



Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

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BIOLOGICAL ASSESSMENT

FOR

SR9/US2 PROPOSED UGA EXPANSION

Wetland Resources, Inc. Project #07207

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July 25, 2007

SUMMARY

SR9/US2 LLC, the applicant, proposes an expansion of the Urban Growth Area (UGA) boundary associated with the City of Snohomish, Washington. The assemblage of properties proposed within the expansion area amount to approximately 350 acres. This expansion area is generally located northwest of the intersection of the State Route (SR) 9 and US Highway 2. It is further located as part of Section 36, Township 29N, Range 5E, W.M. These properties represent a combination of residential, agriculture, commercial, and open space located just north of the city of Snohomish in Urban Snohomish County, Washington.

The proposed UGA expansion is a non-project proposal that includes planning and policy changes rather than site a single site-specific project. This Biological Assessment addresses the occurrences of potential species and critical habitats within the vicinity of the proposed action area. Upon completion of the proposed UGA expansion proposal, this document may be used as a reference for future land management activities, including environmental impact statements or site-specific project actions. Any future site-specific project actions will require additional SEPA review at the time of proposal.

The Endangered Species Act (ESA) listed species that may occur within the vicinity of the action area are listed in the table below.

Listed and Protected Species for the SR9/US2 Urban Expansion Area

Common Name	<i>Scientific Name</i>	Federal Status	WA State Status
Puget Sound Steelhead	<i>Oncorhynchus mykiss</i>	Threatened	Candidate
Puget Sound Coho	<i>Oncorhynchus kisutch</i>	Candidate	Not Listed
Sockeye Salmon	<i>Oncorhynchus nerka</i>	Threatened	Candidate
Puget Sound Chinook	<i>Oncorhynchus tshawytscha</i>	Threatened	Candidate
Bull Trout	<i>Salvelinus confluentus</i>	Threatened	Threatened
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Threatened

SETTING DESCRIPTION

The approximate 350-acre UGA expansion area is primarily located northwest of the intersection of SR 9 and US 2. These parcels within the proposed expansion area have been managed as agriculture, forest plantations, and residences for many decades and are primarily vegetated with immature Douglas fir, pasture and residential

landscaping. Logging roads, skidder trails, farm roads, and cattle paths exist throughout the parcels. Much of the forested area on the western portion of the investigation area is grazed and the forest on the eastern portion of the investigation area is extremely dense.

Topography of the site generally has a moderate to steep west aspect slope on the western portion, relatively flat in the central portion and a moderate east aspect on the eastern portion. There is also a moderate west aspect slope on the western side of SR9.

Fourteen wetlands and seven streams are located on the subject site. Wetland A and Streams A and B primarily occur within a historically managed agricultural field and extend into non-mature forestland to the east. The remainder of the wetlands and streams on this site occur within immature forested areas.

Wetlands A, F, G, H, and M have been classified as Category I wetlands under the Washington State Department of Ecology Wetland Rating System, 2004 (DOE Rating). Wetlands B, C, D, E, I, J, and K have been classified as Category III wetlands per the DOE rating.

In general, Category I wetlands are deemed to be the most valuable resources with irreplaceable functions for wildlife, water quality and hydrologic recharge. Category III wetlands are generally of less value due to size, shape, lack of vegetation diversity or isolation from other systems.

Streams A and B are presumed to support salmonid fish habitat. We also identified another stream, Stream H, just off-site to the east that is presumed salmonid fish habitat. All other stream segments identified on the site have been classified as perennial or seasonal non-fish streams.

Streams A and B flow westerly through the northwestern portion of the site, and eventually drain into Ebey Slough, located approximately 1 mile west of the site. Streams C and D flow southward within the south-central portions of the site. Streams F and E flow easterly within the southeastern part of the site to eventually drain into the Pilchuck River. The Pilchuck River is located approximately 1 1/2 miles from the site.

POTENTIAL EFFECT TO LISTED SPECIES

Bull trout (*Salvelinus confluentus*), Threatened, No Critical Habitat

A "no effect" determination is made for this species because the level of use within the immediate vicinity of the subject property by bull trout is expected to be none, and because no site-specific projects are proposed. Bull trout are not expected to migrate in or through roadside ditches or wetlands in the project area or within 300 feet downstream of the project area. The nearest documented Bull trout habitat is approximately 1 mile to the west of the project area within Ebey Slough.

Puget Sound Chinook Salmon (*Oncorhynchus tshawytscha*), Threatened, No Critical Habitat

A "no effect" determination is made for this species because no site-specific projects are proposed. Furthermore, while accessible salmonid use is presumed within Streams A and B, the nearest mapped Chinook habitat is 1 mile to the west of the site.

Bald Eagle (*Haliaeetus leucocephalus*) Threatened, No Critical Habitat

A "no effect" determination is made for bald eagles. The site is not primary association habitat for bald eagles and no known bald eagle's nest or perching or feeding grounds occur within 1/2 mile line-of-site of the action area. No bald eagle mortality is expected as a result of the proposed UGA expansion proposal, and no degradation of bald eagle critical habitat is expected to occur from this proposal, nor will the forage base be affected by this proposal.

POTENTIAL EFFECT TO CRITICAL HABITAT

No critical habitat occurs within the action area.

The NMFS has determined that the habitats of Puget Sound Chinook be considered Designated Critical Habitat. There are no designated critical habitats within the proposed action areas. The nearest documented critical habitat is Ebey Slough, located approximately one mile west of the site (NMFS 2005). This project will not result in the destruction or adverse modification of critical Chinook habitat. Since there are no critical Chinook habitats within the proposed action area, the proposed action will have no effect on Puget Sound Chinook Designated Critical Habitat.

The USFWS has determined that the habitats of Bull Trout be considered Designated Critical Habitat. There are no designated critical habitats within the proposed action areas. The nearest documented critical habitat is Ebey Slough, located approximately one mile west of the site. This project will not result in the destruction or adverse modification of critical bull trout habitat. Since there are no critical Chinook habitats within the proposed action area, the proposed action will have no effect on Bull Trout Designated Critical Habitat.

ESSENTIAL FISH HABITAT ASSESSMENT

The Magnuson-Stevens Fishery Conservation and Management Act requires that essential fish habitat (EFH) must be identified by NMFS for federally managed marine fish. In addition, federal agencies must consult with NMFS on all proposed actions undertaken or funded by the agency that may affect EFH. The Pacific Fisheries Management Council (PFMC) has designated EFH for the Pacific salmon fishery, for federally managed groundfish, and for coastal pelagic fisheries.

For this proposal, only species of the Pacific salmon fishery could potentially be affected, as all water bodies in the vicinity of the site are freshwater systems. The EFH designation for the Pacific salmon fishery includes all streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers identified by PFMC. The Pacific salmon management unit includes Chinook, Coho, and Pink salmon.

Within the vicinity of the site, EFH occurs for Puget Sound Chinook, Coho, and Sockeye salmon. These species are known to occur in Ebey Slough. All three of these species are known to use Ebey Slough for adult migration, juvenile out-migration, and rearing where suitable habitat is present. The non-project proposal will have no effect on EFH for Pacific salmon.

There will be no effect on the EFH for groundfish or coastal pealgics because these species do not occur in or near the action area.

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1.0 INTRODUCTION

SR9/US2 LLC, the applicant, proposes an expansion of the Urban Growth Area (UGA) boundary associated with the City of Snohomish, Washington. The assemblage of properties proposed within the expansion area amount to approximately 350 acres. This expansion area is generally located northwest of the intersection of the State Route (SR) 9 and US Highway 2. It is further located as part of Section 36, Township 29N, Range 5E, W.M. in Snohomish County, Washington. These properties represent a combination of residential, agriculture, commercial, and open space located just north of the city of Snohomish in Urban Snohomish County, Washington.

The proposed UGA expansion is a non-project proposal that includes planning and policy changes rather than site a single site-specific project. This Biological Assessment addresses the occurrences of potential species and critical habitats within the vicinity of the proposed action area. Upon completion of the proposed UGA expansion proposal, this document may be used as a reference for future land management activities, including environmental impact statements or site-specific project actions. Any future site-specific project actions will require additional SEPA review at the time of proposal.

1.1 PROJECT INFORMATION

Project Name:	SR9/US2 UGA Expansion
State:	Washington
County:	Snohomish
Location:	Section: 36, Township: 29N, Range: 05E, W.M.
Project Proponent:	SR9/US2, LLC
Proponent Contact:	Michael Reid P.O. Box 1282 Bellevue, WA 98009 425-828-4415
Preparer:	Wetland Resources, Inc. 9505 19th Ave. SE, Suite 106 Everett, WA 98208
Preparer Contact:	Andrea Bachman 425.337.3174

2.0 STUDY PURPOSE

Wetland Resources, Inc. has prepared this Biological Assessment (BA) on behalf of SR9/US2, LLC, to determine probable impacts to protected species as part of the proposal to expand the UGA for the City of Snohomish. Existing conditions and habitat for protected species will be evaluated for the subject site and adjacent properties.

Information provided by NOAA Fisheries (2006) and USFW (2007) (Appendix B) indicate that the project will occur within the range of the following species listed in Table 1.

Table 1. Listed and Protected Species for the SR9/US2 Urban Expansion Area Vicinity

Common Name	<i>Scientific Name</i>	Federal Status	WA State Status
Puget Sound Steelhead	<i>Oncorhynchus mykiss</i>	Threatened	Candidate
Puget Sound Coho	<i>Oncorhynchus kisutch</i>	Candidate	Not Listed
Sockeye Salmon	<i>Oncorhynchus nerka</i>	Threatened	Candidate
Puget Sound Chinook	<i>Oncorhynchus tshawytscha</i>	Threatened	Candidate
Bull Trout	<i>Salvelinus confluentus</i>	Threatened	Threatened
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Threatened

3.0 PROJECT PURPOSE AND OBJECTIVES

The purpose of this non-project proposal is to expand the Urban Growth Area boundaries north of the City of Snohomish. In July 2006, several site visits were conducted to assess habitat and site conditions.

The objectives of this report are:

To review available information on species within the action area that may be affected by the proposal.

To discuss the impacts and effects of this proposal on species and habitats within the action area.

To provide recommendations regarding effect determinations.

4.2 PROPOSED ACTION AREA

The proposed action is a non-project proposal involving planning and policy changes for a potential expansion of the Urban Growth Area for the city of Snohomish.

The ESA requires that all potential effects on listed and proposed endangered species be evaluated in relation to the complete range of area influenced by the proposed action (the action area)(50CFR Part 402.02). The action area covers the complete extent where measurable direct and indirect effects resulting from the proposed action are foreseeable and are reasonably certain to occur (USFES, 1998 and NOAA Fisheries, 1996).

The action area is not limited to the immediate action area and is defined as the area that may provide habitat for the species in question, and which could be affected by the project both during and after construction. Effects include direct, indirect, interrelated and interdependent, and beneficial effects from the proposed project. The action areas are designated for both fish and wildlife.

Effects from the project are not expected beyond the action area. Therefore, for the purposes of this Biological Assessment, the action area for the project extends a 1/2-mile beyond the proposed UGA expansion boundaries (Figure 2). This action area should be appropriate for all fish and terrestrial species potentially present within the action area during construction activities. We believe this was a conservative estimate of the extent to which impacts could potentially result from the proposed project should BMPs fail.

4.3 BASELINE CONDITIONS

Fourteen wetlands and seven streams are located on the subject site. Snohomish County utilizes its own independent rating system per SCC 30.62. Snohomish County is currently preparing an update to the development regulations for Critical Areas per Growth Management Act (GMA) requirements. Under the new draft ordinance, we would expect streams to be classified based upon an amended version of the water classification system established under WAC 222-16-030 for classifications of streams, and wetlands to be classified based on the DOE Wetland Rating Form for Western Washington. The City of Snohomish currently uses these updated classification systems.

Wetland A and Streams A and B primarily occur within a historically managed agricultural field and extend into non-mature forestland to the east. The remainder of the wetlands and streams on this site occur within immature forested areas.

Wetlands A, F, G, H, and M have been classified as Category I wetlands under the Washington State Department of Ecology Wetland Rating System, 2004 (DOE Rating). Wetlands B, C, D, E, I, J, and K have been classified as Category III wetlands per the DOE rating.

In general, Category I wetlands are deemed to be the most valuable resources with irreplaceable functions for wildlife, water quality and hydrologic recharge. Category III wetlands are generally of less value due to size, shape, lack of vegetation diversity or isolation from other systems.

Pursuant to WAC 222-16-030, the on-site streams appear to be classified as Type F, Type Np, and Type Ns streams.

Buffers for wetlands in Snohomish County under the updated critical areas ordinance will generally range from 60 feet to 110 feet for wetlands and 50 feet to 150 feet for streams.

Table 2: Identified Wetlands and Stream within the Proposed Action Area

Wetland	Category City	Buffer in Feet - City	Category County	Buffer in Feet - County
A	I	150	2	110
B	III	50	3	75
C	III	50	4	60
D	III	50	3	75
E	III	50	3	75
F	I	150	3	110
G	I	150	3	110
H	I	150	3	110
I	III	50	3	75
J	III	50	3	75
K	III	50	3	75
L	III	50	3	75
M	I	150	3	110
Stream				
A	F	75	3	150
B	F	75	3	150
C	Np	50	4	50
D	Ns	35	4	50
E	Np	50	4	50
F	Ns	35	4	50
G	Np	50	4	50
H	F	75	3	150

Streams A and B are presumed to support salmonid fish habitat. We also identified another stream, Stream H, just off-site to the east that is presumed salmonid fish habitat. All other stream segments identified on the site have been classified as perennial or seasonal non-fish streams.

Streams A and B flow westerly through the northwestern portion of the site, and eventually drain into Ebey Slough, located approximately 1 mile west of the site. Streams C and D flow southward within the south-central portions of the site. Streams F and E flow easterly within the southeastern part of the site to eventually drain into the Pilchuck River. The Pilchuck River is located approximately 1 1/2 miles from the site.

Documented fish habitats are present within 1/2 miles of the subject site, and include the following streams:

Table 3: Mapped Priority Anadromous Fish Species and Stream Presence (WDFW PHS)

	Stream A	Stream B	Stream D	Stream E	Stream H
Fall Chum Salmon					
Coho Salmon	x	x	x	x	x
Summer Chinook Salmon					
Fall Chinook Salmon					
Sockeye Salmon					
Pink Salmon					
Bull Trout					
Summer Steelhead				x	
Winter Steelhead				x	

A Bald Eagle nest site is located approximately one mile west of the project site (WDFW 2007). No known bald eagle's nest or perching or feeding grounds occur within 1/2 mile line-of-site of the action area. However, it is possible that bald eagles will occur periodically closer to or on the site with random perching and foraging.

4.4 GENERAL WILDLIFE OBSERVATION

A variety of wildlife species were detected during site visits in July 2006. Habitats noted include mixed medium-aged forests, a shrub-dominated clear-cut, upland/wetland pastures, landscaped residential zones, and disturbed meadow. Species detected include: townsend mole (*Scapanus townsendii*), bobcat (*Lynx rufus*), mountain beaver (*Aplodontia rufa*), townsend chipmunk (*Tamias townsendii*), douglas squirrel (*Tamiasciurus douglasii*), eastern gray squirrel (*Sciurus carolinensis*), voles (*Microtus* spp.), eastern cottontail (*Sylvilagus floridanus*), snowshoe hare (*Lepus americanus*), mule deer (*Odocoileus hemionus*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), red-breasted sapsucker (*Sphyrapicus ruber*), barn swallow (*Hirundo rustica*), violet-green swallow (*Tachycineta thalassina*), golden-crowned kinglet (*Regulus satrapa*), black-capped chickadee (*Parus atricapillus*), dark-eyed junco (*Junco hyemalis*), American robin (*Turdus migratorius*), swainson's thrush

(*Catharus ustulatus*), song sparrow (*Melospiza melodia*), and spotted towhee (*Pipilo macularia*).

4.5 PROJECT DESCRIPTION

SR9/US2 LLC, the applicant, proposes an expansion of the City of Snohomish Urban Growth Area (UGA) boundary. The assemblage of properties proposed within the expansion area amount to approximately 350 acres. The proposed expansion area boundary is generally located northwest of the intersection of the State Route (SR) 9 and US Highway 2. This Biological Assessment addresses the occurrences of potential species and critical habitats within the vicinity of the proposed UGA expansion area.

4.5.1 STORMWATER

No specific stormwater management plan is proposed for this non-project proposal.

4.5.2 CLEARING AND GRADING

No specific clearing and grading is proposed for this non-project proposal.

4.5.3 UTILITY COORDINATION

No specific utility installation is proposed for this non-project proposal.

4.5.4 WETLAND IMPACTS

No specific wetland impacts are proposed for this non-project proposal.

5.0 STATUS OF THE SPECIES AND CRITICAL HABITAT

5.1 BALD EAGLE

The life history of bald eagles is described in detail in the *Pacific Bald Eagle Recovery Plan* (USFWS, 1986) and the *Washington State Status Report for the Bald Eagle* (Stinson et al., 2001). Bald eagle life history is briefly summarized in Appendix C.

5.1.1 CRITICAL HABITAT

No critical habitat has been designated for bald eagles on this site and none is proposed. The nearest documented habitat for bald eagles is located approximately 1 mile to the west of the subject site (WDFW PHS 2007).

5.1.2 ENVIRONMENTAL BASELINE

Bald eagles are commonly observed in Snohomish County. There are currently 42 bald eagle nesting territories located in Snohomish County, with the greatest concentrations located in the northern portion of the county (USFW, 2005). No eagles or eagle habitats have been documented within one mile of the project site (the limit of the PHS map (WDFW 2007)). Through random foraging, bald eagles may at times occur closer to the project site.

5.2 BULL TROUT

The life history of bull trout has been summarized in Appendix C.

5.2.1 CRITICAL HABITAT

No documented critical habitat for bull trout occurs within the action area. Ebey Slough comprises the nearest known critical habitat for bull trout and is approximately 1 mile west of the subject site (WDFW PHS 2007).

5.2.2 ENVIRONMENTAL BASELINE

The U.S. Fish and Wildlife Service has identified Ebey Slough as habitat for Bull trout (WDFW PHS 2007). The WDFW bull trout Salmonid Stock Inventory (SaSI), October 2004, indicates that all bull trout/Dolly Varden stocks in Ebey Slough/Snohomish Basin are native and are maintained by wild production. The status of these stocks is unknown.

5.3 CHINOOK SALMON

The life history of Chinook salmon has been summarized in Appendix C.

5.3.1 CRITICAL HABITAT

No documented critical habitat for Chinook salmon occurs within the action area, although Streams A and B onsite are presumed habitats. Ebey Slough comprises the nearest known critical habitat for Chinook salmon (NOAA Fisheries, 2005). Ebey Slough is located approximately 1 mile west of the site.

5.3.2 ENVIRONMENTAL BASELINE

Ebey Slough is documented critical habitat for Chinook salmon. Summer Chinook spawning generally occurs from early September through mid-November. Stocks of summer and fall-run life histories are present in Ebey Slough/Snohomish Basin. The status of these stocks is unknown.

5.4 COHO SALMON

The life history of Coho salmon has been summarized in Appendix C.

5.4.1 CRITICAL HABITAT

Streams A and B, located on-site, and Streams D, E, and H within 1/2 mile of the site comprise the nearest known habitats for Coho salmon (WDFW PHS).

5.4.2 ENVIRONMENTAL BASELINE

Coho are listed as a species of concern. According to the Salmonid Stock Inventory (Haring, December 2002), Snohomish Coho stock is documented as healthy. Coho salmon can use virtually any accessible tributary in the Snohomish watershed with year-round flow. Spawning in the Snohomish River basin generally occurs from October to December.

5.5 SOCKEYE SALMON

The life history of Sockeye salmon has been summarized in Appendix C.

5.5.1 CRITICAL HABITAT

No critical habitat for Sockeye salmon occurs within the action area. Sockeye salmon are documented in Ebey Slough approximately 1 mile west of the site.

5.5.2 ENVIRONMENTAL BASELINE

Currently, this species is federally listed as threatened. Spawning times and stock status are unknown. There are limited data provided on sockeye in the Snohomish Basin because no persistent stocks have been identified within WRIA 7.

5.6 STEELHEAD

The life history of Steelhead salmon has been summarized in Appendix C

5.6.1 CRITICAL HABITAT

No critical habitat for steelhead salmon occurs within the project area. The nearest documented habitat is within Stream E approximately 1/2 mile from the site (WDFW PHS).

5.6.2 ENVIRONMENTAL BASELINE

Steelhead salmon were recently listed as threatened. Ebey Slough/Snohomish Basin is known to provide habitat for winter steelhead salmon. Spawning generally for winter

steelhead occurs from January to June. The stocks of winter steelhead in the Snohomish Basin are determined to be depressed.

6.0 EFFECTS OF THE ACTION

Effects Analysis

The non-project proposal will have “no effect” on threatened or endangered species given the distance of the site from actual critical salmonid habitat, the distance from bald eagle habitat, and given that no specific project actions are proposed within the site.

Take Analysis

This development proposal will not result in any “incidental take” of threatened or endangered species given the distance of the site from actual critical salmonid habitat and bald eagle habitat, and given that no specific project actions are proposed within the site.

Conservation Measures

No conservation measures are currently proposed. Future site-specific projects will implement all necessary restoration, mitigation, and/or protection requirements according to the most current critical areas ordinance.

Determination of Effect

This non-project proposal will not affect bald eagles, Chinook salmon, bull trout, or other salmonid species such as Coho, Sockeye, and steelhead. No site-specific projects will occur within water bodies containing listed fish or fish proposed for listing, or their forage base, or designated or proposed critical habitat.

Bull trout (*Salvelinus confluentus*), Threatened, No Critical Habitat

A “no effect” determination is made for this species because the level of use within the immediate vicinity of the subject property by bull trout is expected to be none, and because no site-specific projects are proposed. Bull trout are not expected to migrate in or through roadside ditches or wetlands in the project area or within 300 feet downstream of the project area. The nearest documented salmonid-bearing water is approximately 1 mile to the west of the project area within Ebey Slough.

Puget Sound Chinook Salmon (*Oncorhynchus tshawytscha*), Threatened, No Critical Habitat

A “no effect” determination is made for this species because no site-specific projects are proposed. Furthermore, while accessible salmonid use is presumed within on-site Streams A and B, the nearest mapped Chinook habitat is 1 mile to the west of the site.

Bald Eagle (*Haliaeetus leucocephalus*) Threatened, No Critical Habitat

A "no effect" determination is made for bald eagles. The site is not primary association habitat for bald eagles and no known bald eagle's nest or perching or feeding grounds occur within 1/2 mile line-of-site of the action area. No bald eagle mortality is expected as a result of the proposed UGA expansion proposal, and no degradation of bald eagle critical habitat is expected to occur from this proposal, nor will the forage base be affected by this proposal.

7.0 DESIGNATED CRITICAL HABITATS FOR CHINOOK

7.1 DESIGNATED CRITICAL HABITAT FOR CHINOOK

The NMFS has determined that the habitats of Puget Sound Chinook be considered Designated Critical Habitat. There are no designated critical habitats within the proposed action areas. The nearest documented critical habitat is Ebey Slough, located approximately one mile west of the site (NMFS 2005). This project will not result in the destruction or adverse modification of critical Chinook habitat. Since there are no critical Chinook habitats within the proposed action area, the proposed action will have no effect on Puget Sound Chinook Designated Critical Habitat.

7.2 DESIGNATED CRITICAL HABITAT FOR BULL TROUT

The Department of the Interior Fish and Wildlife Service has determined that the habitats of Bull Trout be considered Designated Critical Habitat. There are no designated critical habitats within the proposed action areas. The nearest documented critical habitat is Ebey Slough, located approximately one mile west of the site. This project will not result in the destruction or adverse modification of critical bull trout habitat. Since there are no critical Chinook habitats within the proposed action area, the proposed action will have no effect on Bull Trout Designated Critical Habitat.

8.0 ESSENTIAL FISH HABITAT ASSESSMENT

The Magnuson-Stevens Fishery Conservation and Management Act requires that essential fish habitat (EFH) must be identified by NMFS for federally managed marine fish. In addition, federal agencies must consult with NMFS on all proposed actions undertaken or funded by the agency that may affect EFH. The Pacific Fisheries Management Council (PFMC) has designated EFH for the Pacific salmon fishery, for federally managed groundfish, and for coastal pelagic fisheries.

For this proposal, only species of the Pacific salmon fishery could potentially be affected, as all water bodies in the vicinity of the site are freshwater systems. The EFH designation for the Pacific salmon fishery includes all streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers

identified by PFMC. The Pacific salmon management unit includes Chinook, Coho, and Pink salmon.

Within the vicinity of the site, EFH occurs for Puget Sound Chinook, Coho, and Sockeye salmon. These species are known to occur in Ebey Slough. All three of these species are known to use Ebey Slough for adult migration, juvenile out-migration, and rearing where suitable habitat is present. The non-project proposal will have no effect on EFH for Pacific salmon.

There will be no effect on the EFH for groundfish or coastal pealgics because these species do not occur in or near the action area.

9.0 USE OF THIS REPORT

This Biological Assessment was prepared for SR9/US2 LLC to assess the impacts on protected species comply with consultation requirements under Section 7(c) of the Endangered Species Act (NMFS, 1998).

This Biological Assessment addresses the effects of the proposed Commercial Planned Unit Development as well as the interrelated effects of the associated development on chinook salmon, coho salmon, sockeye salmon, bull trout, and bald eagles. It addresses both direct and indirect impacts of the project to listed species, their habitat and forage base. The determination of effect is based upon the effects analysis, which includes reviews of life history, habitat requirements, literature review, agency consultation, and field reconnaissance studies conducted by WRI. Effects on Essential Fish Habitat (EFH), as defined by NOAA's National Marine Fisheries Service (NMFS, 1999) are also examined.

The laws applicable to fisheries biology/management are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the Applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by fisheries biologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.



Andrea Bachman
Senior Wetland Ecologist

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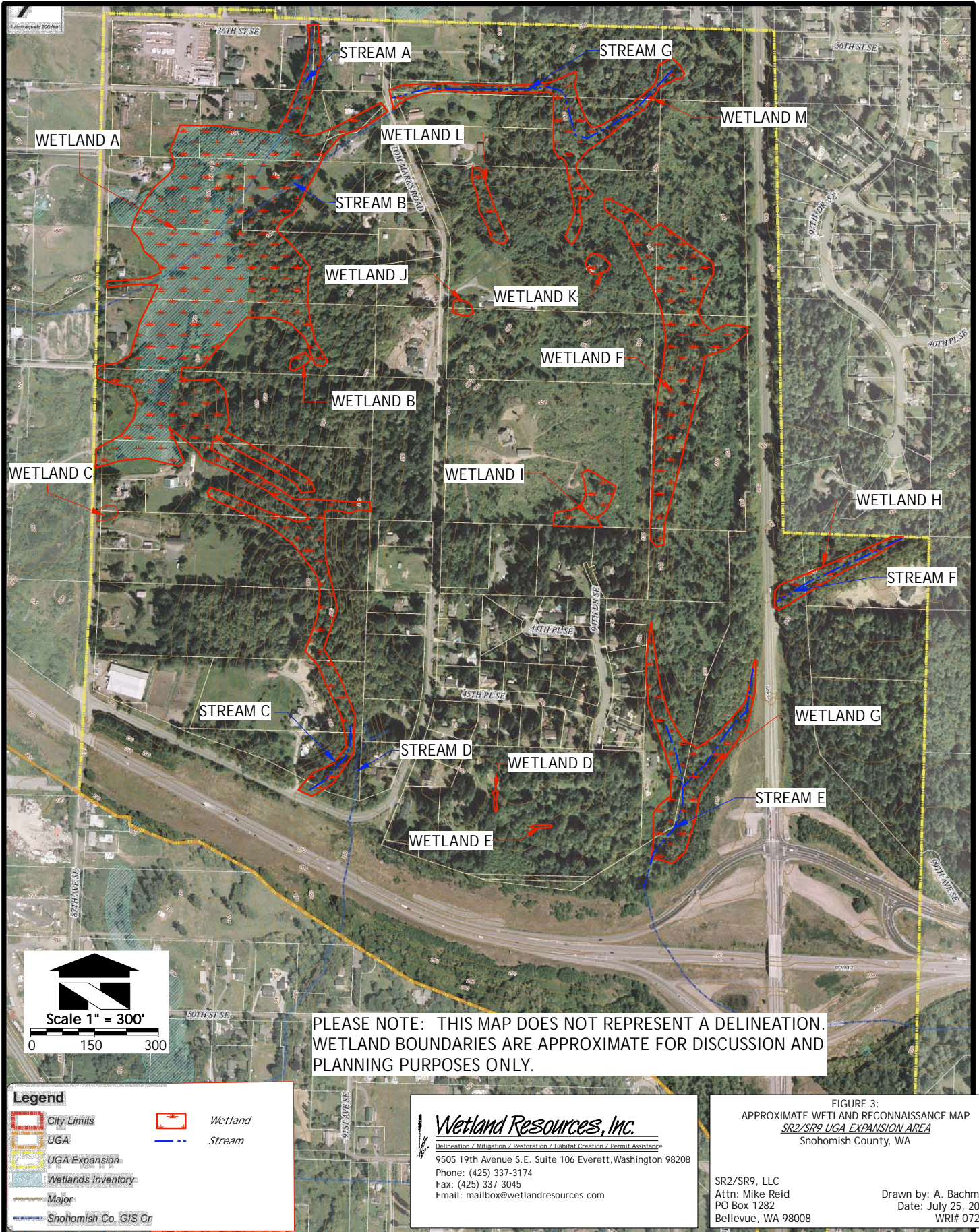
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APPENDIX A:
FIGURES 2 AND 3

FIGURE 3: APPROXIMATE WETLAND RECONNAISSANCE MAP- SR2/SR9 UGA EXPANSION AREA



PLEASE NOTE: THIS MAP DOES NOT REPRESENT A DELINEATION. WETLAND BOUNDARIES ARE APPROXIMATE FOR DISCUSSION AND PLANNING PURPOSES ONLY.

Legend

- City Limits
- UGA
- UGA Expansion
- Wetlands Inventory
- Major
- Wetland
- Stream

Snohomish Co. GIS Cn

Wetland Resources, Inc.
 Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
 Phone: (425) 337-3174
 Fax: (425) 337-3045
 Email: mailbox@wetlandresources.com

FIGURE 3:
 APPROXIMATE WETLAND RECONNAISSANCE MAP
 SR2/SR9 UGA EXPANSION AREA
 Snohomish County, WA

SR2/SR9, LLC
 Attn: Mike Reid
 PO Box 1282
 Bellevue, WA 98008

Drawn by: A. Bachman
 Date: July 25, 2007
 WRI# 07207

APPENDIX B:
ESA SPECIES INFORMATION FROM NOAA AND USFWS

Endangered Species Act Status of West Coast Salmon & Steelhead

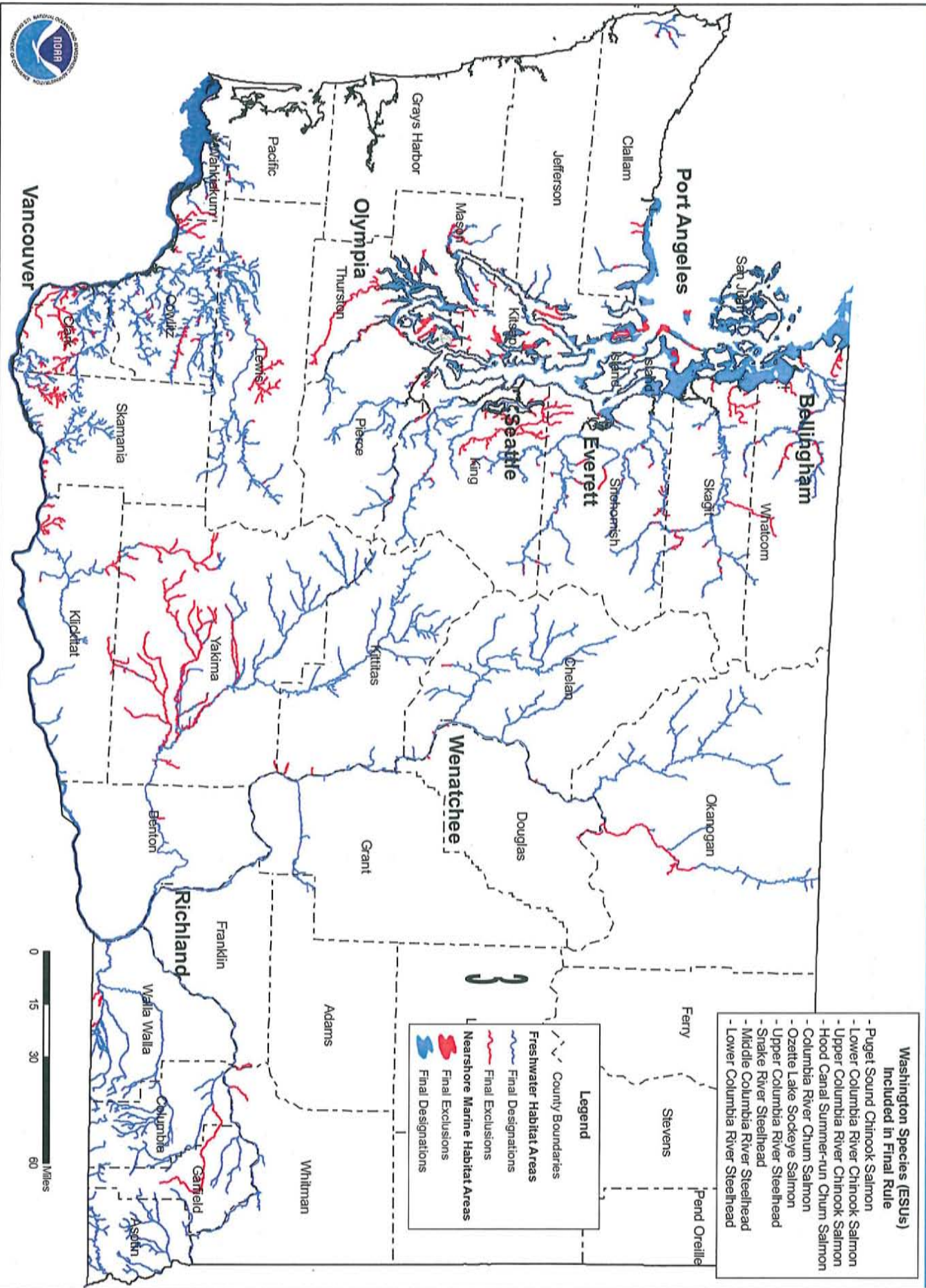
(Updated Feb. 26, 2008)

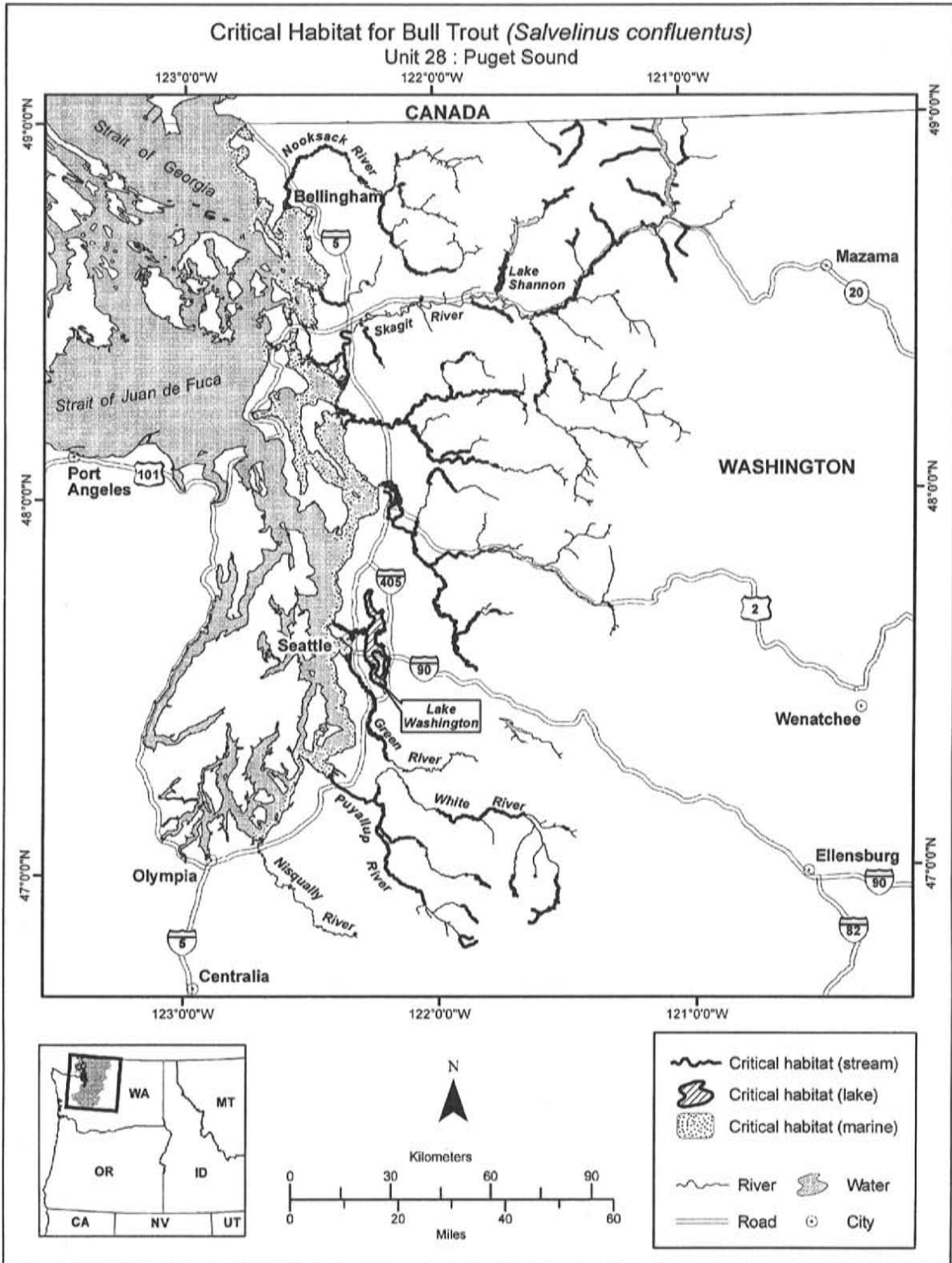
Species ¹		Endangered Species Act Listing Status ²	ESA Listing Actions Under Review
Sockeye Salmon (<i>Oncorhynchus nerka</i>)	1	Snake River	Endangered
	2	Ozette Lake	Threatened
	3	Baker River	Not Warranted
	4	Okanogan River	Not Warranted
	5	Lake Wenatchee	Not Warranted
	6	Quinalt Lake	Not Warranted
	7	Lake Pleasant	Not Warranted
Chinook Salmon (<i>O. tshawytscha</i>)	8	Sacramento River Winter-run	Endangered
	9	Upper Columbia River Spring-run	Endangered
	10	Snake River Spring/Summer-run	Threatened
	11	Snake River Fall-run	Threatened
	12	Puget Sound	Threatened
	13	Lower Columbia River	Threatened
	14	Upper Willamette River	Threatened
	15	Central Valley Spring-run	Threatened
	16	California Coastal	Threatened
	17	Central Valley Fall and Late Fall-run	Species of Concern
	18	Upper Klamath-Trinity Rivers	Not Warranted
	19	Oregon Coast	Not Warranted
	20	Washington Coast	Not Warranted
	21	Middle Columbia River spring-run	Not Warranted
	22	Upper Columbia River summer/fall-run	Not Warranted
	23	Southern Oregon and Northern California Coast	Not Warranted
	24	Deschutes River summer/fall-run	Not Warranted
Coho Salmon (<i>O. kisutch</i>)	25	Central California Coast	Endangered
	26	Southern Oregon/Northern California	Threatened
	27	Lower Columbia River	Threatened
	28	Oregon Coast ²	Threatened
	29	Southwest Washington	Undetermined
	30	Puget Sound/Strait of Georgia	Species of Concern
	31	Olympic Peninsula	Not Warranted
Chum Salmon (<i>O. keta</i>)	32	Hood Canal Summer-run	Threatened
	33	Columbia River	Threatened
	34	Puget Sound/Strait of Georgia	Not Warranted
	35	Pacific Coast	Not Warranted
Steelhead (<i>O. mykiss</i>)	36	Southern California	Endangered
	37	Upper Columbia River	Endangered
	38	Central California Coast	Threatened
	39	South Central California Coast	Threatened
	40	Snake River Basin	Threatened
	41	Lower Columbia River	Threatened
	42	California Central Valley	Threatened
	43	Upper Willamette River	Threatened
	44	Middle Columbia River	Threatened
	45	Northern California	Threatened
	46	Oregon Coast	Species of Concern
	47	Southwest Washington	Not Warranted
	48	Olympic Peninsula	Not Warranted
	49	Puget Sound	Threatened
	50	Klamath Mountains Province	Not Warranted
Pink Salmon (<i>O. gorbuscha</i>)	51	Even-year	Not Warranted
	52	Odd-year	Not Warranted

¹ The ESA defines a “species” to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries considers an evolutionarily significant unit, or “ESU,” a “species” under the ESA. For Pacific steelhead, NOAA Fisheries has delineated distinct population segments (DPSs) for consideration as “species” under the ESA

² On Feb. 11, 2008, NOAA Fisheries published a final determination listing Oregon coast coho as threatened (73FR7816). This final rule also designated critical habitat and issued final protective regulations. The listing, critical habitat and protective regulations are effective on **May 12, 2008**.

NOAA Fisheries Northwest Region Critical Habitat Designations for West Coast Salmon and Steelhead in Washington - August 2005





APPENDIX C:
LIFE HISTORY OF LISTED SPECIES

BALD EAGLE

BALD EAGLE HABITAT REQUIREMENTS

Breeding

Breeding Territories

Eagles defend breeding territories that include the active nest, alternate nests, preferred feeding sites, and perch and roost trees (Stalmaster 1987). Within a territory, snags and trees with exposed lateral limbs or dead tops are used as perches, roosts, and defense stations (U.S. Fish and Wildlife Service 1986). In Washington, breeding territories include upland woodlands and lowland riparian stands with a mature conifer or hardwood component (Grubb 1976, Garrett et al. 1993, Watson and Pierce 1998). Territory size and configuration are influenced by factors such as breeding density (Gerrard and Bortolotti 1988), quality of foraging habitat, and the availability of prey (Watson and Pierce 1998).

Territories sometimes contain alternate nests. Grubb (1980) found that alternate nest trees in territories of Washington eagles were located an average of 350 m (1,050 ft) from occupied nests. Although it is unclear why bald eagles construct alternate nests, they may facilitate successful reproduction if the primary nest is disturbed or destroyed.

The three main factors affecting the distribution of nests and territories are: 1) nearness of water and the availability of food; 2) the availability of suitable nesting, perching, and roosting trees; and 3) the number of breeding-age eagles in the area (Stalmaster 1987). An adequate, uncontaminated food source may be the most critical component of breeding habitat for bald eagles (U.S. Fish and Wildlife Service 1986, Stalmaster 1987). Breeding eagles in Washington primarily consume live or dead marine and fresh-water fishes, and also waterfowl and seabirds. Secondary food sources include mammals, molluscs, and crustaceans (Retfalvi 1970, Knight et al. 1990, Watson et al. 1991, Watson and Pierce 1998).

Grubb (1980) found an average territory radius of 2.5 km (1.6 mi.) in western Washington. Home ranges of 50 pairs of bald eagles throughout Puget Sound averaged 6.8 km (4.2 mi) (Watson and Pierce 1998). Ranges included areas occupied during occasional excursions beyond defended territories. Core areas of intense use averaged 1.5 km (0.9 mi) in size. On the lower Columbia River, the mean home range size and minimum distance between eagle nests was 22 km (13.6 mi) and 7.1 km (4.4 mi), respectively (Garrett et al. 1993). The distance eagles maintain between adjacent, occupied territories may be important for maintaining their productivity when food resources are limited (Anthony et al. 1994).

Courtship and Nest Building

In Washington, courtship and nest building activities intensify in January and February. Bald eagles commonly build large stick nests in mature trees, which are used over successive years. Eagles select nest trees for structure rather than tree species (Anthony et al. 1982, Anthony and Isaacs 1989). A typical nest tree is dominant or co-dominant within the overstory. It usually provides an unobstructed view of nearby water and has stout upper branches that form flight windows large enough to accommodate an eagle's large wingspan (Grubb 1976). It is usually live, though it often has a dead or broken top with a limb structure that supports the nest. Bald eagle nests are usually located within the top 7 m (20 ft) of the tree (U.S. Fish and Wildlife Service 1986).

Bald eagles prefer to nest along marine and freshwater shorelines. Approximately ninety-seven percent of Washington's active bald eagle nests are within 914 m (3000 ft) of a lake, river, or marine shoreline (Stinson et al. 2001). The average distance between these nests and open water varies slightly with shore type [marine:140 m (457 ft), river:193 m (633 ft), lake:304 m (997 ft)]. In examining 218 bald eagle nests, Grubb (1980) found that their average distance from water was 86 m (282 ft). These distances ranged from 4.6 - 805 m (15 - 2,640 ft). Fifty-five percent were within 46 m (150 ft) and 92% were within 183 m (600 ft) of a shoreline.

Eggs and Eaglets

Egg-laying begins in late February, with most pairs incubating by the third week of March (Watson and Pierce 1998). Eaglets hatch after a 35-day incubation period (Stalmaster 1987). Most eaglets fledge in mid-July but remain in the vicinity of the nest for several weeks prior to dispersal (Anderson et al. 1986, Watson and Pierce 1998). Most juvenile and adult bald eagles that nest in western Washington migrate to British Columbia and southeast Alaska in late summer and early fall. Adults return to their Washington territories by early winter (Watson and Pierce 1998).

Wintering

Migrant eagles from other states and provinces begin arriving at their traditional Washington wintering grounds during late October, and most disperse by March (Fielder and Starkey 1980; Garrett et al. 1988; Stalmaster 1989; Watson and Pierce 2001). Wintering bald eagles are attracted to western Washington because of its abundant prey, particularly salmon carcasses on Puget Sound tributaries.

Food Sources

Because wintering eagles often depend on dead or weakened prey, their diet may vary locally. In Washington, various types of carrion are important food items during fall and winter, including spawned salmon (primarily chum) taken from gravel bars along rivers (Stalmaster et al. 1985, Stalmaster 1987). Cattle carcasses and

afterbirths, road-killed deer, and crippled waterfowl are important food sources where salmon carcasses are unavailable (Watson and Rodrick 2001).

Day Perches and Roosting Habitat

Wintering eagles select day perches according to their proximity to food sources (Steenhof et al. 1980). Perch trees tend to be the tallest available, and eagles will consistently use their preferred branches. A variety of tree species, both alive and dead, are used for perching (Stalmaster 1976).

Bald eagles may roost communally in winter, with three or more eagles perching consecutive nights in the same trees. Communal roosting probably enhances food-finding in nearby foraging areas (Knight and Knight 1984). Eagles sometimes gather in staging trees located between feeding grounds and roost trees prior to entering the night roost (Hansen et al. 1980, Anthony et al. 1982, Stalmaster 1987).

Because bald eagles leave little permanent sign of their presence after they depart wintering areas, emphasis in Washington State has been given to identifying the locations and describing characteristics of communal roosts during winter (Hansen 1977, Hansen et al. 1980, Keister 1981, Knight et al. 1983, Stellini 1987, Watson and Pierce 1998). Key roost components include core roost stands, buffer trees, flight corridors and staging trees, and foraging areas associated with roosts (Stalmaster 1987). Roost tree species vary with geographic area, but communal roost stands are generally uneven-aged with a multi-layered canopy, often on leeward-facing hillsides or in valleys. Such characteristics create favorable microclimates within roosts that promote energy conservation (Hansen et al. 1980, Keister 1981, Stalmaster and Gessaman 1984, Stellini 1987). Watson and Pierce (1998) documented twenty-six roosts on major tributaries of Puget Sound and found that eagle territories averaged 9 ha (22 ac) in size, were located <1.1 km (0.7 mi) from foraging areas, and contained roost trees that were larger in diameter, taller, and more decadent than random trees.

BULL TROUT

Adult Bull Trout

Bull trout range from northern California to southeast Alaska. In the Puget Sound region bull trout have a wide distribution with 35 subpopulations in the Coastal/Puget Sound area. Nineteen of these are found in the Puget Sound Basin (King County -Ecology of the Bull Trout).

Bull trout reach spawning maturity at 4 to 7 years and can live up to 12 years (Fish Passage Center). Bull trout typically spawn in the fall (Groot and Margolis, 1991), and prefer streams that have a cold groundwater upwelling component (Pratt, 1992) and water temperatures below 15 °C (Rieman and McIntyre, 1993). Because bull trout can spawn multiple times, anadromous kelts migrate downstream after spawning.

Sedimentation, elevated water temperatures, loss of LWD recruitment, restricted flows, and loss of pool habitat, all pose threats to bull trout.

Juvenile Bull Trout

Winter rearing areas for juvenile rearing should provide a stable and non-turbid stream flow during storm events. Bull trout prefer holding velocities of around 5 inches per second for fish greater than 4 inches, and 4 inches per second for fish less than 4 inches (Spence *et al.*, 1996). Anadromous bull trout usually remain in freshwater for two to three years before emigrating to salt water (Wydoski and Whitney, 1979). Juveniles primarily rear in estuaries in the spring and summer. In early life stages, bull trout prey consists mainly of invertebrates. As fish grow they rely less heavily on invertebrates and may feed exclusively on fish (Bjornn, 1991). After entering marine waters, anadromous bull trout in Puget Sound feed mainly on fish including surf smelt (*Hypomesus pretiosus*), herring (*Clupea pallasii*), and juvenile salmonids (Brown, 1994).

CHINOOK SALMON

The life history of Chinook Salmon is described in detail in *Pacific Salmon Life Histories* (Groot and Margolis, 1991) and is included herein by reference. A summary to assist in the discussion of effects of the proposed action is included below.

Chinook Salmon occur on the Pacific Coast from central California to Alaska. In Puget Sound, Chinook generally return to their natal rivers in July or August. Chinook spawning occurs in both the spring and fall. Spring spawning occurs July through October and fall spawning occurs September through December. After incubation, fry emerge and begin to travel downstream. Some travel directly to estuaries and the ocean while others may reside in the natal stream up to a year or more. The primary diet of Chinook in fresh water appears to be larval and adult insects. Many of the fry that migrate downstream rear to smolt size in river estuaries. Once leaving rivers and estuaries, Chinook enter the Pacific ocean where they range widely for a period of on average four to five years before returning to spawn and die.

STEELHEAD

Steelhead, the anadromous (ocean-going) version of the rainbow trout, range from the Asiatic coast, through southern Alaska down the Pacific Coast as far as the US-Mexico border (Piscatorial Pursuits, NOAA 72 FR 26771). Steelhead reach maturity at 11 years (NOAA, Office of Protected Resources) and they have the most complex life cycle of any Pacific salmon species as individuals developing differently depending on the length of time spent in fresh and marine waters. All individuals of this species hatch in the same environment however, some remain in fresh water and are referred to as rainbow trout. Steelhead and rainbow trout are born in fresh water streams, where they can spend up to seven years (NOAA 72 FR 26771). Steelhead then emigrate

to the ocean, spending up to four growing seasons in the ocean (Napa County Resource Conservation District, NCRCD). Steelhead return to their natal fresh water stream to spawn and unlike Pacific salmon, steelhead are able to spawn more than once (NOAA 72 FR 26771, NCRCD). Between spawning runs, steelhead return to the ocean for approximately 10 months (Piscatorial Pursuits).

Steelhead spawning migrations occur year round with seasonal peaks named for the season (NOAA 72 FR 26771). The Puget Sound DPS (Distinct Population Segment) include more than 50 stocks of summer and winter run fish (NOAA 72 FR 26771). Steelhead require access to cool, clear water with spawning gravels between 0.5 to 6 inches in diameter and escape cover and deep pools (NCRCD). They are capable of surviving a wide range of temperature conditions where dissolved oxygen is ≥ 7 ppm (NOAA, Office of Protected Resources) however water temperatures in excess of 70° F greatly impair juvenile growth rates (NCRCG).

Two basic reproductive types of steelhead have been identified based on the state of sexual maturity at the time of river entry and the duration of spawning migration (NOAA 72 FR 26771, Office of Protected Resources). "Ocean maturing" steelhead spawning migration occurs in the winter months and these fish are sexually mature at the time of fresh water entry (NOAA 72 FR 26771, Office of Protected Resources). "Stream maturing" steelhead spawning migration occurs in the summer months and these fish are sexually immature at the time of fresh water entry and then require several months to mature prior to spawning (NOAA 72 FR 26771, Office of Protected Resources).

Sedimentation, elevated water temperatures, loss of LWD recruitment, restricted flows, and loss of pool habitat, all pose threats to steelhead.

COHO SALMON

The life history of Coho Salmon is described in detail in *Pacific Salmon Life Histories* (Groot and Margolis, 1991) and is included herein by reference. A summary to assist in the discussion of effects of the proposed action is included below.

Coho Salmon occur on the Pacific Coast from central California to Alaska. In Puget Sound, Coho generally return to their natal rivers in late summer and autumn after one winter at sea. Coho generally spawn from mid October through early January (Salmon Watcher). After an average incubation period of 42 to 56 days, fry emerge and spend up to 15 months in fresh water prior to migrating to the ocean. Fresh water, Coho depend on visual cues for locating food which primarily of insects. Once leaving rivers and estuaries, Coho enter the Pacific ocean where they range widely for on average a period of sixteen months before returning to spawn and die.

SOCKEYE SALMON

The life history of Sockeye Salmon is described in detail in *Pacific Salmon Life Histories* (Groot and Margolis, 1991) and is included herein by reference. A summary to assist in the discussion of effects of the proposed action is included below.

The Sockeye salmon is the third most abundant species of Pacific salmon after Pink and Chum salmon. While Sockeye are primarily anadromous there are distinct populations called kokanee, which complete their life cycle in fresh water. Sockeye Salmon occur on the Pacific Coast from central California to Alaska, with the primary populations and spawning grounds occurring from the Columbia River and north. Sockeye generally return to their natal rivers from mid summer to late autumn after one to four years at sea. Sockeye generally spawn from early August through late December (Salmon Watcher) and usually in areas associated with lakes. After incubation, fry emerge and spend from one to three years in lake rearing areas prior to migrating to the ocean. Once leaving lake rearing areas, Sockeye enter the Pacific ocean where they range widely for a period of one to four years before returning to spawn and die.