWER COLUMBIA / SANDY SUBBASIN 17080001, Unit 2

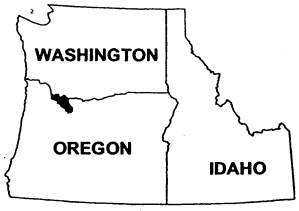


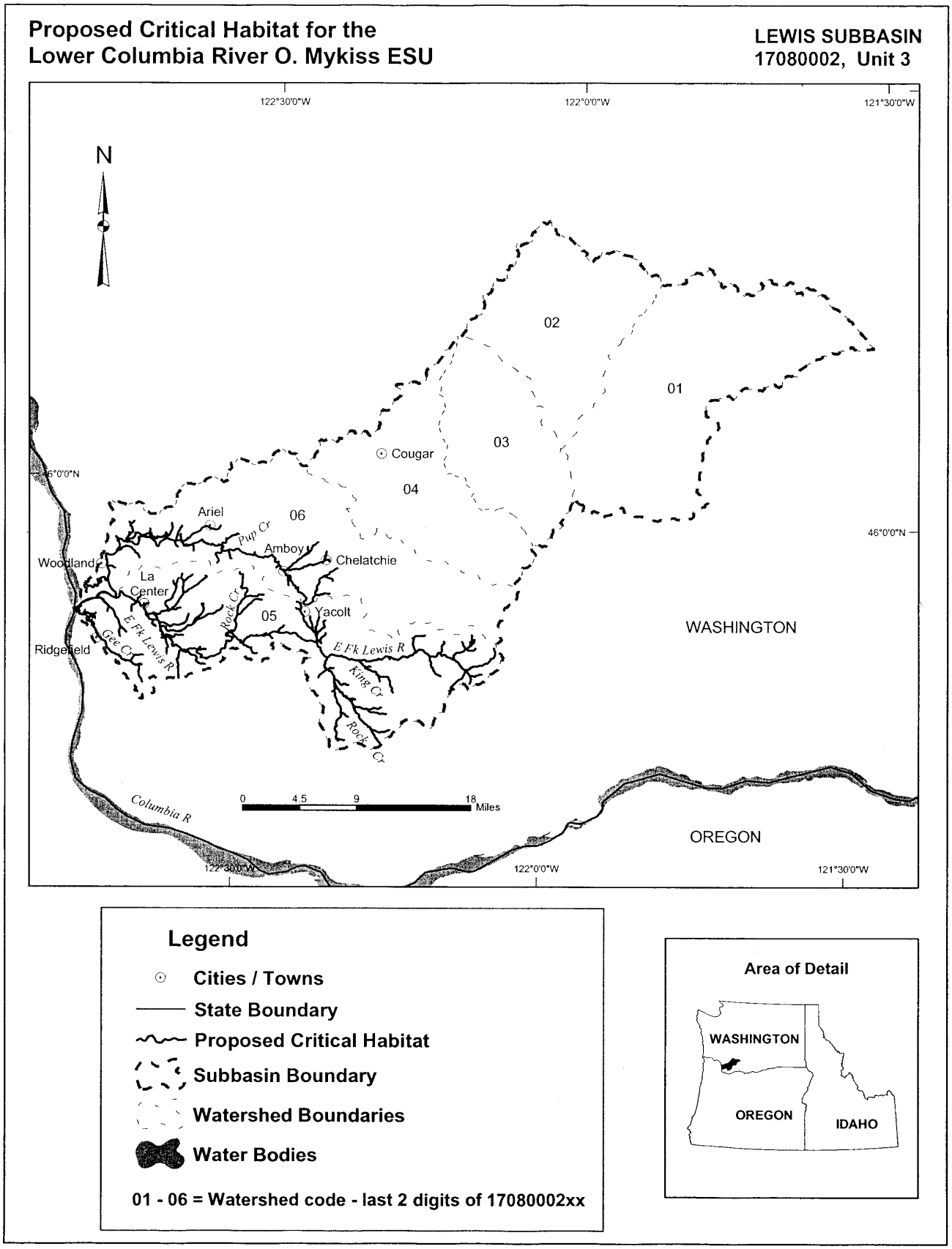
Legend

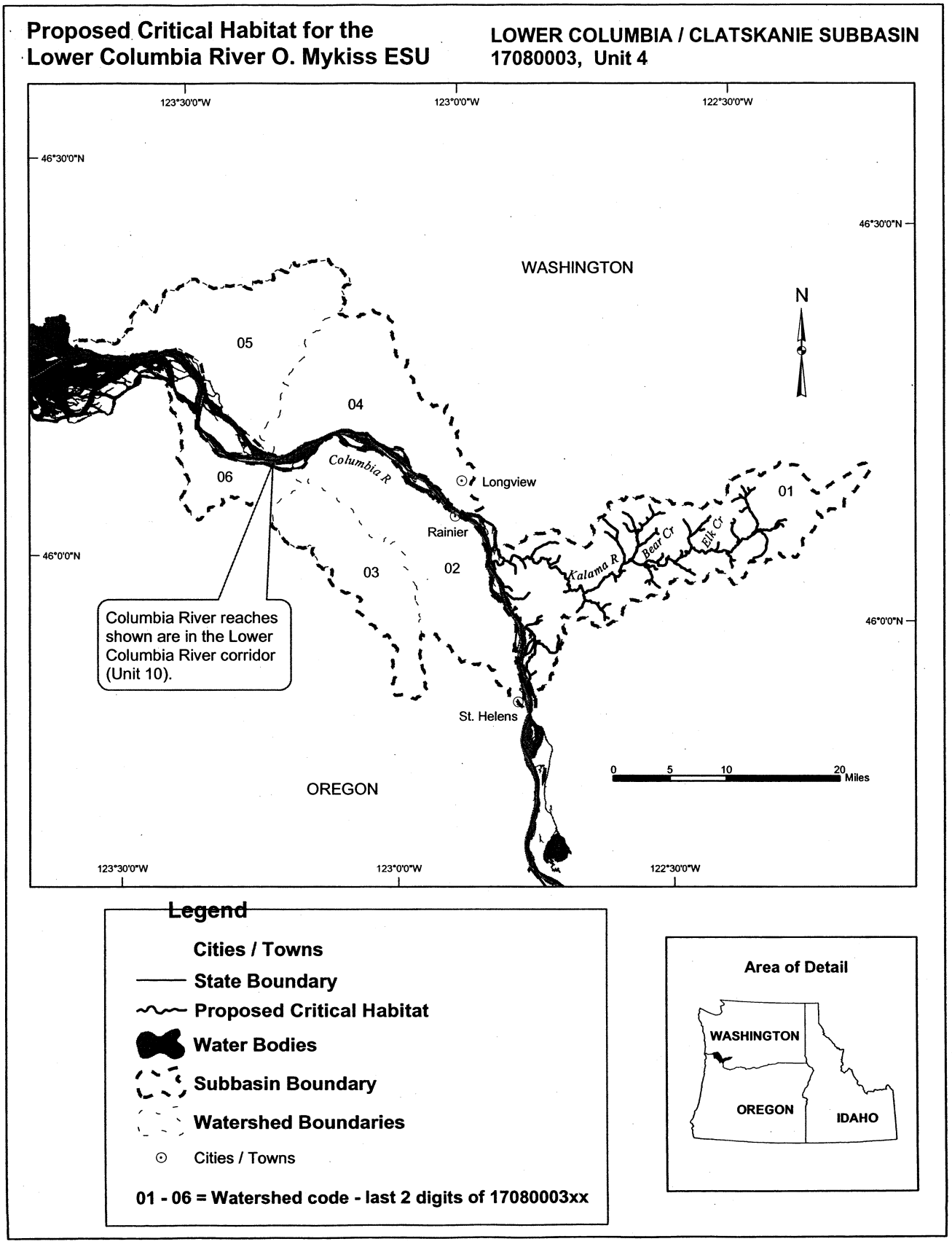
- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 09 = Watershed code - last 2 digits of 17080001xx

Area of Detail

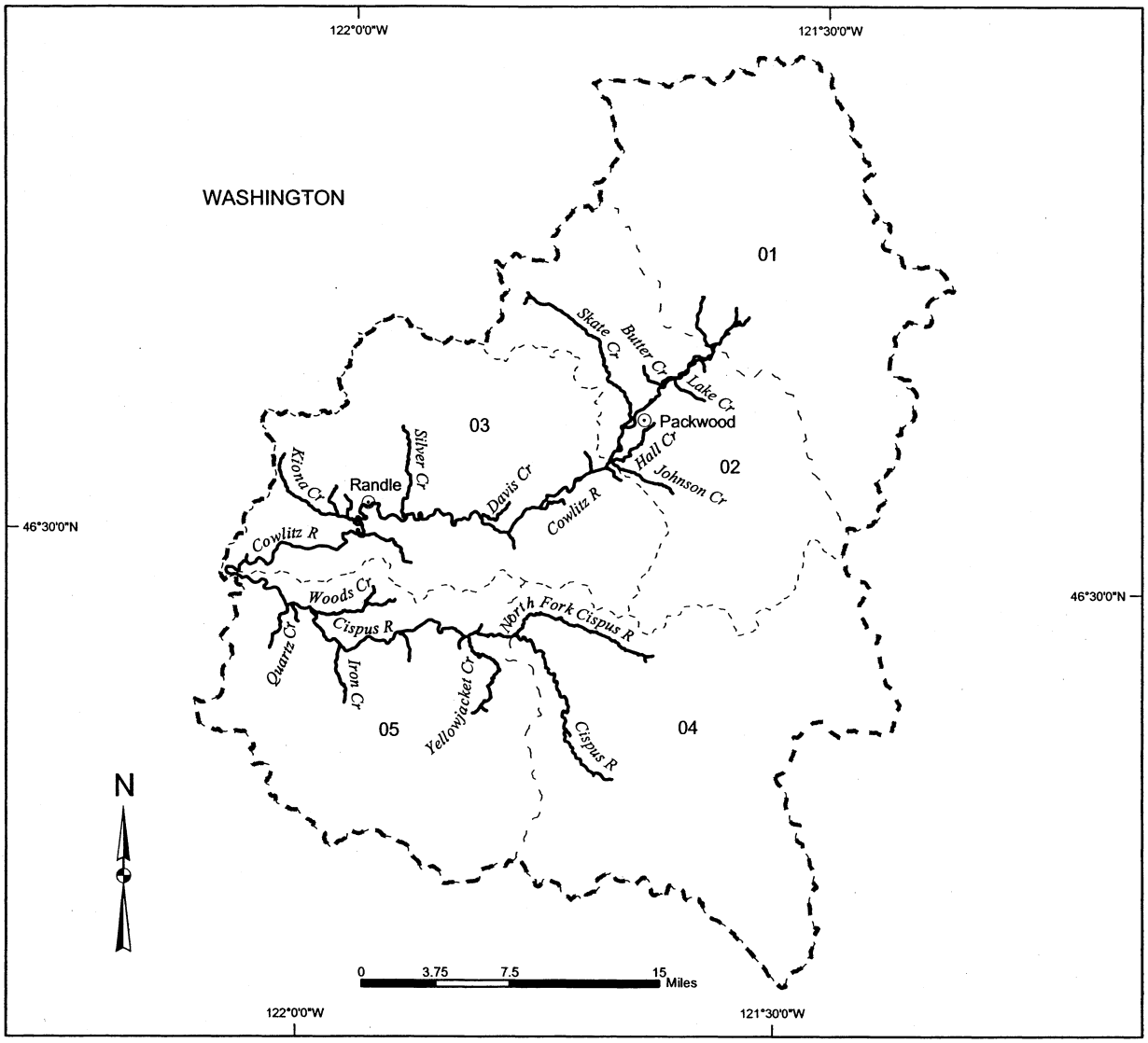



Proposed Critical Habitat for the
Lower Columbia River O. Mykiss ESU
LEWIS SUBBASIN
17080002, Unit 3
122°30'0"W
122°0'0"W
121°30'0"W
46°0'0"N
N
02
01
03
04
06
05
Cougar
Ariel
Pup Cr
Amboy
Chelatchie
Woodland
La Center
Rock Cr
Yacolt
E Fk Lewis R
Gee Cr
Ridgefield
King Cr
Rock Cr
Columbia R
0 4.5 9 18 Miles
WASHINGTON
OREGON
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
Water Bodies
01 - 06 = Watershed code - last 2 digits of 17080002xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Lower Columbia River O. Mykiss ESU
LOWER COLUMBIA / CLATSKANIE SUBBASIN
17080003, Unit 4
123°30'0"W
123°0'0"W
122°30'0"W
46°30'0"N
46°0'0"N
WASHINGTON
OREGON
N
05
04
06
03
02
01
Columbia R
Longview
Rainier
St. Helens
Kalama R
Bear Cr
Elk Cr
Columbia River reaches shown are in the Lower Columbia River corridor (Unit 10).
0 5 10 20 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
Cities / Towns
01 - 06 = Watershed code - last 2 digits of 17080003xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Lower Columbia River O. Mykiss ESU

UPPER COWLITZ SUBBASIN 17080004, Unit 5

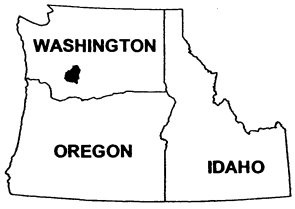


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

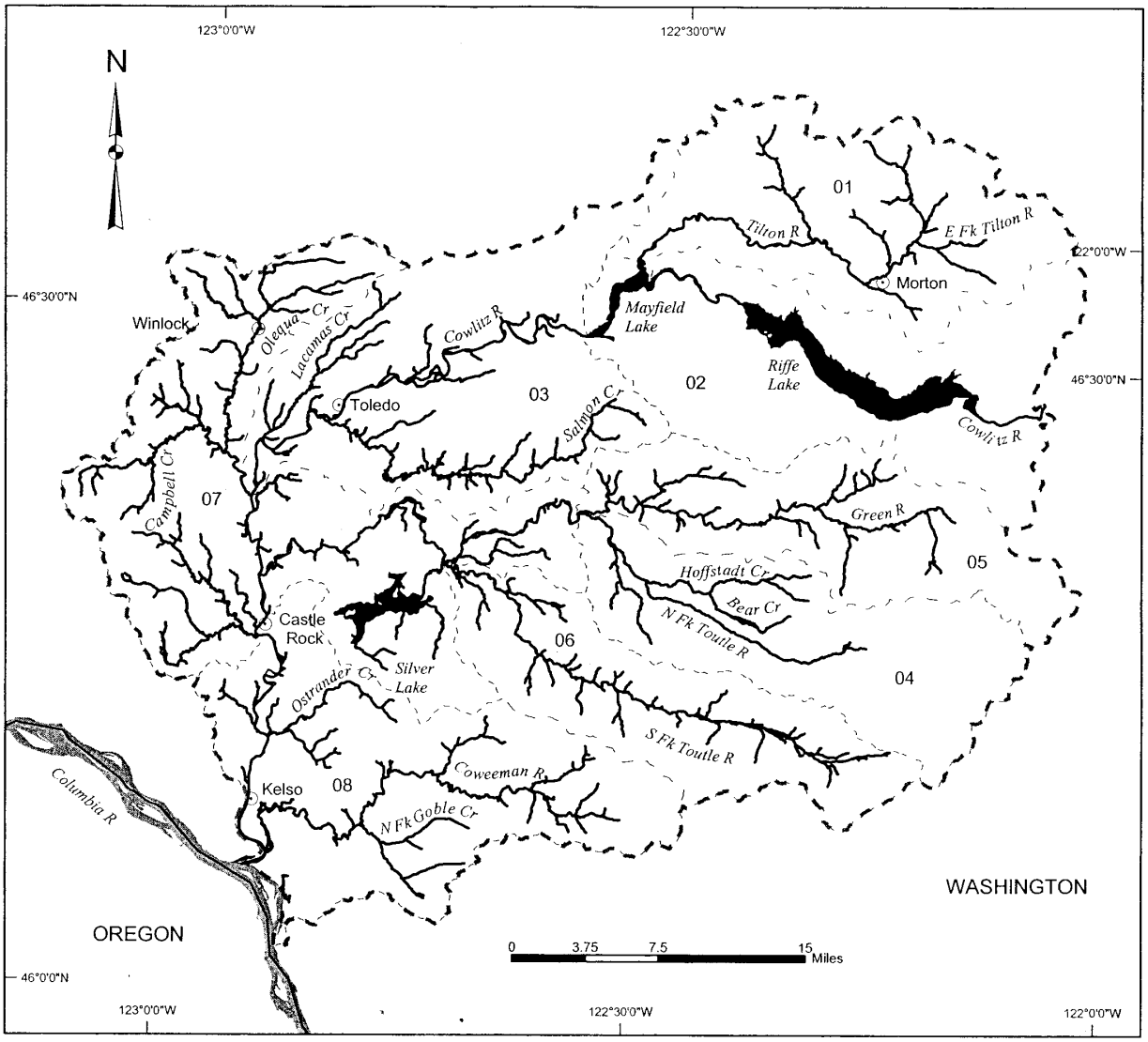
01 - 05 = Watershed code - last 2 digits of 17080004xx

Area of Detail



Proposed Critical Habitat for the Lower Columbia River O. Mykiss ESU

COWLITZ SUBBASIN 17080005, Unit 6

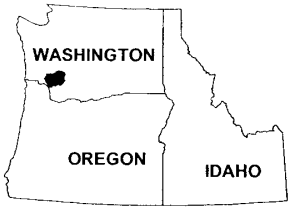


Legend

- Cities / Towns
- State Boundary
- Proposed Critical Habitat
- Water Bodies
- Subbasin Boundary
- Watershed Boundaries

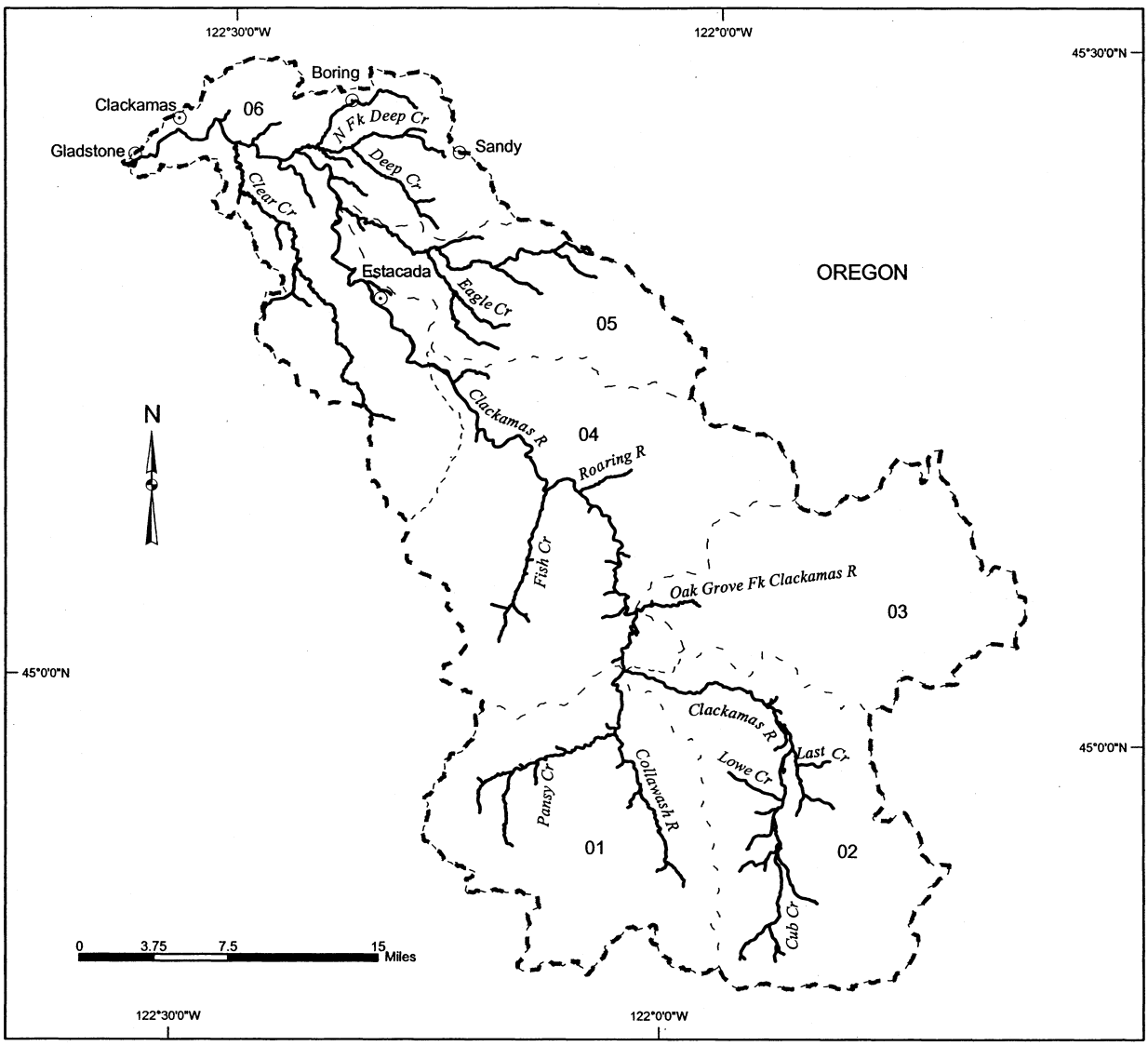
01 - 08 = Watershed code - last 2 digits of 17080005xx

Area of Detail



Proposed Critical Habitat for the Lower Columbia River O. Mykiss ESU

CLACKAMAS SUBBASIN 17090011, Unit 8

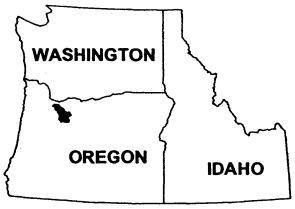


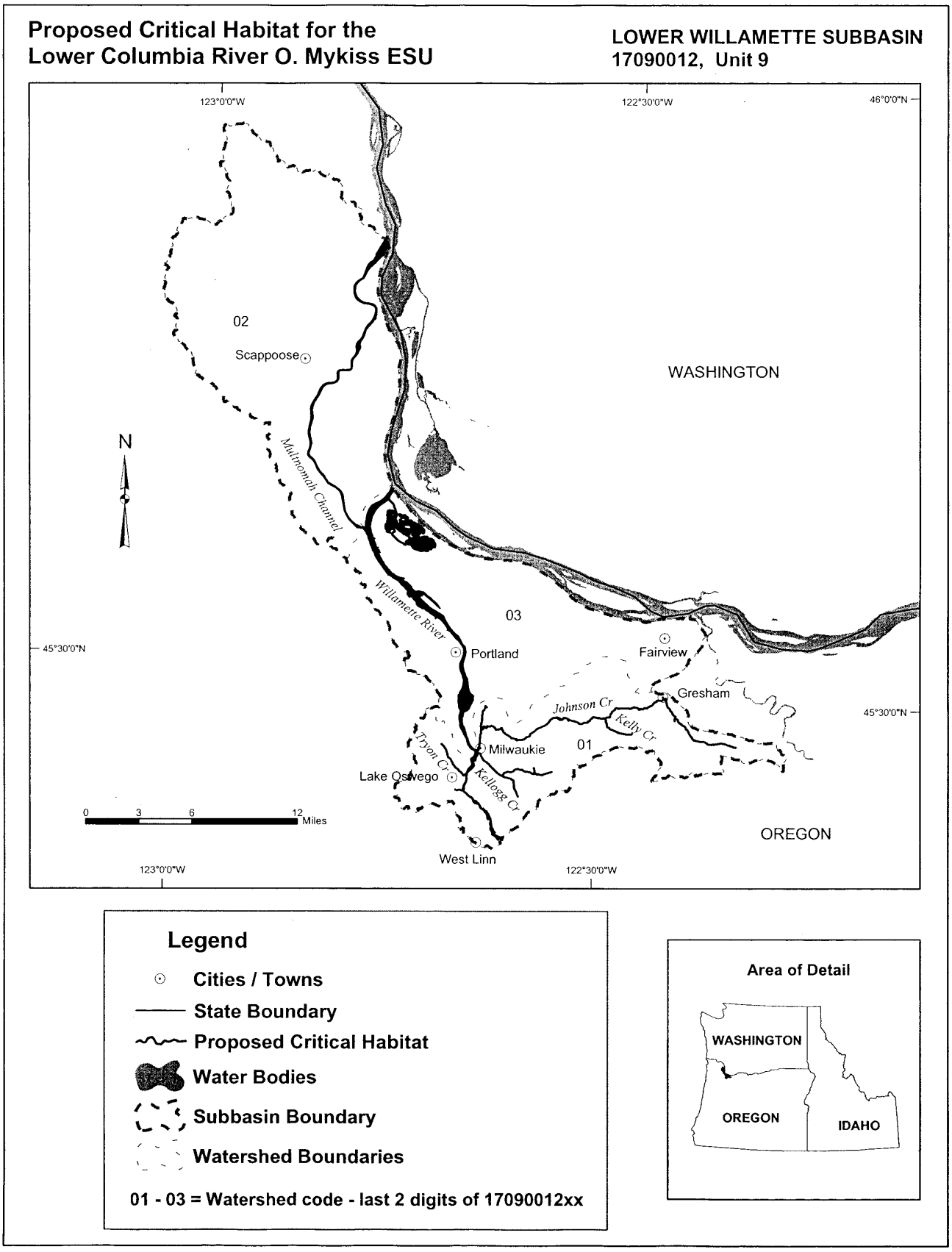
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

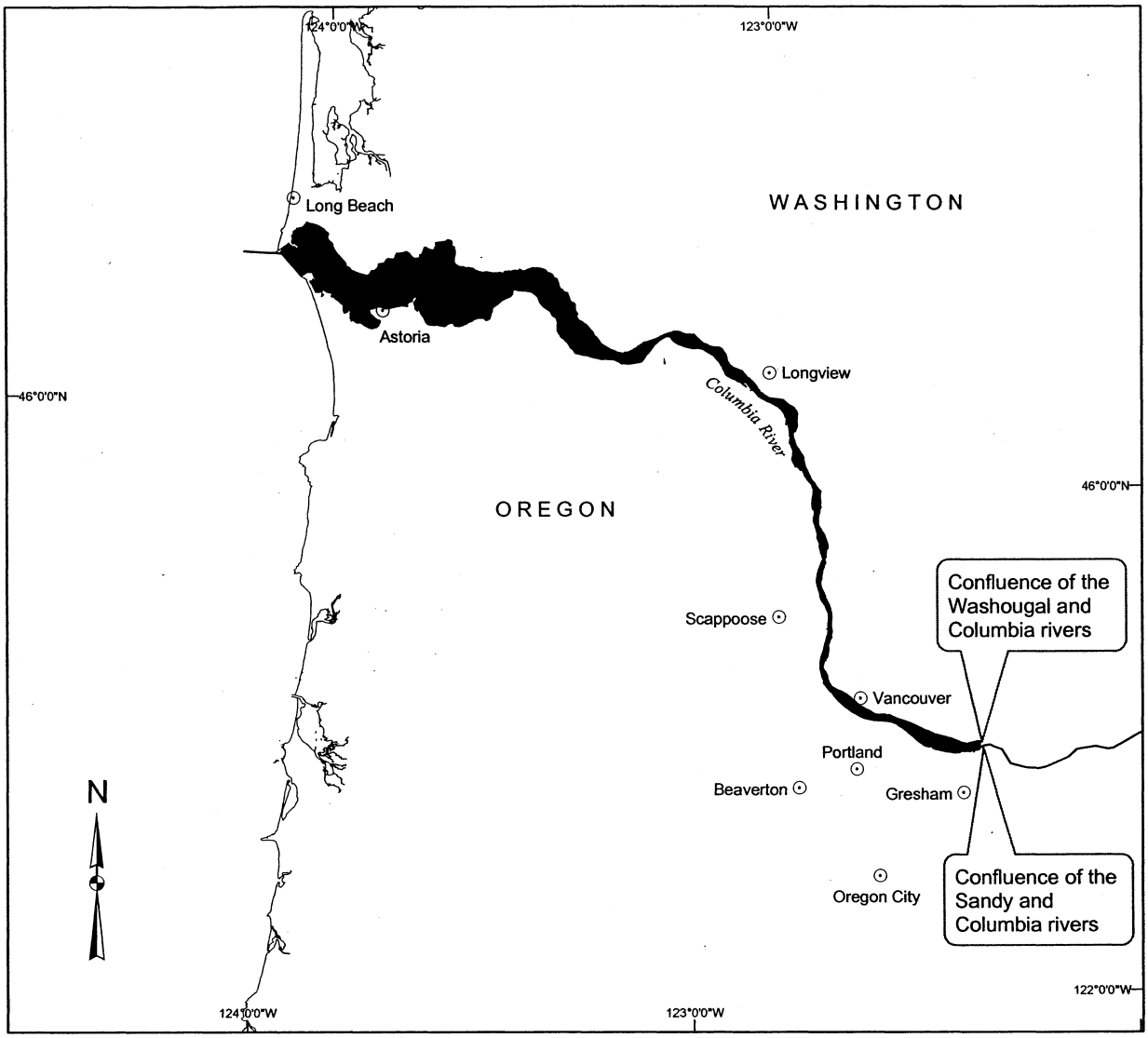
01 - 06 = Watershed code - last 2 digits of 17090011xx

Area of Detail




Proposed Critical Habitat for the
Lower Columbia River O. Mykiss ESU
LOWER WILLAMETTE SUBBASIN
17090012, Unit 9
123°0'0"W
122°30'0"W
46°0'0"N
45°30'0"N
02
Scappoose
WASHINGTON
N
Multnomah Channel
Willamette River
03
Portland
Fairview
Gresham
Johnson Cr
Kelly Cr
Tryon Cr
Milwaukie
01
Lake Oswego
Kellogg Cr
West Linn
OREGON
0 3 6 12 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Water Bodies
Subbasin Boundary
Watershed Boundaries
01 - 03 = Watershed code - last 2 digits of 17090012xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Rearing / Migration Corridor for the Lower Columbia River O. Mykiss ESU, Unit 10



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Lower Columbia River O. Mykiss ESU

Unit 10. Lower Columbia River Corridor
The lower Columbia River corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to a line connecting the confluences of the Sandy River (Oregon) and Washougal River (Washington).

BILLING CODE 3510–22–C

(r) Upper Willamette River Oncorhynchus mykiss. Critical habitat is proposed to include the areas defined in the following units:

(1) Unit 1. Upper Willamette Subbasin 17090003—*(i) Calapooia River Watershed 1709000303.* Outlet(s) = Calapooia River (Lat 44.5088, Long −123.1101) upstream to endpoint(s) in: Bigs Creek (44.2883, −122.6133); Butte Creek (44.4684, −123.0488); Calapooia River (44.2361, −122.3664); Hands Creek (44.2559, −122.5127); King Creek (44.2458, −122.4452); McKinley Creek (44.2569, −122.5621); North Fork Calapooia River (44.2497, −122.4094); Potts Creek (44.2581, −122.4756); Spoon Creek (44.4379, −123.0877); United States Creek (44.2244, −122.3825).

(ii) Oak Creek Watershed 1709000304. Outlet(s) = Willamette River (Lat 44.7504, Long −123.1421) upstream to endpoint(s) in: Calapooia River (44.5088, −123.1101); Cox Creek (44.6417, −123.0680); Periwinkle Creek (44.6250, −123.0814); Truax Creek (44.6560, −123.0598).

(iii) Luckiamute River Watershed 1709000306. Outlet(s) = Luckiamute River (Lat 44.7561, Long −123.1468) upstream to endpoint(s) in: Bonner Creek (44.6735, −123.4849); Burgett Creek (44.6367, −123.4574); Clayton Creek (44.7749, −123.4870); Cooper Creek (44.8417, −123.3246); Grant Creek (44.8389, −123.4098); Little Luckiamute River (44.8673, −123.4375); Luckiamute River (44.7970, −123.5270); Maxfield Creek (44.6849, −123.3427); McTimmonds Creek (44.7622, −123.4125); North Fork Pedee Creek (44.7866, −123.4511); Plunkett Creek (44.6522, −123.4241); Price Creek (44.6677, −123.3732); Sheythe Creek (44.7683, −123.5027); Soap Creek (44.6943, −123.2488); South Fork Pedee Creek (44.7798, −123.4667); Teal Creek (44.8329, −123.4582); Unnamed (44.7562, −123.5293); Unnamed (44.7734, −123.2027); Unnamed (44.7902, −123.6211); Vincent Creek (44.6380, −123.4327); Waymire Creek (44.8725, −123.4128); Woods Creek (44.6564, −123.3905).

(2) Unit 2. North Santiam Subbasin 17090005—*(i) Middle North Santiam River Watershed 1709000504.* Outlet(s) = North Santiam River (Lat 44.7852, Long −122.6079) upstream to endpoint(s) in: Little Rock Creek (44.7330, −122.3927); Mad Creek (44.7373, −122.3735); North Santiam River (44.7512, −122.2825); Rock Creek (44.7011, −122.4080); Snake Creek (44.7365, −122.4870).

(ii) Little North Santiam River Watershed 1709000505. Outlet(s) = Little North Santiam River (Lat 44.7852, Long −122.6079) upstream to endpoint(s) in: Cedar Creek (44.8439, −122.2682); Elkhorn Creek (44.8139, −122.3451); Evans Creek (44.8412, −122.3601); Fish Creek (44.8282, −122.3915); Little North Santiam River (44.8534, −122.2887); Little Sinker Creek (44.8235, −122.4163); Sinker Creek (44.8211, −122.4210).

(iii) Lower North Santiam River Watershed 1709000506. Outlet(s) = Santiam River (Lat 44.7504, Long −123.1421) upstream to endpoint(s) in: Bear Branch (44.7602, −122.7942); Chehulpum Creek (44.7554, −122.9898); Cold Creek (44.7537, −122.8812); Morgan Creek (44.7495, −123.0443); North Santiam River (44.7852, −122.6079); Salem Ditch (44.8000, −122.8120); Santiam River (44.6869, −123.0052); Smallman Creek (44.7293, −122.9139); Stout Creek (44.8089, −122.5994); Trask Creek (44.7725, −122.6152); Unnamed (44.7972, −122.7328); Valentine Creek (44.7999, −122.7311).

(3) Unit 3. South Santiam Subbasin 17090006—*(i) Hamilton Creek/South Santiam River Watershed 1709000601.* Outlet(s) = South Santiam River (Lat 44.6869, Long −123.0052) upstream to endpoint(s) in: Albany—Santiam Canal (44.5512, −122.9032); Hamilton Creek (44.5392, −122.7018); Johnson Creek (44.4548, −122.7080); McDowell Creek (44.4640, −122.6803); Mill Creek (44.6628, −122.9575); Morgan Creek (44.4557, −122.7058); Noble Creek (44.4513, −122.7974); South Santiam River (44.4163, −122.6693).

(ii) Crabtree Creek Watershed 1709000602. Outlet(s) = Crabtree Creek (Lat 44.6756, Long −122.9557) upstream to endpoint(s) in: Bald Barney Creek (44.5469, −122.5959); Bald Peter Creek (44.5325, −122.6024); Beaver Creek (44.6337, −122.8537); Camp Creek (44.5628, −122.5768); Crabtree Creek (44.6208, −122.5055); Cruiser Creek (44.5543, −122.5831); Green Mountain Creek (44.5777, −122.6258); Roaring River (44.6281, −122.7148); Rock Creek (44.5883, −122.6000); South Fork Crabtree Creek (44.5648, −122.5441); White Rock Creek (44.6050, −122.5209).

(iii) Thomas Creek Watershed 1709000603. Outlet(s) = Thomas Creek (Lat 44.6778, Long −122.9654) upstream to endpoint(s) in: Criminal Creek (44.7122, −122.5709); Ella Creek (44.6815, −122.5228); Hortense Creek (44.6756, −122.5017); Jordan Creek (44.7527, −122.6519); Mill Creek (44.7060, −122.7849); Neal Creek (44.6923, −122.6484); South Fork Neal Creek (44.7016, −122.7049); Thomas Creek (44.6776, −122.4650); West Fork Ella Creek (44.6805, −122.5288).

(iv) South Santiam River Watershed 1709000606. Outlet(s) = South Santiam River (Lat 44.3977, Long −122.4473) upstream to endpoint(s) in: Canyon Creek (44.3074, −122.3300); Falls Creek (44.4007, −122.3828); Harter Creek (44.4166, −122.2605); Keith Creek (44.4093, −122.2847); Moose Creek (44.4388, −122.3671), Owl Creek (44.2999, −122.3686); Shuttle Camp Creek (44.4336, −122.2597); Soda Fork South Santiam River (44.4410, −122.2466); South Santiam River (44.3980, −122.2610); Trout Creek (44.3993, −122.3464); Two Girls Creek (44.3248, −122.3346).

(v) South Santiam River/Foster Reservoir Watershed 1709000607. Outlet(s) = South Santiam River (Lat 44.4163, Long −122.6693) upstream to endpoint(s) in: Lewis Creek (44.4387, −122.6223); Middle Santiam River (44.4498, −122.5479); South Santiam River (44.3977, −122.4473).

(vi) Wiley Creek Watershed 1709000608. Outlet(s) = Wiley Creek (Lat 44.4140, Long −122.6752) upstream to endpoint(s) in: Farmers Creek (44.3383, −122.5812); Jackson Creek (44.3669, −122.6344); Little Wiley Creek (44.3633, −122.5228); Unnamed (44.3001, −122.4579); Unnamed (44.3121, −122.5197); Unnamed (44.3455, −122.5934); Unnamed (44.3565, −122.6051); Wiley Creek (44.2981, −122.4318).

(4) Unit 4. Middle Willamette Subbasin 17090007—*(i) Mill Creek/ Willamette River Watershed 1709000701.* Outlet(s) = Mill Creek (Lat 44.9520, Long −123.0381) upstream to endpoint(s) in: Battle Creek (44.8399, −122.9891); Beaver Creek (44.8504, −122.8094); McKinney Creek (44.8207, −122.9599); Mill Creek (44.8268, −122.8249); Salem Ditch (44.8268, −122.8249); Simpson Creek (44.8625, −122.8495).

(ii) Rickreall Creek Watershed 1709000702. Outlet(s) = Willamette River (Lat 44.9288, Long −123.1124) upstream to endpoint(s) in: Willamette River (44.7504, −123.1421).

(iii) Willamette River/Chehalem Creek Watershed 1709000703. Outlet(s) = Willamette River (Lat 45.2552, Long −122.8806) upstream to endpoint(s) in: Willamette River (44.9288, −123.1124).

(iv) Abernethy Creek Watershed 1709000704. Outlet(s) = Willamette River (Lat 45.3540, Long −122.6186) upstream to endpoint(s) in: Willamette River (45.2552, −122.8806).

(5) Unit 5. Yamhill Subbasin 17090008—*(i) Upper South Yamhill River Watershed 1709000801.* Outlet(s) = South Yamhill River (Lat 45.0784, Long −123.4753) upstream to endpoint(s) in: Agency Creek (45.1799, −123.6976); Cedar Creek (45.0892, −123.6969); Cockerham Creek (45.0584, −123.5077); Cosper Creek

(45.1497, −123.6178); Cow Creek (45.0410, −123.6165); Crooked Creek (45.0964, −123.6611); Doane Creek (45.0449, −123.4929); Ead Creek (45.1214, −123.6969); Elmer Creek (45.0794, −123.6714); Gold Creek (45.0108, −123.5496); Jackass Creek (45.0589, −123.6495); Joe Creek (45.1216, −123.6216); Joe Day Creek (45.0285, −123.6660); Kitten Creek (45.1110, −123.7266); Klees Creek (45.0784, −123.5496); Lady Creek (45.0404, −123.5269); Little Rowell Creek (45.0235, −123.5792); Mule Tail Creek (45.0190, −123.5547); Pierce Creek (45.1152, −123.7203); Rock Creek (45.0130, −123.6344); Rogue River (45.0613, −123.6550); Rowell Creek (45.0187, −123.5699); Unnamed (45.0318, −123.5421); Unnamed (45.0390, −123.4620); Unnamed (45.0431, −123.5541); Unnamed (45.0438, −123.4721); Unnamed (45.0493, −123.6044); Unnamed (45.0599, −123.4661); Unnamed (45.0945, −123.6110); Unnamed (45.0994, −123.6276); Unnamed (45.1151, −123.6566); Unnamed (45.1164, −123.6717); Unnamed (45.1412, −123.6705); West Fork Agency Creek (45.1575, −123.7032); Wind River (45.1367, −123.6392); Yoncalla Creek (45.1345, −123.6614).

(ii) Mill Creek/South Yamhill River Watershed 1709000803. Outlet(s) = Mill Creek (Lat 45.0908, Long −123.4434) upstream to endpoint(s) in: Glenbrook Creek (45.0019, −123.4568); Gooseneck Creek (45.0113, −123.4705); Meadow Creek (45.0000, −123.4443); Mill Creek (45.0048, −123.4184); Red Prairie Creek (45.0271, −123.4058); Unnamed (45.0245, −123.4346); Unnamed (45.0257, −123.4456); Unnamed (45.0749, −123.4421).

(iii) Lower South Yamhill River Watershed 1709000804. Outlet(s) = South Yamhill River (Lat 45.1616, Long −123.2190) upstream to endpoint(s) in: Ash Creek (45.1016, −123.4638); Deer Creek (45.1063, −123.3498); Muddy Creek (45.1611, −123.3160); Rock Creek (45.1223, −123.4375); South Yamhill River (45.0784, −123.4753); Swale Creek (45.1173, −123.3173); Unnamed (45.0724, −123.3203); Unnamed (45.0841, −123.3539); Unnamed (45.1235, −123.3175); Unnamed (45.1409, −123.2500); Unnamed (45.1433, −123.2807); Unnamed (45.1605, −123.2586); Unnamed (45.1668, −123.2501).

(iv) Yamhill River Watershed 1709000807. Outlet(s) = Yamhill River (Lat 45.2301, Long −122.9950) upstream to endpoint(s) in: South Yamhill River (45.1616, −123.2190).

(6) Unit 6. Molalla/Pudding Subbasin 17090009—*(i) Butte Creek/Pudding River Watershed 1709000902.* Outlet(s) = Pudding River (Lat 45.1907, Long −122.7527) upstream to endpoint(s) in: Butte Creek (44.9258, −122.5127); Fall Creek (44.9674, −122.5368); Pudding River (45.0740, −122.8525); Zollner Creek (45.0946, −122.7931).

(ii) Rock Creek/Pudding River Watershed 1709000903. Outlet(s) = Rock Creek (Lat 45.1907, Long −122.7527) upstream to endpoint(s) in: Rock Creek (45.0876, −122.5916).

(iii) Senecal Creek/Mill Creek Watershed 1709000904. Outlet(s) = Pudding River (Lat 45.2843, Long −122.7149) upstream to endpoint(s) in: Mill Creek (45.2220, −122.7691); Pudding River (45.1907, −122.7527).

(iv) Upper Molalla River Watershed 1709000905. Outlet(s) = Molalla River (Lat 45.1196, Long −122.5342) upstream to endpoint(s) in: Camp Creek (44.9630, −122.2928); Cedar Creek (45.0957, −122.5257); Copper Creek (44.8877, −122.3704); Cougar Creek (45.0421, −122.3145); Dead Horse Canyon Creek (45.0852, −122.3146); Gawley Creek (44.9320, −122.4304); Lost Creek (44.9913, −122.2444); Lukens Creek (45.0498, −122.2421); Molalla River (44.9124, −122.3228); North Fork Molalla River (45.0131, −122.2986); Pine Creek (45.0153, −122.4560); Table Rock Fork Molalla River (44.9731, −122.2629); Trout Creek (45.0577, −122.4657).

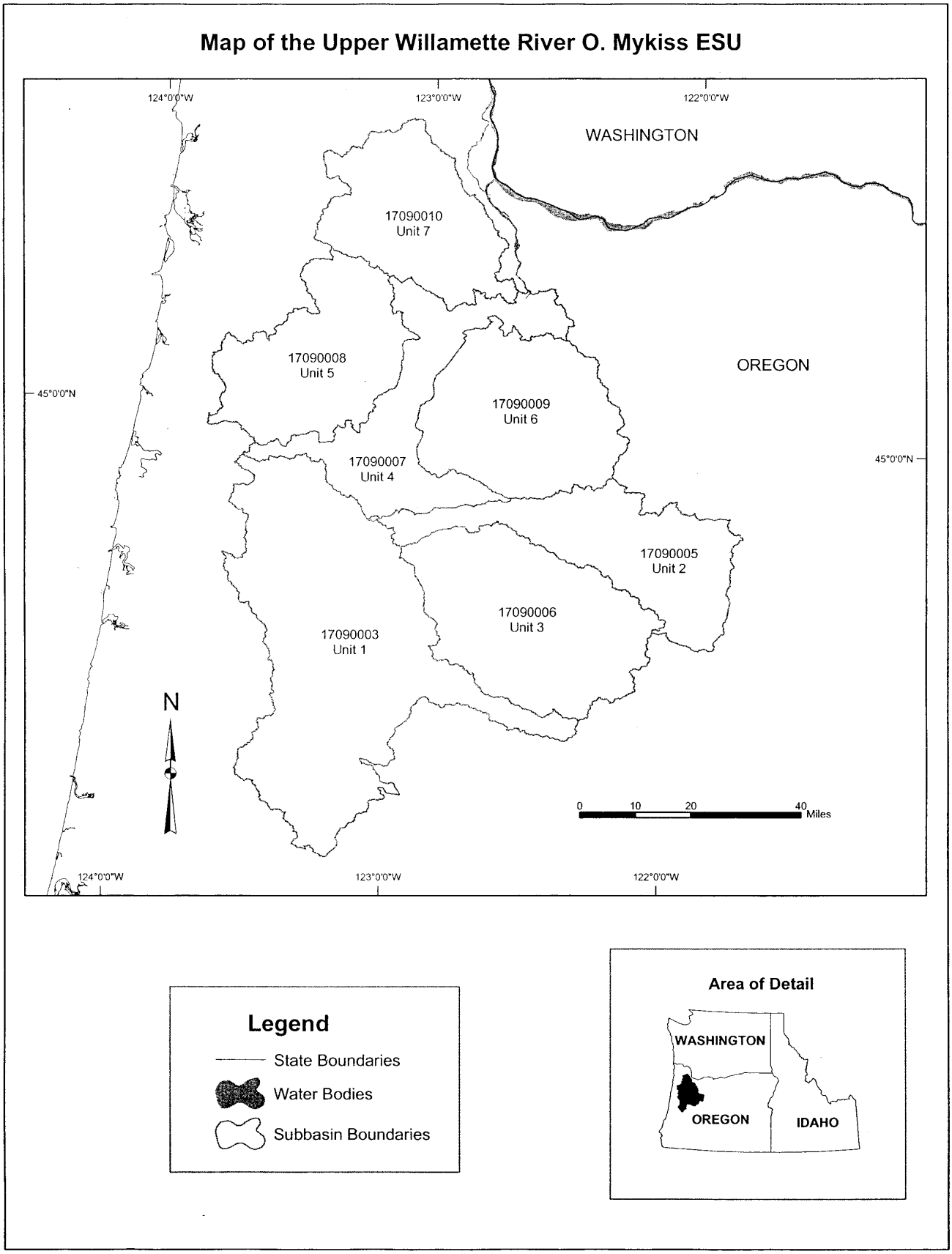
(v) Lower Molalla River Watershed 1709000906. Outlet(s) = Molalla River (Lat 45.2979, Long −122.7141) upstream to endpoint(s) in: Buckner Creek (45.2382, −122.5399); Canyon Creek (45.1317, −122.3858); Cedar Creek (45.2037, −122.5327); Gribble Creek (45.2004, −122.6867); Jackson Creek (45.1822, −122.3898); Milk Creek (45.2036, −122.3761); Molalla River (45.1196, −122.5342); Woodcock Creek (45.1508, −122.5075).

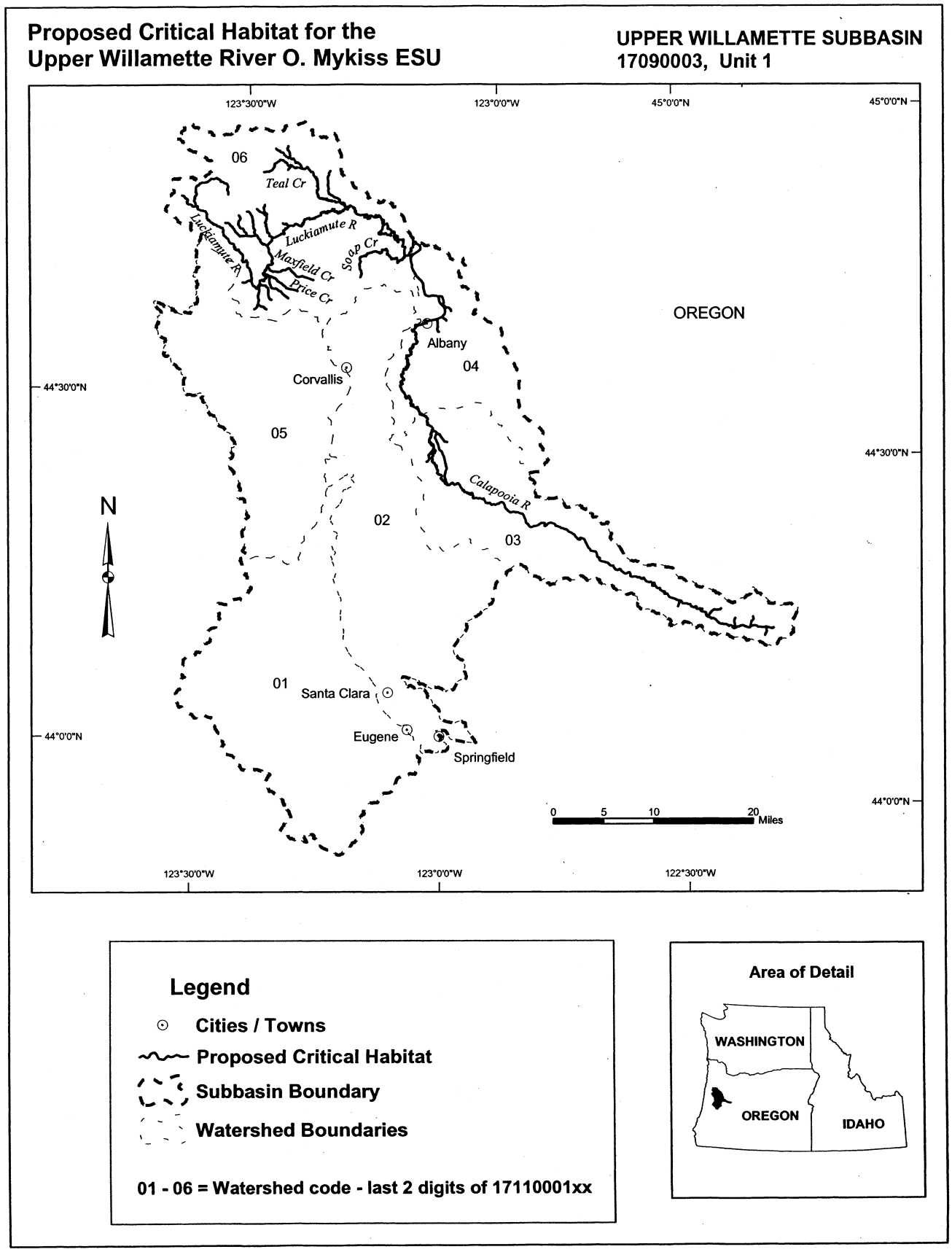
(7) Unit 7. Tualatin Subbasin 17090010—*(i) Gales Creek Watershed 1709001002.* Outlet(s) = Tualatin River (Lat 45.5019, Long –122.9946) upstream to endpoint(s) in: Bateman Creek (45.6350, –123.2966); Beaver Creek (45.6902, –123.2889); Clear Creek (45.5705, –123.2567); Gales Creek (45.6428, –123.3576); Iler Creek (45.5900, –123.2582); North Fork Gales Creek (45.6680, –123.3394); Roaring Creek (45.5620, −123.2574); Roderick Creek (45.5382, −123.2013); South Fork Gales Creek (45.6059, −123.2978); Tualatin River (45.4917, −123.1012).

(8) Unit 8. Lower Willamette/Columbia River Corridor—*(i) Lower Willamette/Columbia River Corridor.* Outlet(s) = Columbia River (Lat 46.2485, Long −124.0782) upstream to endpoint(s) in: Willamette River (45.3540, −122.6186).

(9) Maps of proposed critical habitat for the Upper Willamette River *O. mykiss* ESU follow:

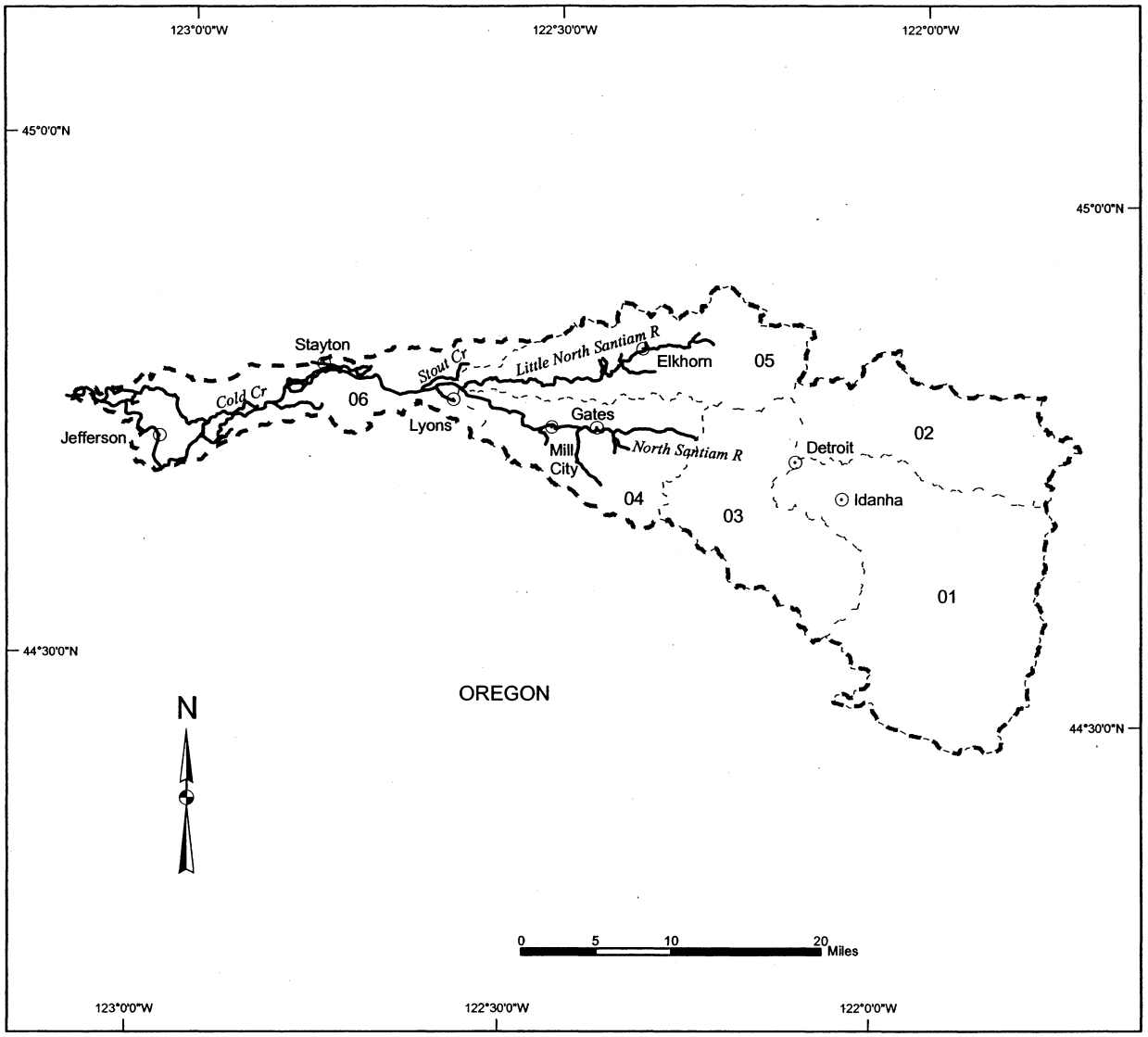
BILLING CODE 3510–22–P


Map of the Upper Willamette River O. Mykiss ESU
124°0'0"W
123°0'0"W
122°0'0"W
WASHINGTON
OREGON
45°0'0"N
17090010
Unit 7
17090008
Unit 5
17090009
Unit 6
17090007
Unit 4
17090005
Unit 2
17090006
Unit 3
17090003
Unit 1
N
0
10
20
40
Miles
Legend
State Boundaries
Water Bodies
Subbasin Boundaries
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Upper Willamette River O. Mykiss ESU
UPPER WILLAMETTE SUBBASIN
17090003, Unit 1
123°30'0"W
123°0'0"W
45°0'0"N
44°30'0"N
44°0'0"N
122°30'0"W
06
Teal Cr
Luckiamute R
Luckiamute R
Maxfield Cr
Soap Cr
Price Cr
OREGON
Albany
04
Corvallis
05
Calapooia R
N
02
03
01
Santa Clara
Eugene
Springfield
0 5 10 20 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17110001xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Proposed Critical Habitat for the Upper Willamette River O. Mykiss ESU

NORTH SANTIAM SUBBASIN 17090005, Unit 2



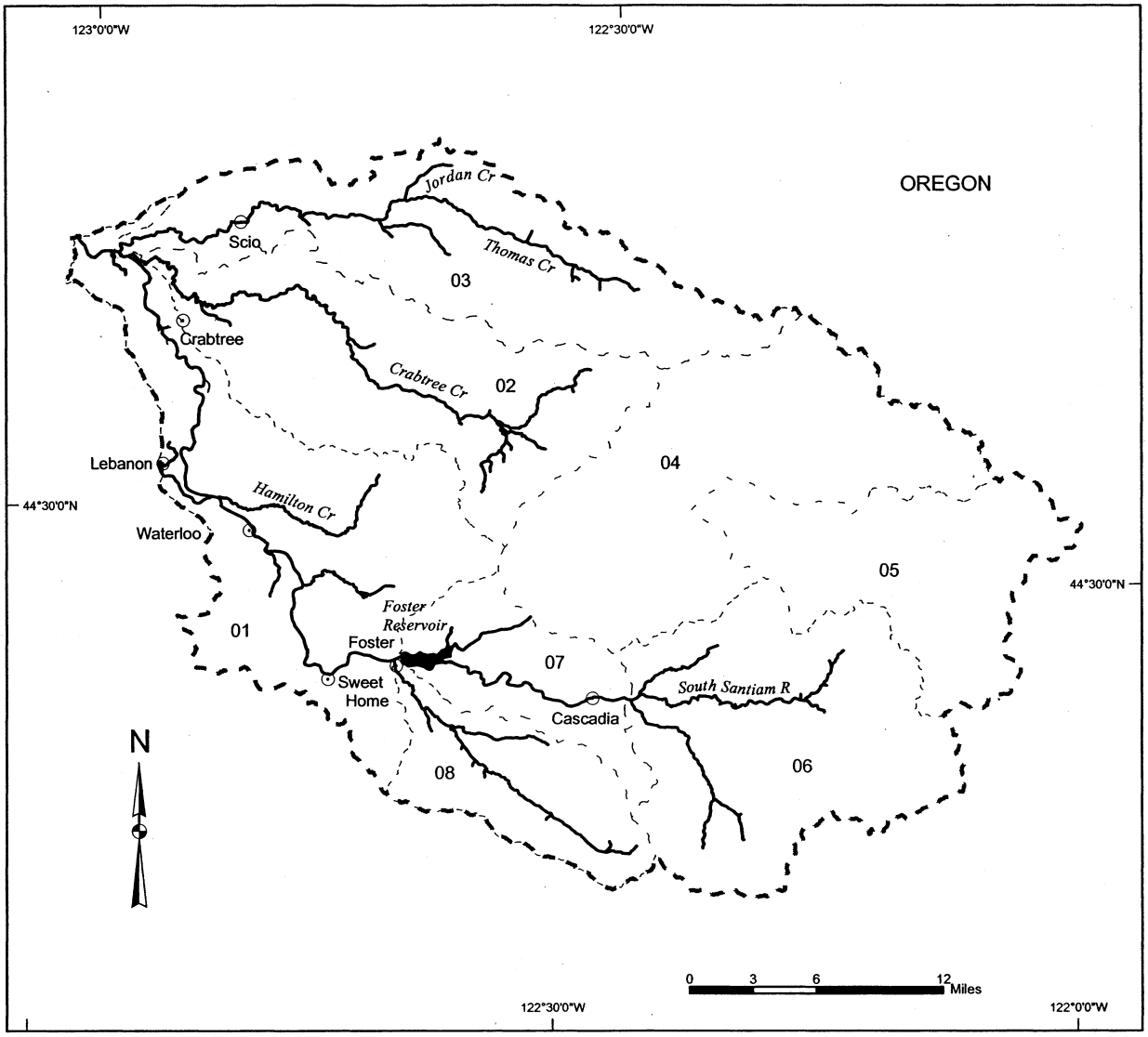
Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 06 = Watershed code - last 2 digits of 17090005xx

Proposed Critical Habitat for the Upper Willamette River O. Mykiss ESU

SOUTH SANTIAM SUBBASIN 17090006, Unit 3

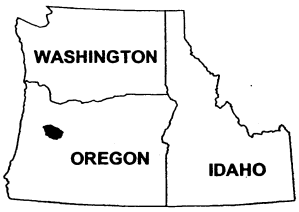


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

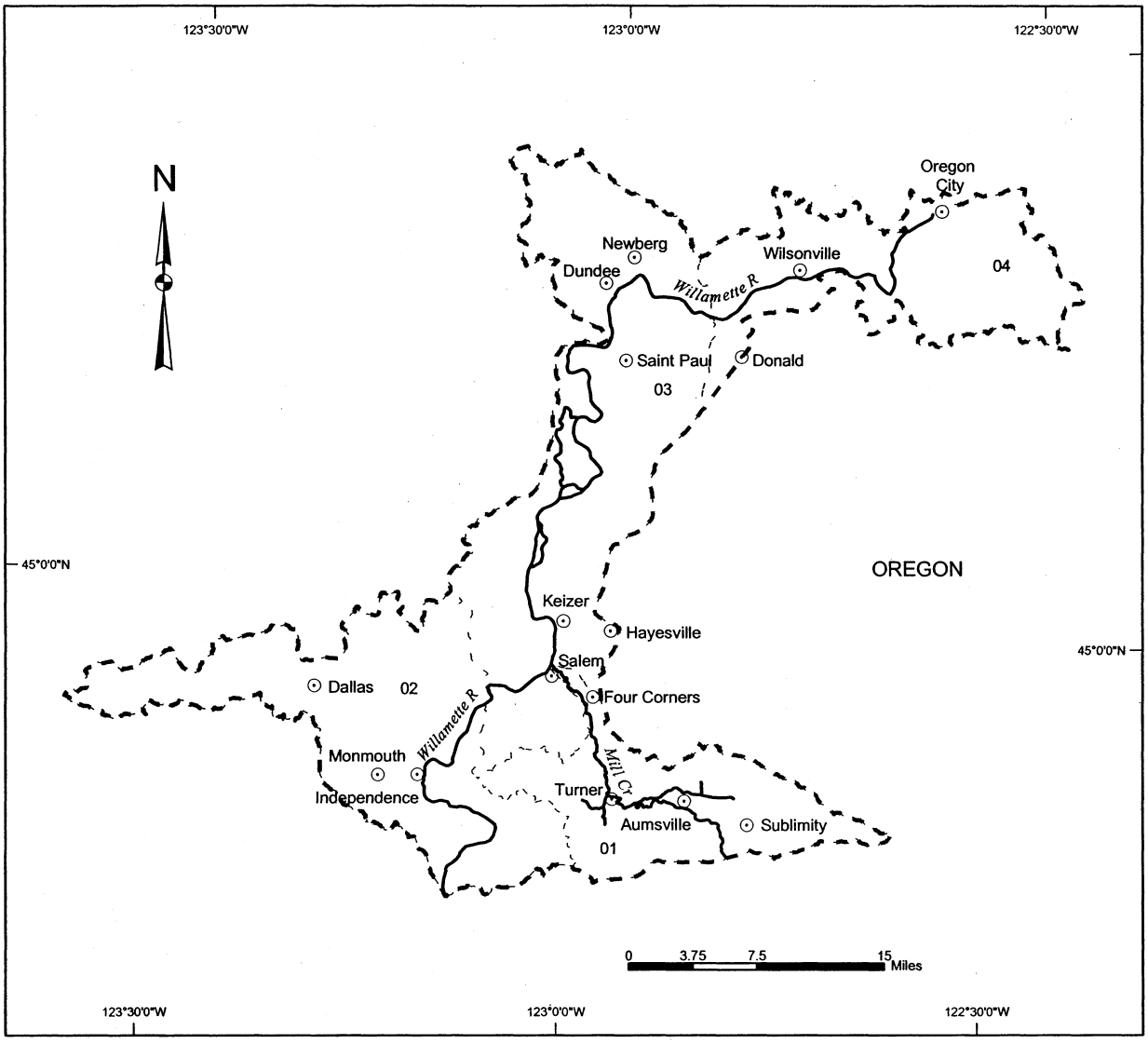
01 - 08 = Watershed code - last 2 digits of 17090006xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River O. Mykiss ESU

MIDDLE WILLAMETTE SUBBASIN 17090007, Unit 4

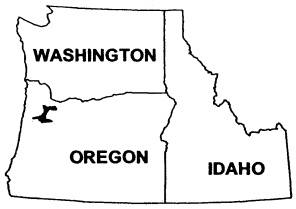


Legend

- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

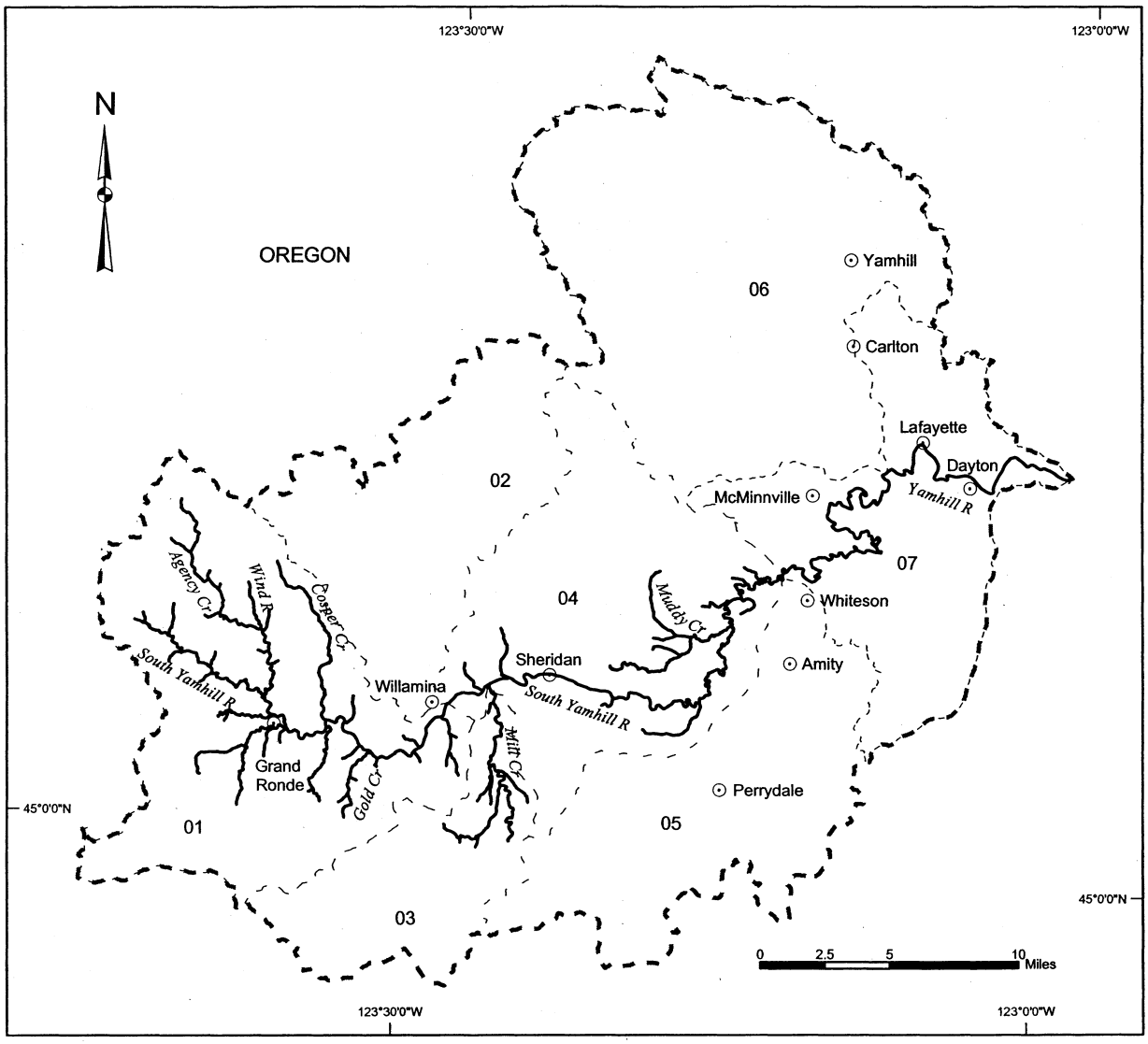
01 - 04 = Watershed code - last 2 digits of 17090007xx

Area of Detail



Proposed Critical Habitat for the Upper Willamette River O. Mykiss ESU

YAMHILL SUBBASIN 17090008, Unit 5

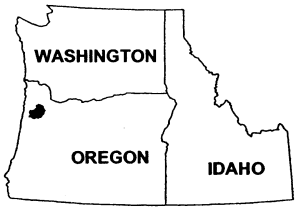


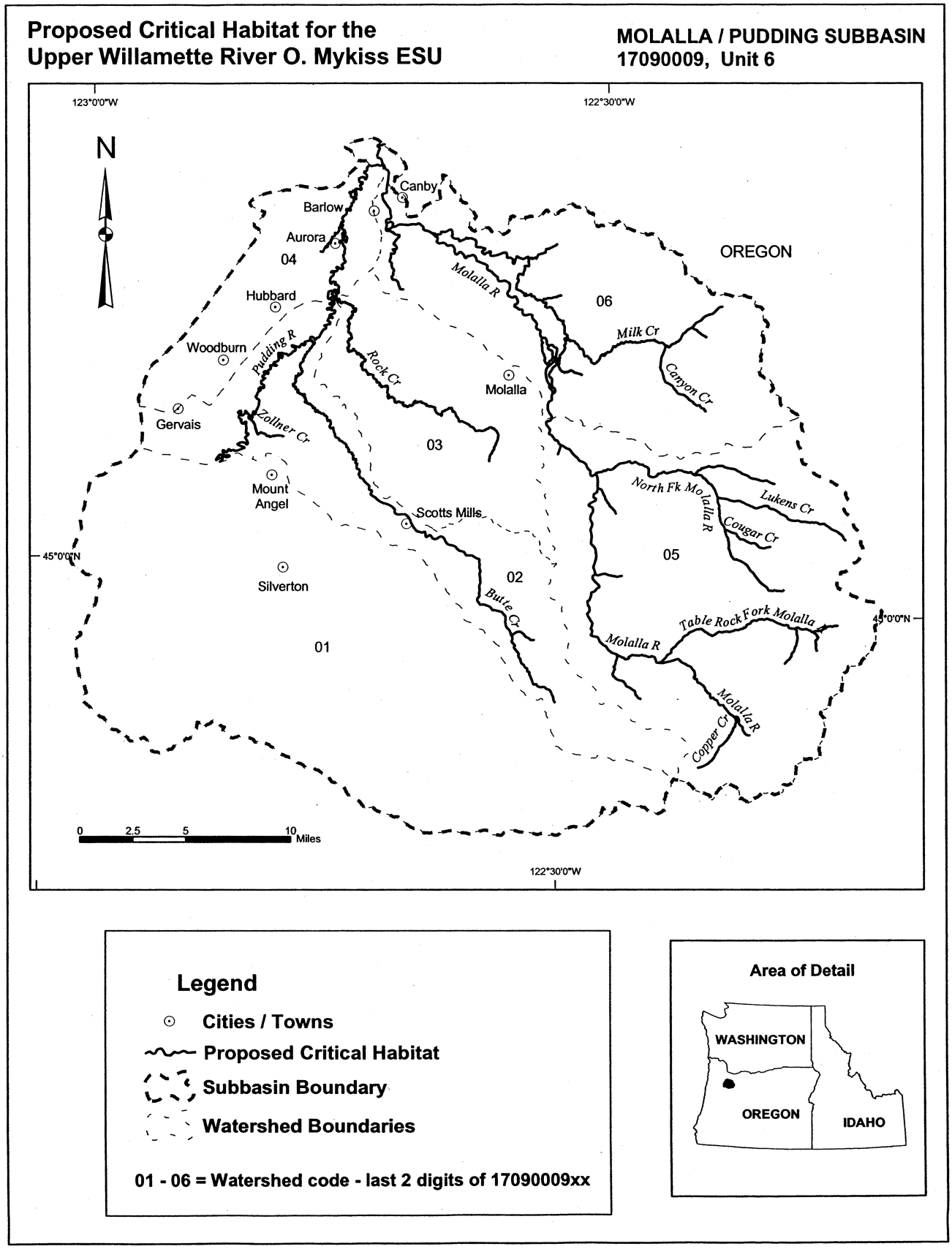
Legend

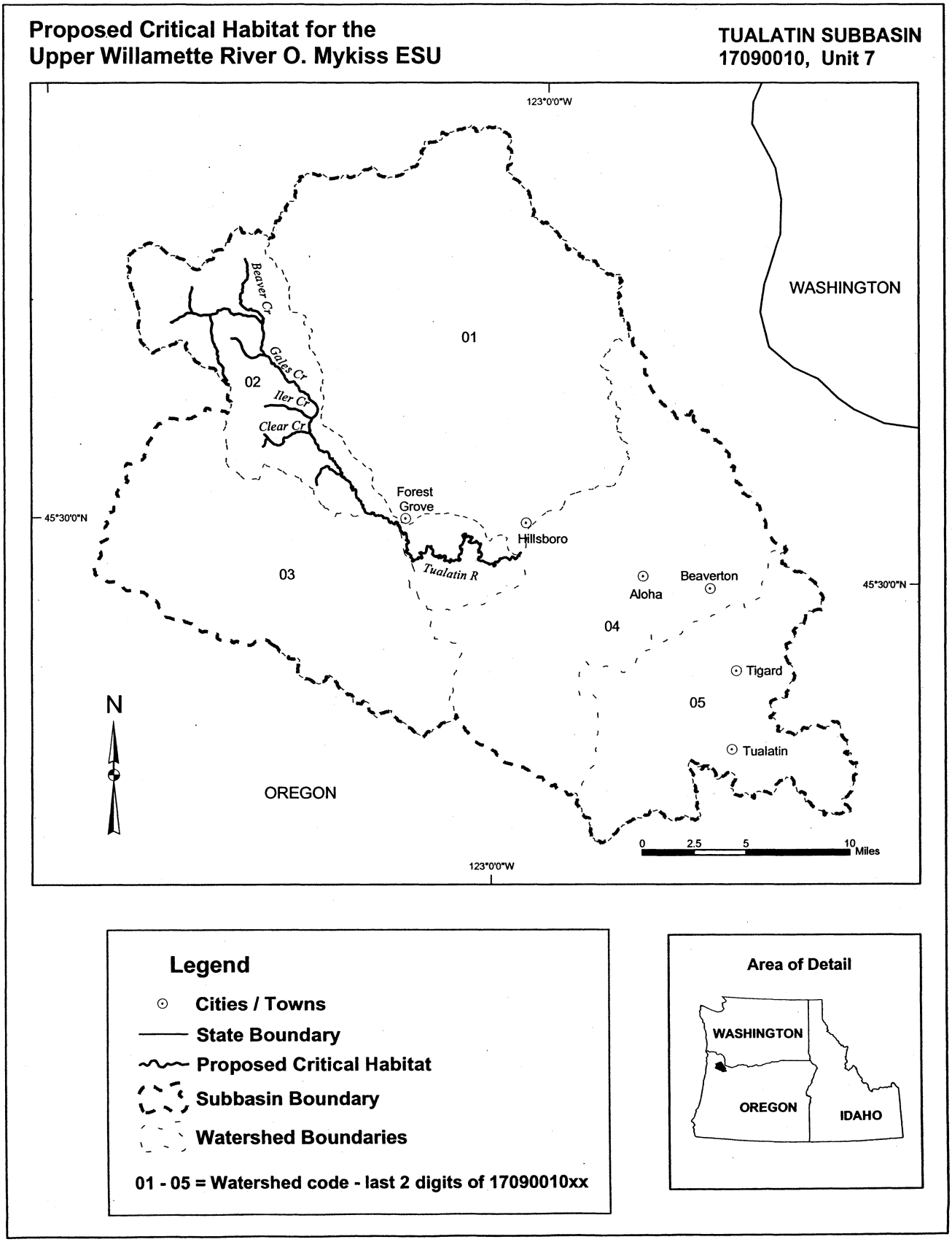
- Cities / Towns
- Proposed Critical Habitat
- Subbasin Boundary
- Watershed Boundaries

01 - 07 = Watershed code - last 2 digits of 17090008xx

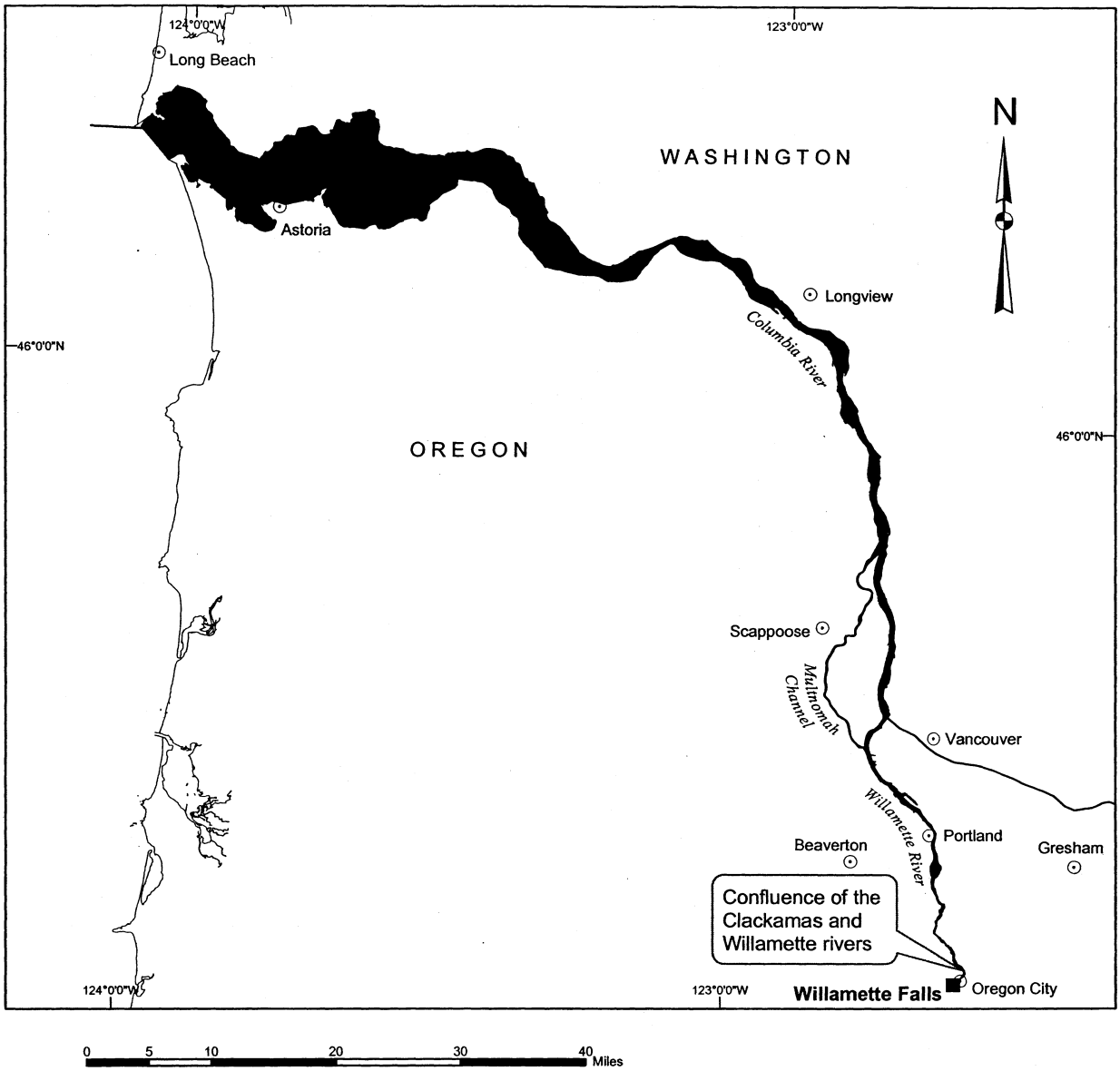
Area of Detail




Proposed Critical Habitat for the
Upper Willamette River O. Mykiss ESU
MOLALLA / PUDDING SUBBASIN
17090009, Unit 6
123°0'0"W
122°30'0"W
N
Canby
Barlow
Aurora
04
Hubbard
Woodburn
Pudding R
Gervais
Zollner Cr
Mount Angel
Silverton
01
Molalla R
Rock Cr
Molalla
03
Scotts Mills
02
Butte Cr
06
OREGON
Milk Cr
Canyon Cr
North Fk Molalla R
Lukens Cr
Cougar Cr
05
Table Rock Fork Molalla
Molalla R
Copper Cr
45°0'0"N
0 2.5 5 10 Miles
Legend
Cities / Towns
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 06 = Watershed code - last 2 digits of 17090009xx
Area of Detail
WASHINGTON
OREGON
IDAHO


Proposed Critical Habitat for the
Upper Willamette River O. Mykiss ESU
TUALATIN SUBBASIN
17090010, Unit 7
123°0'0"W
WASHINGTON
01
02
03
04
05
Beaver Cr
Gales Cr
Iler Cr
Clear Cr
Forest Grove
Hillsboro
Tualatin R
Aloha
Beaverton
Tigard
Tualatin
45°30'0"N
OREGON
N
0 2.5 5 10 Miles
Legend
Cities / Towns
State Boundary
Proposed Critical Habitat
Subbasin Boundary
Watershed Boundaries
01 - 05 = Watershed code - last 2 digits of 17090010xx
Area of Detail
WASHINGTON
OREGON
IDAHO

Rearing / Migration Corridor for the Upper Willamette River O. Mykiss ESU, Unit 8



Legend

- Cities / Towns
- State Boundary
- Rearing / Migration Corridor

Upper Willamette River O. Mykiss ESU

Unit 8. Lower Willamette / Columbia River Corridor
The lower Willamette / Columbia River corridor is that segment from the mouth of the Columbia River at the Pacific Ocean upstream to the confluence of the Clackamas and Willamette rivers, including the Multnomah Channel portion of the lower Willamette River.

[FR Doc. 04–26682 Filed 12–13–04; 8:45 am]
BILLING CODE 3510–22–C